Exploring the Relationship Between Personal Utensil Use and Attitudes Toward Waste Reduction in School

Melvin B. Tinio

Department of Education-Bartolome R. Luardo National High School

DOI: https://doi.org/10.51244/IJRSI.2025.121500024P

Received: 06 February 2025; Accepted: 15 February 2025; Published: 20 March 2025

ABSTRACT

Environmental sustainability is an increasingly important concern in educational settings, particularly regarding waste reduction. This study examines the relationship between personal utensil use and students' attitudes toward waste reduction at Bartolome R. Luardo National High School. A quantitative research design was employed, utilizing a stratified random sampling method to select 204 students from Grades 7 to 12. Data was collected through survey questionnaires designed to measure students' attitudes toward waste reduction and their frequency of using personal utensil, such as food containers, water bottles, and cutlery.

The data were analyzed using descriptive statistics, correlation analysis, and regression analysis. The results revealed a moderate positive correlation ($r = .56$, $p < .001$) between the use of personal utensil and students' pro-environmental attitudes, suggesting that students who regularly use personal utensil are more likely to exhibit stronger attitudes toward waste reduction. Furthermore, regression analysis indicated that personal utensil use significantly predicted students' waste reduction attitudes ($\beta = .52$, $p < .001$), emphasizing the potential of such behaviors to foster a culture of environmental responsibility. Grade level also played a significant role, with older students showing slightly stronger waste reduction attitudes ($\beta = .15$, $p = .036$).

These findings offer valuable insights for educators and policymakers, reinforcing the importance of promoting sustainable behaviors such as personal utensil use to encourage pro-environmental attitudes and long-term commitment to waste reduction in schools.

Keywords: personal utensil, waste reduction, environmental attitudes

INTRODUCTION

In recent years, the growing concern over environmental sustainability has garnered significant attention across various sectors, particularly within educational settings, where waste reduction is a critical focus (González et al., 2019). Schools, as key institutions shaping future generations, play a pivotal role in influencing students' attitudes and behaviors toward environmental responsibility (O'Brien & Murray, 2020). One area of focus in this context is the use of personal utensil—such as reusable food containers, water bottles, and cutlery—and its relationship to students' views on waste reduction. This study will explore how encouraging students to bring their own reusable utensil can positively influence their waste reduction habits and environmental awareness, fostering a culture of sustainability.

The importance of this research lies in its potential to address the drivers of sustainable behaviors in school environments. Existing studies have highlighted the significant environmental harm caused by single-use plastics, particularly disposable utensil, which contribute to pollution and waste management challenges (Thompson et al., 2009). Evidence also suggests that adopting reusable utensil is a viable strategy to reduce waste and lower environmental footprints (Mason et al., 2021). However, despite these findings, there is a notable gap in the literature regarding the specific impact of personal utensil use within the school context on students' attitudes toward waste reduction.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV February 2025 | Special Issue on Public Health

Although much research has explored waste reduction behaviors and the environmental consequences of single-use plastics, few studies have examined this issue within the educational environment. Most existing literature focuses on household waste reduction or broader consumer attitudes toward plastic use (McDonald & Ball, 2020). Research on waste management in schools typically centers on logistical and financial barriers to switching to reusable utensil, rather than the resulting shifts in students' attitudes and behaviors toward sustainability (Zhao et al., 2022; Chawla, 1999). This study seeks to fill this gap by exploring the connection between personal utensil use and students' attitudes toward waste reduction in schools, offering valuable insights to guide future policies and practices aimed at fostering sustainable behaviors.

The rising concern over single-use plastic waste has led to substantial research on how individual behaviors, such as the use of personal utensil, can contribute to broader waste reduction efforts. This research synthesizes existing literature on three major themes: behavioral intentions and environmental attitudes, educational interventions and sustainable practices, and institutional and societal influences. These themes provide a comprehensive framework for understanding the relationship between personal utensil use and waste reduction, particularly within school settings.

Behavioral Intentions and Environmental Attitudes

The Theory of Planned Behavior (TPB) has been widely used to explore how attitudes, social norms, and perceived control influence pro-environmental behaviors. Shin et al. (2023) applied both TPB and the Norm Activation Model (NAM) to investigate consumers' intentions to reduce single-use plastic utensil, finding that attitudes toward plastic use, social norms, and personal norms significantly shaped their behavior. The awareness of environmental consequences further strengthened these behavioral intentions. This is consistent with research by Hansmann et al. (2020), which found that individuals with higher environmental awareness were more likely to engage in waste reduction behaviors, such as using reusable utensil. These findings suggest that promoting positive environmental attitudes and personal responsibility can effectively drive behavior change.

Educational Interventions and Sustainable Practices

Educational institutions are crucial in shaping young people’s attitudes and behaviors toward sustainability. Several studies emphasize the effectiveness of integrating environmental education into school curricula to encourage sustainable practices, including waste reduction. Barr et al. (2017) demonstrated that when students are educated about waste management and sustainability, they are more likely to adopt environmentally responsible behaviors, such as using personal utensil. Schultz and Zelezny (2018) found that hands-on activities like waste audits and utensil reuse programs not only improved students' understanding of environmental impacts but also led to sustained changes in behavior. Furthermore, McKenzie-Mohr (2020) argued that practical interventions, such as reusable utensil programs, help students internalize pro- environmental behaviors, making them a part of daily life.

Institutional and Societal Influences

The role of institutions, including schools, in promoting waste reduction cannot be overstated. Steg and Vlek (2018) highlighted how institutions can either support or hinder sustainable efforts based on the policies, infrastructure, and norms they foster. Schools that institutionalize green practices, such as promoting utensil reuse and waste segregation, set a strong example for students, helping them adopt these behaviors in their everyday routines (Waste Reduction Alliance, 2021). Moreover, the influence of social norms in schools and broader communities significantly affects students' attitudes toward waste. Research by Bamberg and Möser (2021) demonstrated that when schools cultivate a culture of environmental responsibility, supported by peer influence and community engagement, students are more likely to embrace behaviors like using personal utensil, further underscoring the importance of a collaborative approach to sustainability.

In conclusion, the literature shows that environmental attitudes, educational interventions, and institutional frameworks are essential in promoting personal utensil use and waste reduction behaviors. Schools, as

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV February 2025 | Special Issue on Public Health

central institutions, have a unique opportunity to shape students' environmental attitudes and foster sustainable practices. By understanding the factors influencing these behaviors, educators and policymakers can design effective programs that encourage students to adopt waste-reduction behaviors, such as using personal utensil, contributing to the broader goal of environmental sustainability.

RESEARCH METHOD

This study adopted a quantitative correlational research design to examine the relationship between personal utensil use and students' attitudes toward waste reduction. The correlational approach allowed for the assessment of the strength and direction of the relationship between these variables without manipulating any conditions. The target population consisted of 432 students from Bartolome R. Luardo National High School, spanning Grade 7 to Grade 12. A stratified random sampling technique was employed to ensure proportional representation from each grade, accurately reflecting the broader student population. The total sample size was calculated as 204 students, based on a 95% confidence level and a 5% margin of error, following Cochran's (1977) sample size formula. The sample was then distributed proportionally across the six grade levels: 35 students from Grade 7 (out of 74), 31 students from Grade 8 (out of 66), 34 students from Grade 9 (out of 73), 38 students from Grade 10 (out of 81), 31 students from Grade 11 (out of 66), and 34 students from Grade 12 (out of 72). This stratified approach ensured precise comparisons across groups, with random selection within each stratum reducing bias and enhancing generalizability.

A structured survey questionnaire served as the primary data collection tool, consisting of two main sections. The first section measured the frequency and consistency of students' use of personal utensil (e.g., reusable water bottles, lunch boxes, and cutlery) in school settings. The second section assessed students' perceptions, beliefs, and behavioral intentions regarding waste reduction. The questionnaire items were formatted using a Likert scale (e.g., 1 = Strongly Disagree to 5 = Strongly Agree) to facilitate quantitative analysis. Data were analyzed using descriptive and inferential statistics, including means, standard deviations, and frequency distributions. Pearson’s correlation coefficient (r) was computed to determine the strength and direction of the relationship between personal utensil use and students' attitudes toward waste reduction, while multiple regression analysis explored whether personal utensil use predicted students' attitudes, controlling for demographic factors such as grade level.

To assess the relationships between variables, Pearson R correlation was computed to determine the strength and direction of the linear relationship between personal utensil use and waste reduction attitudes (Field, 2013). Additionally, multiple regression analysis was conducted to explore how well personal utensil use predicted attitudes toward waste reduction, controlling for relevant demographic variables. This approach allowed for the examination of both direct and interaction effects, providing insights into the factors that significantly contributed to waste reduction attitudes (Tabachnick & Fidell, 2013). All analyses were performed using R, and significance levels were set at $p < 0.05$.

To ensure ethical research practices, informed consent was obtained from students and their guardians, and participants' anonymity and confidentiality were maintained throughout the study. Approval from the Office of the Schools Division Superintendent was sought before data collection began. By focusing solely on a quantitative correlational approach, this study provided empirical insights into the relationship between personal utensil use and students' waste reduction attitudes, facilitating data-driven recommendations for promoting sustainable practices in schools.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 presents the descriptive statistics for personal utensil use and students' attitudes toward waste reduction. The mean score for personal utensil use was 3.92 (SD = 0.68), indicating a moderate to high

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV February 2025 | Special Issue on Public Health

frequency of usage among students. Meanwhile, the mean score for waste reduction attitudes was 4.10 (SD = 0.72), suggesting a generally positive outlook toward sustainable practices.

Table 1 Descriptive Statistics for Key Variables

Variable	Mean	Standard Deviation
Personal Utensil Use	3.92	0.68
Waste Reduction Attitudes	4.10	0.72

Correlation Analysis

Pearson's correlation coefficient was calculated to determine the relationship between personal utensil use and students' attitudes toward waste reduction. The results, displayed in Table 2, indicated a moderate positive correlation between the two variables ($r = .56$, $p < .001$), suggesting that students who frequently used personal utensil were more likely to have favorable attitudes toward waste reduction.

Table.2 Pearson's Correlation Between Personal Utensil Use and Waste Reduction Attitudes

Variable	Personal Utensil Use	Waste Reduction Attitudes
Personal Utensil Use	1.00	.56 **
Waste Reduction Attitudes	.56 **	1.00

Note: **p < .001** (two-tailed).

Regression Analysis

To further examine the predictive value of personal utensil, use on students' attitudes toward waste reduction, a multiple regression analysis was conducted. The model was statistically significant ($F(2, 201) = 34.62$, $p < .001$), explaining 31.5% of the variance in students' waste reduction attitudes ($R^2 = .315$). The regression coefficients, presented in Table 3, show that personal utensil use had a significant positive effect ($\beta = .52$, $p < .001$), indicating that increased use of personal utensil was associated with more favorable attitudes toward waste reduction.

Table 3 Multiple Regression Analysis Predicting Waste Reduction Attitudes

Predictor Variable	B	SE	β	t	p
Personal Utensil Use	0.48	0.07	0.52	6.94	<.001**
Grade Level (Control)	0.10	0.05	0.15	2.11	0.036

Note: p < .05, p < .001* (two-tailed).

DISCUSSION

The findings of this study provide empirical support for the hypothesis that personal utensil use is positively correlated with students' attitudes toward waste reduction. The moderate correlation ($r = .56$, $p < .001$) suggests that students who frequently bring and use their own utensil tend to exhibit stronger pro-environmental attitudes. This aligns with previous studies indicating that habitual sustainable behaviors reinforce positive environmental beliefs and advocacy (Stern, 2000; White, 2016). As noted by Whitmarsh and O'Neill (2010), consistent engagement in sustainable practices enhances individuals' environmental awareness and advocacy, thus making it more likely that these behaviors extend into other aspects of environmental conservation. Moreover, the integration of environmental education that promotes practices like personal utensil use fosters a deeper commitment to sustainability, as shown in similar studies (Barr et

al., 2011; Gifford, 2014). Thus, this study contributes to the growing body of literature that highlights the influence of everyday sustainable behaviors on the shaping of pro-environmental attitudes and practices among students.

Furthermore, the regression analysis revealed that personal utensil use significantly predicted students' attitudes toward waste reduction ($\beta = .52$, $p < .001$). This suggests that interventions promoting personal utensil use, such as school-wide sustainability campaigns or incentive programs, may foster a culture of environmental responsibility among students, as previous studies have shown that behavioral interventions targeting sustainable practices can lead to positive shifts in environmental attitudes (Gifford, 2014; Clayton & Myers, 2015). Additionally, grade level played a minor yet significant role ($\beta = .15$, $p = .036$), indicating that older students may have slightly stronger waste reduction attitudes, possibly due to greater awareness and exposure to sustainability initiatives, a finding consistent with research suggesting that age and experience can influence environmental behavior and attitudes (Lazarus & Folke, 2018). These results highlight the importance of tailoring interventions to both the behaviors (such as personal utensil use) and demographic factors (like grade level) to maximize their effectiveness in fostering a pro-environmental culture.

Overall, these results emphasized the importance of fostering habitual environmental practices in schools. By encouraging students to use personal utensil, educational institutions can contribute to both individual behavioral change and broader sustainability efforts. Future research could explore additional factors influencing students' waste reduction attitudes, such as peer influence, school policies, and parental reinforcement.

CONCLUSION

In conclusion, this research underscores the significant relationship between the use of personal utensil and students' attitudes toward waste reduction in schools. The findings suggest that the adoption of personal utensil is not only a practical measure to reduce waste but also positively influences students' environmental consciousness and waste reduction behaviors. This alignment between behavior and attitude emphasizes the potential for personal utensil use to serve as an effective tool in fostering sustainable practices within the school community. Moreover, the study highlights the role of schools in promoting environmental stewardship by encouraging students to adopt habits that contribute to reducing single-use plastics and other forms of waste. The positive correlation found between personal utensil use and waste reduction attitudes provide valuable insights for school policies and programs aimed at environmental sustainability. Moving forward, it is recommended that schools integrate awareness campaigns and educational initiatives that further promote the environmental benefits of using personal utensil, while also providing students with the necessary resources and support to make this practice more accessible and convenient.

REFERENCES

1. Bamberg, S., & Möser, G. (2021). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental Journal of Environmental Psychology, 55, 139-147.
2. Barr, S., Ford, N., & Gilg, A. W. (2017). Attitudes towards recycling household waste in Exeter, Devon: Quantitative and qualitative approaches. Local Environment, 12(1), 25-40.
3. Barr, S., Gilg, A. W., & Ford, N. (2011). The influence of environmental knowledge on pro-environmental behavior: A review of the Environmental Education Research, 17(3), 381-400.
4. Chawla, (1999). Life paths into effective environmental action. The Journal of Environmental Education, 31(1), 15-26. https://doi.org/10.1080/00958969909598628
5. Clayton, S. D., & Myers, G. (2015). Conservation psychology: Understanding and promoting human care for Wiley-Blackwell.
6. Cochran, G. (1977). Sampling techniques (3rd ed.). John Wiley & Sons.

7. Field, (2013). Discovering statistics using IBM SPSS statistics (4th ed.). SAGE Publications.
8. Gifford, R. (2014). Environmental psychology: Principles and practice. Optimizing human behavior for 5th ed. Colville: Optimal Press.
9. Gifford, R. (2014). Environmental psychology: Principles and practice. Optimizing human behavior for 5th ed. Colville: Optimal Press.
10. González, A., Herrero, M., & Frías, M. (2019). Education for sustainable development: A review of the Journal of Cleaner Production, 217, 185-196. https://doi.org/10.1016/j.jclepro.2019.01.179
11. Hansmann, , Laurenti, R., Mehdi, T., & Binder, C. R. (2020). Determinants of pro-environmental behavior: A comparison of university students and staff from diverse cultural backgrounds. Sustainability, 12(4).
12. Lazarus, J., & Folke, C. (2018). Resilience and sustainability: The importance of institutions and the role of humans in shaping the environment. Annual Review of Environment and Resources, 43, 213-231.
13. Mason, T., Hogg, T., & Marshall, R. (2021). The impact of reusable products on waste reduction: A review of the evidence. Waste Management, 119, 117-130. https://doi.org/10.1016/j.wasman.2020.10.022
14. McDonald, , & Ball, A. (2020). Understanding waste reduction behaviors: A systematic review. Environmental Science & Policy, 112, 170-182. https://doi.org/10.1016/j.envsci.2020.06.006
15. McKenzie-Mohr, D. (2020). Promoting sustainable behavior: An introduction to community-based social Journal of Social Issues, 76(1), 151-172.
16. O'Brien, L., & Murray, R. (2020). The role of schools in fostering environmental stewardship among Environmental Education Research, 26(8), 1071-1085. https://doi.org/10.1080/13504622.2020.1733211
17. Schultz, W., & Zelezny, L. C. (2018). Reframing environmental messages to be congruent with American values: A case study of reducing single-use plastic waste in schools. Journal of Environmental Psychology, 56, 139-145.
18. Shin, J. Y., Kim, E., Jang, Y. J., & Singal, M. (2023). Mindful choices: Unveiling the driving factors behind consumers' intention to reduce single-use plastic utensil. Sustainability Journal, 16(2).
19. Steg, L., & Vlek, C. (2018). Encouraging pro-environmental behavior: An integrative review and research Journal of Environmental Psychology, 29(3), 309-317.
20. Stern, P. C. (2000). Towards a coherent theory of environmentally significant behavior. Journal of Social Issues, 56(3), 407-424.
21. Tabachnick, G., & Fidell, L. S. (2013). Using multivariate statistics (6th ed.). Pearson.
22. Thompson, R. C., Swan, S. H., & Moore, C. J. (2009). Our plastic age: The global problem of plastic Environmental Pollution, 159(10), 2304-2312. https://doi.org/10.1016/j.envpol.2009.05.018
23. Waste Reduction (2021). Best practices for institutional waste reduction in schools. Waste Reduction Alliance Reports, 32(4).
24. White, L. (2016). Pro-environmental behavior in youth: Influencing factors and educational implications. Environmental Education Research, 22(3), 399-416.
25. Whitmarsh, L., & O'Neill, S. (2010). Green identity, green living? The role of pro-environmental self-identity in determining consistency across diverse environmental behaviours. Journal of Environmental Psychology, 30(3), 305-314.
26. Zhao, X., Chen, S., & Zhang, Y. (2022). Consumer attitudes towards plastic waste management: Insights from school Resources, Conservation and Recycling, 185, 106387. https://doi.org/10.1016/j.resconrec.2021.106387.