

University Students' Behaviours on Single-Use Plastic

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Abstract: *Plastic waste is an ongoing global crisis because it is polluting the environment and harming the aquatic environment. As a higher education institution, universities are expected to produce citizens who are aware of sustainability practices. The study examines university students' behaviours on single use plastic. The specific aspects studied are frequency of single-use plastic and management of plastic waste. The participants are 386 students in a university from various disciplines who filled in an online questionnaire. The results indicate that high dependency on single-use plastic mainly for food and drinks packaging because they buy takeaway food. The frequency of single-use plastic is once to three times a day. The participants threw plastic containers and plastic bags into the dustbin. About 90 percent prefer to use single-use plastic containers despite the vendors charging them extra for the containers. The findings suggest availability of single-use plastic packaging and convenience importantly shape students' high dependency on single-use plastic and their attitudes towards single-use plastic waste management.*

Keywords: single-use plastic, university students, sustainable waste management, Sarawak

1. Introduction

The issue of plastic waste is a global issue that has become more critical, and it contributes to the release of gases that are harmful in large volume, such as methane and CO₂ because of unsustainable practices of waste management. Whether we like it or not, plastics is now part of our environment and plastic waste is now ubiquitous in the marine environment and has created a lot of damage to it (Xanthos & Walker, 2017). In 2018, WWF estimates around 100,000 deaths of aquatic mammals are linked to the consumption of plastic bags or being trapped by plastic wastes that pollute the sea (WWF-Australia, 2018). As an example, the death of a whale in 2019 in the Philippines is attributable to the consumption of plastic bags worth 40 kg found in its stomach (BBC News, 2019).

Malaysia is reported to be one of the largest contributors of mismanaged plastic in the world. As such, Malaysia's Roadmap towards Single-Use Plastics (2018 – 2030) was launched to combat the critical issue of plastic waste in our country (MESTECC, 2018).

In UNIMAS, the use of single-use plastics is found to be widespread in cafeterias, food kiosks and during official events taking place in the university. The following are the normal events with regard to single-use plastics on campus: the purchase of food at the kiosks or cafeterias that comes with a plastic bag, plastic container and plastic utensils that will be discarded after every use; the distribution of bottled water or packed food in meetings or official events on campus; the usage of

plastic utensils by the patrons who eat-in cafeteria on campus. Despite the launching of the campaign 'UNIMAS towards Zero Single-Use Plastic' in January 2020, the dependency on single-use plastics is still apparent as food vendors still offer to sell food in *tapau* packs and they charge RM0.20 for each container used. Similarly, meeting organizers on campus still provide packed food in single-use plastic containers and this practice seems to be getting more prevalent after Covid-19, potentially due to hygiene purposes.

In what way does the campus community depend on single-use plastics? How do they treat plastic waste after use? This paper aims to provide empirical evidence on the extent to which the campus community relies on single-use plastic and how they manage the single-use plastic waste after use. A better understanding about the behaviors will help to determine how campus policy on single-use plastic should be designed and implemented to create sustainable practices related to single-use plastic.

2. Material and Methods

2.1. University Students and their Use of Single-Use Plastics

University students are often seen as being at the forefront of social change, and this extends to environmental issues like plastic pollution. As young adults who are typically more engaged with sustainability and environmental causes, students can be both part of the problem and part of the solution when it comes to single-use plastics (Truelove et al., 2023).

The lifestyle of many university students, characterized by busy schedules, tight budgets, and a reliance on fast food or take-out, encourages the use of single-use plastics. A typical day may involve purchasing bottled water, coffee in disposable cups, or snacks wrapped in plastic (Rabiu & Jaeger-Erben, 2024). With many campuses lacking sufficient recycling infrastructure, much of this plastic waste ends up in landfills or as litter, contributing to environmental degradation (Ebrahimi & North, 2017).

On university campuses, single-use plastics are omnipresent—found in cafeterias, vending machines, and at convenience stores. Items such as plastic cutlery, bags, and plastic-wrapped food items are often the default. As students juggle their academic workload, social lives, and extracurricular activities, convenience often takes precedence over sustainability (Nguyen et al.). This behavior is exacerbated by the fact that alternatives, like reusable cups, containers, and utensils, may not always be affordable or readily available (Benveniste, 2024).

Despite a growing awareness of environmental issues, many students remain unaware of the true scale of plastic waste and its long-term consequences (Barbir et al., 2021). Additionally, many students live on a budget, and the upfront cost of purchasing reusable alternatives may deter them from making sustainable choices. Without a strong campus-wide initiative or policy to promote sustainable practices, students might continue to opt for the cheaper, more convenient single-use plastics (Seblosa et al., 2023).

2.2 Research Methods and Analysis

Students were surveyed using an online questionnaire to obtain their views about single-use plastics in their daily consumption and how they manage single-use plastic waste. A total of 386

students across different faculties and academic years were recruited to answer a self-administered questionnaire via Google Form. Data from the Google Form was transferred to SPSS where descriptive analysis was mainly conducted to generate finding of the study.

3. Findings

3.1. Profile of the respondents

From the 386 students recruited most of them are female (about 65%) and male is only about one-third of the total number of respondents. Many of them are Native Sarawak, followed by Malay, Native Sabah and Chinese. Most of the students are residing in residential colleges located on campus while about 20% are residing elsewhere. Students who reside in residential colleges are not allowed to cook and they usually purchase food from the cafeterias. More than 85% of the students are in their 1st, 2nd or 3rd year and they are likely to attend at least 15 hours on campus attending classes. Their regular presence on campus suggests regular visits to the cafeterias to purchase food and beverages.

Table 1: Profile of the Respondents

Profile	Percentage (%)
Gender	
Male	35.2
Female	64.8
Total	100.0
Ethnicity	
Malay	29.5
Native Sarawak	40.9
Native Sabah	13.0
Chinese	14.0
Indian	2.6
Total	100.0
Current place of residence	
In residential colleges	78.8
Living in non-residential colleges	21.2
Total	100.0
Year of Study	
Year 1	28.2
Year 2	32.1
Year 3	26.2
Year 4, 5 and 6	13.5
Total	100.0

3.2. Consumption Behavior of Single-Use Plastics and Its Management

Table 2 shows the consumption behavior of single-use plastics as reported by the respondents. While about one-third reported do not purchase packed food from the cafeteria, the others (66%) purchase packed food at least once a day. A small proportion purchase three times or more in a day. When the students purchase packed food, most of them (89.4%) prefer using plastic containers provided by the operator because the containers are cheap and readily available whenever they need them. This is despite the fact that food operators charge them RM0.20 per container. In other words, the students prioritize convenience especially given their busy schedule. The two most used

single-use packaging are *tapau* containers and plastic bags (that often come with the packed food). Interestingly, less than 10% regularly use plastic liquid containers; from the author’s observations, students often bring their own bottles and refill the bottles at water dispensers.

Table 2: Use of Single-use Plastics

Parameters	Percentage (%)
On a normal lecture day, how frequent do you <i>tapau</i> food/beverages from the cafeteria?	
None	34.2
Once a day	49.5
Twice a day	12.7
Three times or more in a day	3.6
Total	100.0
When <i>tapau</i>, student usually:	
Use plastic containers provided by the operator	89.4
Use own container	10.6
Total	100.0
Type of single-use plastic normally used in campus	
<i>Tapau</i> containers (to pack food)	40.2
Plastic bag (to carry items)	44.6
Plastic liquid containers (water bottles)	8.0
Plastic wrappers	5.2
Others	2.1
Total	100.0

The respondents were asked how they treat their single-use plastic waste. They were allowed to choose more than one answer as some may treat single-use plastic waste differently. The study found that 80% (n = 310) of the respondents dispose them into the bin, while about 70% (n = 261) chose reusing them. Respondents are likely to reuse plastic bags or plastic containers that are of better quality. About 17% mentioned bringing plastic waste to recycling center and this refers to plastic bottles or *tapau* containers (that may need to be washed and clean to rid of oil residue on the containers).

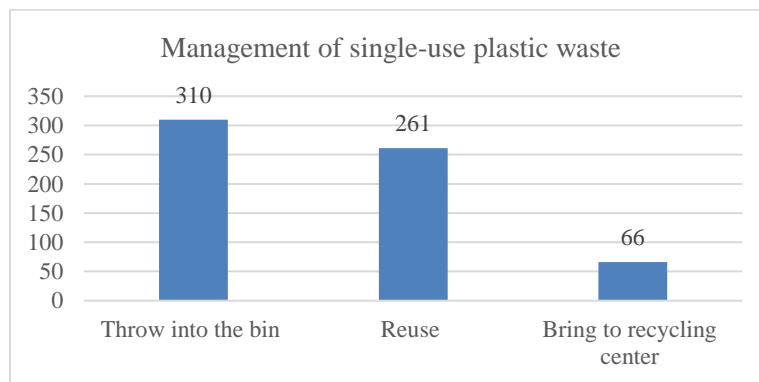


Figure 1: How respondents manage single-use plastic waste

3.3. Awareness about the Danger of Single-Use Plastic Waste

Students were asked if they agree that single-use plastic waste could lead to environmental issues. About 95% agree that single-use plastic waste could lead to numerous issues, ranging from drainage blockage, could pose harm to human health, cause the death of aquatic animals, and more importantly, many agree that plastic takes hundreds of years to decompose. Such answers suggest that students have great awareness about the danger of mismanaged single-use plastic waste. The knowledge, unfortunately, does not translate into actions that should include reducing dependence on single-use plastic.

4. Conclusion

In brief, this study has presented some empirical evidence on the extent to which UNIMAS students rely on single-use plastic and how they manage the waste after use. The data suggests great dependence on this material by students, mainly due to convenience (as they juggle their hectic life as a student) and easy availability of single-use plastic packaging. Most students dispose single-use plastics into the bin after use – which highlights the convenience of using disposable plastic packaging. While a high proportion of students have good awareness about the environmental harm that could be brought about by the mismanaged plastic waste, the knowledge does not change their behavior. This signals the need of other efforts that need to be put in place so students could adopt more proactive actions to reduce dependency on single-use plastics.

Acknowledgement

The author would like to express their appreciation and gratitude to Persatuan Pegawai Akademik UNIMAS for funding this research and publication.

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