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Bangi Gateway Mall Customers' Views On The Usage Of Polystyrene

Mashitoh Yaacob[1]*; Saripah Najwa Ishak[2]; Nurain Athirah Mazrul Nizam[3]; Ummi Nursyuhada Mohd Zaid[4]; Nur Sakinah Muhamad Rofi[5]; Nur Alia Najwa Talahat[6]; Nurmiza Afrina Nashruddin[7]; Muhammad Shahrun Sahabat[8]; Che Sulaila Che Harun[9]

[1]School of Liberal Studies (Pusat Pengajian Citra Universiti), Universiti Kebangsaan Malaysia
[1]mash@ukm.edu.my
[1]https://orcid.org/0000-0002-3060-7482
* Corresponding Author
[2,3,4,5,7,8]Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia
[2]A193610@siswa.ukm.edu.my; [3]A193141@siswa.ukm.edu.my; [4]A193667@siswa.ukm.edu.my;
[5]a193188@siswa.ukm.edu.my; [7]A193258@siswa.ukm.edu.my; [8]A197458@siswa.ukm.edu.my
[6]Faculty of Economics and Management, Universiti Kebangsaan Malaysia
[6]A195352@siswa.ukm.edu.my
[9]Institute of Islam Hadhari, Universiti Kebangsaan Malaysia
[9]csulaila@gmail.com

ABSTRACT
According to the Third Meeting of the Fifth Term of the Selangor State Assembly, the government is running a campaign to eliminate single-use plastic from 2018 to 2030. However, the use of polystyrene food containers remains a common practice in society today. This study aims to identify the factors influencing the use of polystyrene among customers at Bangi Gateway Mall and their views on the effects of polystyrene. The study was conducted on 200 respondents using a quantitative method, namely a questionnaire through the "Google Form" application software, and the data were analyzed using a statistical descriptive method. The findings of the respondents' views on the main factors for people using polystyrene were that it is easily available at any kiosk, it is cheap and affordable, it is easier to carry than food containers, and it is not too harmful to health. For the effects of polystyrene usage, the findings of respondents' views indicate that the main effect is that it is harmful to health because it contains carcinogens, followed by it is quite difficult to dispose of, and it contributes to environmental pollution. The findings of this study contribute to the growing body of literature on polystyrene usage patterns in Malaysia.

Keywords: *Polystyrene usage factors; polystyrene usage effects; polystyrene use; disposables.*

INTRODUCTION

The increase in inflation has forced people to change their lifestyles to be more frugal. The use of polystyrene is now widespread due to its low cost. Polystyrene (IUPAC Polyphenylethene) is an aromatic polymer made from aromatic styrene monomer, a type of liquid hydrocarbon that is commercially manufactured from petroleum by the chemical industry (Billmeyer, 1984). The same petroleum material is also used to produce plastic-based products. Most polystyrene products are thermoplastic materials, usually existing in a solid state at room temperature, but melt when heated & will return to a solid state when cooled. Polystyrene is also claimed to be able to release harmful chemicals if heated, especially when the material is used to wrap hot food (Bernama, 2020).

The environmental and health implications of plastic polymers, including polystyrene, have been extensively

studied. Delilah et al. (2011) conducted a comprehensive environmental and health hazard ranking and assessment of plastic polymers based on chemical composition, highlighting the significant risks associated with various plastic materials. Their research emphasizes the need for careful consideration of plastic usage in consumer applications, particularly in food packaging, where direct contact with consumables occurs.

This study was conducted at Bangi Gateway Mall to obtain feedback from respondents on the community use of polystyrene because the researchers found that many customers carried polystyrene containers after purchasing from the premises of Bangi Gateway Mall. Recent policy developments in Malaysia show increasing governmental concern about polystyrene usage, with states like Pahang announcing complete bans on polystyrene food containers effective from July 1, 2025 (Alagesh, 2025). The growing awareness of plastic-related environmental issues has been documented in various media outlets, with Hayin (2018) reporting on the dangers of plastic to life, emphasizing the urgent need for public awareness and policy intervention. It is hoped that the results of this study can be a reference source for other researchers in the future who want to conduct studies related to this issue in Malaysia (Figure 1).

Figure 1: Map of Peninsular Malaysia
Source: Malaysia Vacation Guide (2025)

Bangi Gateway Mall is located in Selangor State. Figure 2 shows the State of Selangor, which is one of the 14 states in Malaysia. The State of Selangor is one of the states on the West Coast of Peninsular Malaysia and surrounds the Federal Territories of Kuala Lumpur and Putrajaya because both were once under the Selangor Government, with an area of 8,104 km2. The State of Selangor is divided into 9 mukims, namely Hulu Langat, Sepang, Kuala Langat, Petaling, Klang, Gombak, Hulu Selangor, Kuala Selangor, and Sabak Bernam. The area of the Kuala Selangor mukim is 119,452 hectares (295178.97 acres) or one square (Visit Selangor, 2025).

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Figure 2: State of Selangor Map
Source: Visit Selangor (2025)

Specifically, Gateway Mall is located in Bangi, Selangor. Figure 3 shows the Bangi area, which is part of the district in the state of Selangor. The Bangi area is part of the Hulu Langat district, located in the East and the Straits of Malacca, which is also located in the West, east of Putrajaya and south of Bandar Kajang (Google Maps, 2025). Initially, Bandar Baru Bangi originated from an oil palm plantation area known as the West Country Estate.

The development of Bandar Baru Bangi has historical significance in Malaysia's urban planning. According to Cebisan Sejarah Bangi (2025), Bandar Baru Bangi originated from an oil palm plantation area known as the West Country Estate. In 1974, this 5118-acre oil palm plantation began to be developed after the land acquisition process was carried out by the Selangor Darul Ehsan State government from 1972 to 1978. The acquisition process was carried out in stages, starting with section 1, which involved the construction of low, medium, and high-cost houses totaling 200 units. The development work in this area ended in 2007 with the construction of 11,040 residential units, 308 shop units, 43 factory units, and an office complex.

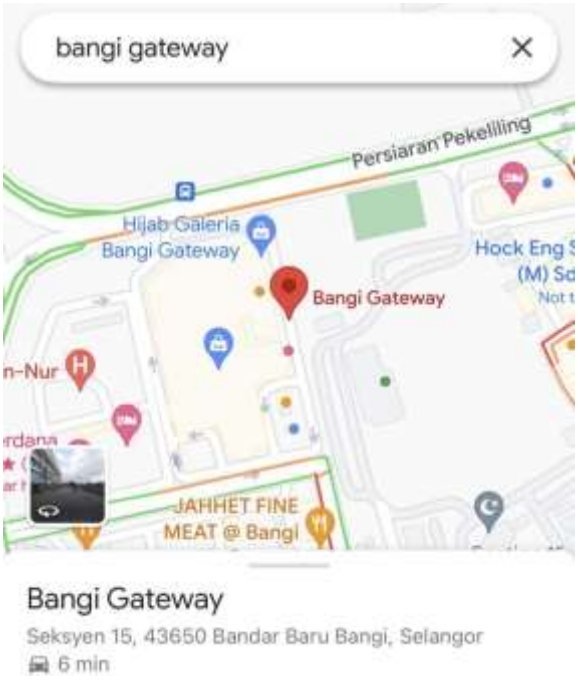

Figure 3: Bangi Gateway Direction Map
Source: Google Maps (2025)

This study was conducted in the Bangi Gateway area located in Hulu Langat, Selangor. Bangi Gateway is a shopping mall located in Bandar Baru Bangi. This area is very strategic as it is surrounded by leading clothing boutiques, aesthetic restaurants such as Starbucks, accommodations such as Hotel Perdana, and other facilities that can make the area a center of community focus. In addition, Bangi Gateway is also close to residential areas and the Universiti Kebangsaan Malaysia (UKM) (Figure 4).

Figure 4: Bangi Gateway
Source: Field Work Data (2025)

LITERATURE REVIEW

The use of polystyrene food containers is still widespread. Banning campaigns of its use have been carried out by various parties due to its dangers and effects on health and the environment. The use of polystyrene has also been linked to marine pollution. In a study by Andrady (2011), it was found that polystyrene particles floating on the surface of the sea can be found in significant quantities worldwide. These particles cause problems for marine ecosystems, including food contamination.

Environmental concerns about polystyrene usage extend beyond marine pollution. Dulap and Scarce (1991) examined environmental problems and protection from a public opinion perspective, highlighting how public awareness of environmental issues influences policy development and individual behavior. Their research provides important context for understanding how environmental problems, including plastic pollution, gain public attention and drive policy responses.

Previous research has shown varying levels of awareness and willingness among university students to discontinue polystyrene food container usage. Bahaman and Mohd Zahari (2017) conducted a preliminary study among Universiti Utara Malaysia students, examining their awareness and readiness to stop using polystyrene food containers, highlighting the importance of understanding consumer perspectives on this environmental issue. Educational institutions have also implemented programs to address polystyrene usage, with Choo (2014) evaluating the effectiveness of polystyrene elimination programs at IPG Kampus Kent, demonstrating institutional efforts to reduce environmental impact through policy implementation.

In addition, the use of polystyrene harms the terrestrial environment because it can survive in the environment for hundreds of years. When it rains, these particles can collect rainwater and cause waterlogging and the breeding of Aedes. The mechanism for disposing of them also requires high costs, and Kuroda et al (2024) found that the remains of polystyrene containers easily float and are widely scattered.

A comprehensive study by Cascadia Consulting Group (2011) on expanded polystyrene food service take-out containers revealed significant environmental challenges associated with polystyrene disposal and recycling. The study emphasized the need for alternative food packaging solutions and highlighted the long-term environmental costs of polystyrene usage.

Chlorofluorocarbons (CFCs) are used in the manufacture of polystyrene containers and release atoms that decompose due to the reaction between ultraviolet rays and CFC molecules. This affects the depletion of the ozone layer. According to Savita (2025), the ozone layer is a layer of the atmosphere that protects against the direct entry of ultraviolet rays. Without ozone, the Earth's temperature is increasing due to heat trapped in the atmosphere. This causes glaciers in the northern Arctic and Antarctic to melt, which in turn contributes to an increase in the amount of sea water and causes low-lying areas to flood. In addition, increasing temperatures damage plants and affect animal habitats, as well as reducing crop yields for human consumption. These are all worrying trends that need to be monitored and addressed.

The health implications of polystyrene usage have been widely documented, with medical authorities consistently advising against its use for food packaging. The Malaysian health sector has issued warnings about the dangers of using polystyrene for food wrapping, particularly due to chemical leaching when exposed to heat (Bernama, 2020).

The environmental impact of polystyrene has been extensively documented. Loot (2010) discusses various

forms of environmental pollution, emphasizing how plastic materials contribute to ecosystem degradation. Similarly, Keng (2005) provides a comprehensive analysis of human environmental geography, highlighting the relationship between human activities and environmental consequences. The health risks associated with polystyrene usage have been consistently documented, with Hussin (2010) outlining the specific dangers of polystyrene use in food packaging applications.

RESEARCH METHODOLOGY

This section discusses the study design, study methods, study instruments, data collection methods, and data analysis methods. This study uses a cross-sectional design. This design also serves as a guide in assisting researchers in the process of collecting, analyzing, and interpreting the results of the research conducted. The research design also serves as a model to enable researchers to make inferences regarding the variables being studied.

The study location selection was based on geographical considerations outlined in environmental geography literature (Keng, 2005), which emphasizes the importance of understanding local environmental contexts in research design.

The researchers used a convenience sampling technique and obtained feedback from 200 respondents, consisting of customers of Bangi Gateway Supermarket. The instrument used to obtain data was a questionnaire on the Google Forms platform to collect primary data. The questionnaire items are based on two objectives. Part A of the questionnaire contains items about the background of the respondent, and 3 questions need to be answered, i.e., gender, race, and age. Part B of the questionnaire contains items to tap the respondent's perception of the factors contributing to the polystyrene use among Bangi Gateway Mall customers. In Part C, items asked about the effects of polystyrene use. In total, there are 13 items for the respondent to answer. Items in sections B and C use a 5-point Likert scale as follows: 1 – Strongly Disagree; 2 – Disagree; 3 – Unsure; 4 – Agree; and 5 – Strongly Agree.

The items presented in this questionnaire are in the form of closed-ended items. This type of item is easy to analyze and makes it easy for respondents to provide answers because they are only required to choose one of several answers given. The researchers distributed the Google Form to the respondents and asked them to fill out the Google Form and submit their responses to the researchers on the spot. The responses were then analyzed according to the research objectives using descriptive statistical analysis methods.

RESULTS AND DISCUSSIONS

This section describes the results of data analysis based on the responses to a questionnaire regarding the use of polystyrene.

Demographic Characteristics of the Respondents

The number of female respondents is more than that of male respondents. The number of male respondents is 50 people, equivalent to 25% of the 200 respondents, while the number of female respondents is 150 people, equivalent to 75%. Based on the data, the highest number of respondents is Malay, followed by Indians, Chinese, and others. Out of 200 respondents, 172 respondents (86%) were Malays, 12 respondents (6%) were Indians, and 8 respondents (4%) were Chinese. There are four age categories, namely 18-24 years, 25-32 years, 33-40 years, and 41 years and above. Respondents aged 18-24 years recorded the largest number of

respondents, which was 148 respondents (74%). A total of 22 respondents (11%) were aged 25-32 years, while the number of respondents aged 33-40 years was 20 (10%). A total of 10 respondents (5%) were recorded as being aged 41 years and above. Table 1 presents demographic characteristics of the respondents.

Table 1: Demographic Characteristics of Respondents

Demographic Characteristics	**Total**	**Percentage (%)**
Gender		
Male	50	25
Female	150	75
Ethnic		
Malay	172	86
Chinese	8	4
Indian	12	6
Others	8	4
Age		
18 - 24 years	148	74
25 - 32 years	22	11
33 - 40 years	20	10
41 years & above	10	5

Source: Survey Data

Factors of Polystyrene Usage

Figure 5 shows the factors of polystyrene usage. A total of 200 respondents, consisting of customers at Bangi Gateway Mall, answered this questionnaire. According to respondents (91 people agreed and 47 people strongly agreed), the first main factor that causes people to use polystyrene is that it is 'easier to find in any kiosk'. Polystyrene containers are not easily broken and are easy to use by traders in the Bangi Gateway kiosk. Polystyrene is widely used as take-away food packages among customers. Polystyrene containers are always the choice of many customers at the Bangi Gateway supermarket, including as containers for children's school meals, and are also used in daily business.

The widespread availability of polystyrene containers in retail outlets has been documented in various studies. The Cascadia Consulting Group (2011) study noted that the ubiquity of polystyrene food service containers in commercial establishments is a significant factor contributing to their continued use, despite environmental concerns.

In addition, the use of polystyrene does not require a lot of capital compared to using other food containers. Many factories still produce polystyrene even though local authorities have imposed certain conditions on the use of polystyrene by businesses. However, this trend is changing as regulatory pressures increase. Recent governmental initiatives, such as the Pahang state government's announcement of a complete ban on polystyrene food containers starting July 1, 2025, demonstrate the growing regulatory pressure on businesses to find alternatives (Alagesh, 2025).

Traders are buying polystyrene in bulk to use as stock in their businesses. Profit is prioritized over the negative effects on health and the environment due to the use of polystyrene. In addition, the results of this study

found that 35 respondents were unsure that the use of polystyrene is easier to find in any kiosk because some kiosks no longer use polystyrene food containers but use biodegradable food containers. More and more traders are complying with the instructions issued by the authorities regarding the ban on the use of polystyrene. This shows that the level of public awareness is beginning to increase when various media, such as electronic media, print media, and mass media, begin to broadcast the disadvantages of using polystyrene to the public. The impact, indirectly, can increase the level of knowledge about the disadvantages of using polystyrene to the public, especially for future generations. Meanwhile, a total of 8 respondents have chosen to strongly disagree because more and more restaurant operators are looking for other alternatives to food packaging containers that do not harm health and the environment.

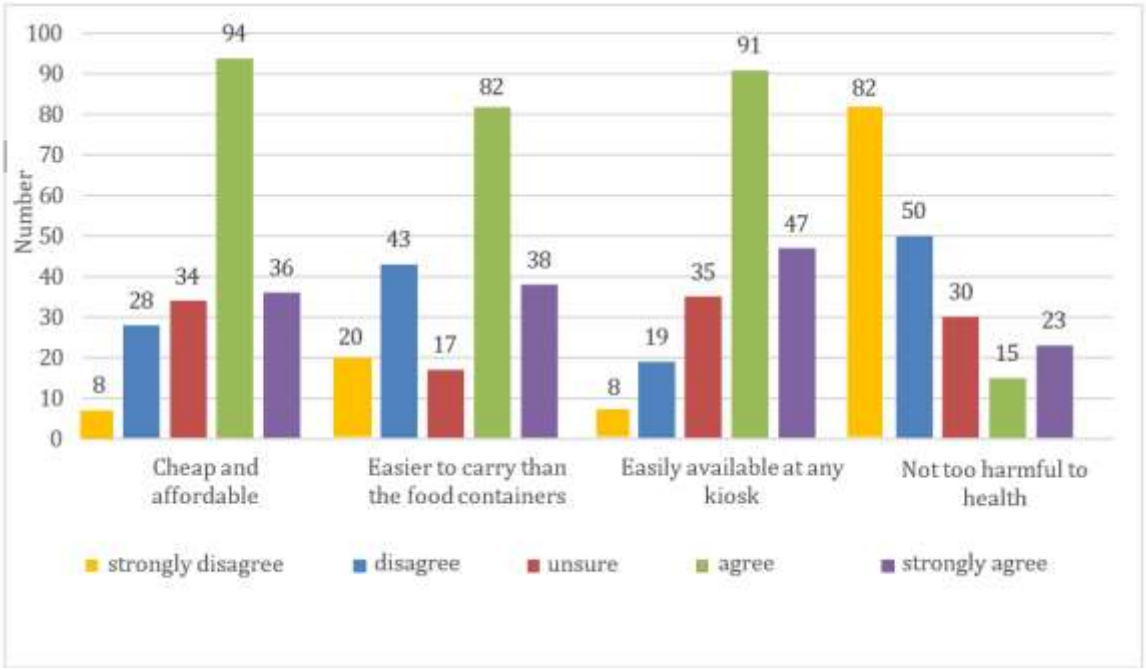

Figure 5: Polystyrene Usage Factors

The findings illustrate that the majority of respondents, namely 94 people, agreed that 'cheap and affordable' is the second main factor in the community using polystyrene. This economic factor has been consistently identified in previous research. Bahaman and Mohd Zahari (2017) found that cost considerations were among the primary factors influencing students' continued use of polystyrene containers, despite their awareness of environmental impacts.

Meanwhile, 36 respondents chose to strongly agree, 34 respondents chose to be unsure, 28 respondents chose to disagree, and 8 respondents chose to strongly disagree. Polystyrene-based materials, such as polystyrene containers, plates, and cups, are sold in bulk and are cheaper than recyclable glass and plastic plates, containers, and cups. Items made of polystyrene, such as containers, plates, and cups, can be found sold in packs of 50 or 100 at a cheaper price than those made of glass or plastic, which can be recycled. In this regard, most respondents buy polystyrene plates and cups in bulk for their guests to use during birthday celebrations, festivals, and wedding anniversaries. This has led to an increase in the use of single-use polystyrene in daily life. Polystyrene food containers are sold in large quantities and are also cheap, causing many traders to use polystyrene containers to save costs compared to more expensive biodegradable food containers. Many other costs need to be borne by traders, such as raw material costs and site rental costs. These costs require a lot of

expenditure, causing traders to necessarily use polystyrene food containers, which are cheaper compared to biodegradable food containers.

The third main factor, according to respondents (82 people), is the factor of 'easier to carry than food containers'. Polystyrene is a packaging material that can keep food hot and cold for longer. Customers consider the use of polystyrene in daily life, especially for food packaging, to be safe, especially since there are no reports of deaths due to the use of polystyrene containers. However, this perception contrasts with health warnings issued by medical authorities who advise against using polystyrene for food packaging due to potential chemical leaching (Bernama, 2020).

Polystyrene is also light and easy to carry anywhere compared to carrying food containers. Customers also consider polystyrene to be easy to throw away when finished eating, compared to bringing their own container, which takes time to wash when finished using. The use of polystyrene is increasing because many individuals are busy working, so they do not have time to bring their food containers to the Bangi Gateway kiosk. Many others are less aware of the dangers of using polystyrene to their health. Polystyrene is made of styrofoam, which can result in the dispersion of substances into the body. However, more and more people are beginning to realize it; for example, the results of the study found that 20 respondents who chose strongly disagreed that using polystyrene is easier to carry than their food containers. Bringing your food containers to pack food purchased from kiosks can help reduce the use of polystyrene, which has been proven to pollute the environment and affect human health. Therefore, although changing attitudes is not easy, it can be done by every customer at Bangi Gateway Mall to reduce the use of polystyrene in their daily lives. In addition, 17 respondents were not sure that using polystyrene is easier to carry than their food containers. There are still those who have an indifferent attitude about using polystyrene as their daily food packaging.

However, the majority of respondents (82 people) strongly disagreed that 'polystyrene is not too harmful to health' as a factor in the community using polystyrene. This finding suggests increasing awareness among consumers about the health risks associated with polystyrene use, which aligns with growing public health campaigns and media coverage about the dangers of polystyrene food packaging (Bernama, 2020).

The respondents, who were customers at the Bangi Gateway supermarket, clearly did not agree that this factor was driving the use of polystyrene in the community. Many are increasingly aware that polystyrene contains chemicals that can affect the health of consumers, such as carcinogens that can cause cancer. There is also a phthalate content in polystyrene that can interfere with the process of fetal formation in the womb and can lead to defects in the baby, and they will experience reproductive organ disorders when they grow up. Many are not aware that polystyrene is a 'silent' enemy to humans because it can kill. The presence of these substances will permeate the human body, causing adverse effects on health. This study found that another 50 respondents chose to disagree with this last factor. Most shops or food premises use food packaging and polystyrene containers made from low-grade and dangerous materials. This can affect human health. Food handlers usually ignore the disadvantages of using polystyrene because they lack knowledge about the adverse effects on human health. The facts prove that polystyrene can affect and harm health and is not suitable for use by consumers. Therefore, food handlers need to use safer food packaging containers for the health of the community in Malaysia. However, there are 15 respondents who have chosen to agree with this last factor because there are still members of the community who lack awareness that it can be harmful to human health. Although the harmful effects of plastic on humans can only be seen after 40 years, it still causes concern because it can kill victims slowly without them realizing it. So, there is no reason to object to the government's efforts to ban the use of polystyrene.

Additionally, the respondents commented in the open-ended section of the questionnaire, noting that polystyrene is a material that is easy to use and then throw away, making it more practical for certain groups of people, such as unmarried individuals or those who are busy working. This is one of the reasons people prefer polystyrene, as it simplifies daily life, particularly for certain groups, such as those attending large feasts or banquets. So, by using this polystyrene, people can use it to replace plastic or glass plates in large quantities. Many other factors make disposable polystyrene commonly used, especially in today's society.

The widespread availability and affordability of polystyrene containers align with previous research findings. Rahman (2010) conducted a study at UITM examining polystyrene usage patterns, which supports the current findings about accessibility and cost factors. The convenience factor identified in this study is consistent with research by Saidi and Choy (2016), who examined knowledge and willingness regarding environmentally friendly food containers among Universiti Kebangsaan Malaysia students.

The Effects of Polystyrene Usage

Figure 5 shows a total of 200 respondents' answers on the effects of polystyrene usage. The results of the study found that 80 respondents chose to strongly agree with the first effect, which is the effect of 'harmful to health because it contains carcinogenic elements'. The study showed that strongly agree was at the highest level, where the majority of respondents strongly agreed with the statement. Respondents who chose to agree were 75 respondents, while 36 respondents were unsure. Next, 6 respondents chose to disagree with the statement, and the researchers found that strongly disagree was at the lowest level, which was 3 respondents. The use of polystyrene is harmful to health because it contains carcinogenic elements that can cause cancer, as these substances can damage the DNA in our body's cells. The government recommends that sellers use recyclable food packaging materials such as brown boxes. According to the International Agency for Research on Cancer (IARC), the World Health Organization (WHO) classifies styrene as a group 2B carcinogen, which is a cancer-causing agent (National Academy of Sciences, 2014). This health concern has been reinforced by consistent warnings from health authorities. Malaysian health officials have repeatedly advised the public to avoid using polystyrene for food packaging, particularly for hot foods, due to the risk of chemical migration into food (Bernama, 2020).

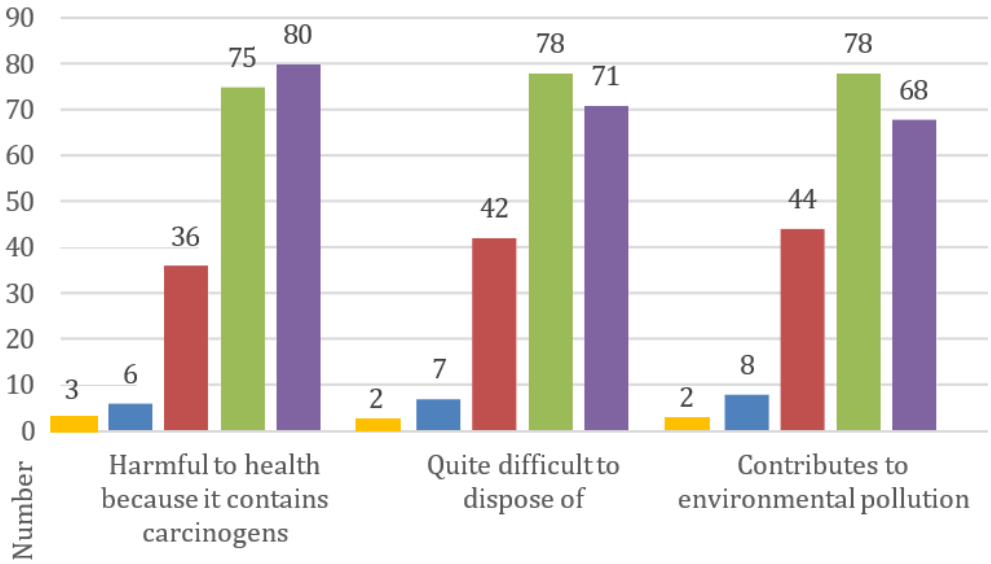

Figure 6: The Effects of Polystyrene Usage

Therefore, the use of polystyrene must be reduced to maintain the health of our bodies. Food containers such as polystyrene can cause cancer because chemicals from polystyrene containers can be absorbed into food and then absorbed into the human body. Styrene, which is said to be one of the carcinogens, is a mutagen that leads to damage to the reproductive system. The use of polystyrene is harmful to human health worldwide. However, 3 respondents chose to strongly disagree with 'polystyrene is harmful to health because it contains carcinogenic elements'. The researcher assumes that these 3 respondents do not pay attention to the disadvantages of using polystyrene. Therefore, they strongly disagreed. A few people like this may cause harm to human health and the environment. The government needs to organize an effective strategy to prevent the use of polystyrene. For example, hold a campaign to protect the environment together. The university can also create courses related to the environment so that students can expand their knowledge about the environment. Therefore, all parties need to work together to overcome the problem of widespread use of polystyrene. The material properties of polystyrene that contribute to these effects have been studied extensively. Shubbar (2010) examined the rheological and mechanical properties of high-impact polystyrene, demonstrating how recycling affects these materials. The general understanding of polystyrene's definition and properties is well-established in academic literature (Wikipedia, 2022; Shamin, 2020).

The second effect on the use of polystyrene is that 'polystyrene is quite difficult to dispose of'. The researchers found that agreeing was at the highest level, with 78 respondents. Next, the researchers found that 71 respondents strongly agreed. However, 42 respondents were unsure. Meanwhile, the researchers also found that 7 respondents disagreed and 2 respondents strongly disagreed, respectively. Polystyrene is quite difficult to dispose of because it takes a very long time to break down, up to hundreds of years, even though the cost of producing it is cheap. The environmental persistence of polystyrene has been well-documented in environmental studies. The Cascadia Consulting Group (2011) study highlighted the significant challenges posed by polystyrene waste management, noting that polystyrene containers are particularly problematic for municipal waste management systems due to their low density and resistance to biodegradation.

Furthermore, the results of a study conducted by the Institute for Energy and Environmental Research (IEER) in 1992 showed that polystyrene made from HCFC-22 has the potential to threaten the environment 3 to 5 times more than other waste materials (Chen, Cheng, and Xu, 2024). The use of polystyrene is considered cheap; therefore, sellers reduce their costs by using polystyrene containers as food packaging. However, the public needs to be vigilant because its effects are harmful to humans. Therefore, all parties must strive to reduce the use of polystyrene to protect the environment and health together. The use of too much polystyrene can cause environmental pollution. Not only that, but the increase in the amount of garbage can lead to global warming. If this problem cannot be overcome, the country's environment will worsen, and society will face health problems. Therefore, the alternative to solving the problem of widespread use of polystyrene is to replace polystyrene with quality food containers that have approval from the Department of Health or the Ministry of Health Malaysia. Awareness of this effect needs to be disseminated because the results of this study revealed that a few people still disagreed with the effect, most likely because they did not know the length of time it took for the polystyrene to be disposed of. The use of too much polystyrene may cause environmental pollution. For example, some individuals throw it into the sea. Indirectly, this leads to the destruction of aquatic habitats. Therefore, all individuals, regardless of age, need to work together to solve this problem by reducing the use of polystyrene. As a result, the environment can be well cared for, and dangerous diseases such as cancer can be avoided.

The results of the study on the effects of polystyrene for "polystyrene contributes to environmental pollution" found that 78 of respondents agreed. A total of 68 respondents strongly agreed, 44 respondents chose to be unsure, 8 respondents disagreed, and 2 respondents strongly disagreed. The use of polystyrene can contribute to environmental pollution because it can cause water, soil, and air pollution, which may affect human and animal health and the environment. Polystyrene can pollute water because it is a type of plastic that does not decompose easily in the environment. When polystyrene floats in water, it can take a long time to disappear and decompose. This can cause damage to the aquatic ecosystem. When polystyrene burns, it produces toxic chemicals such as dioxins that can be harmful to the health of humans and animals exposed to them. This is because dioxins can damage the immune system while at the same time disrupting growth, development, and increasing the risk of cancer. Furthermore, burning polystyrene produces greenhouse gases such as carbon dioxide and methane. This can also contribute to global temperature changes and disrupt the weather system.

The environmental pollution concerns raised by respondents are well-supported by existing literature. Loot (2010) provides a comprehensive overview of environmental pollution issues, particularly those related to plastic materials. The need for public awareness about plastic and polystyrene reduction has been emphasized in various publications (Wahid, 2022; Yusop, 2019), highlighting the importance of community education in addressing this environmental challenge.

The findings of this study, conducted on 200 customers at the Bangi Gateway Supermarket, show that in their opinion, the use of polystyrene among the community is because polystyrene is cheap and easier to carry than food containers, as it is lighter. According to Kuroda et al (2024), the remains of polystyrene containers easily float and are widely scattered, harming the environment. Andrady (2011) states that polystyrene particles floating on the surface of the sea can be found in significant quantities worldwide. The issue of the use of polystyrene causes ecosystem disruption, especially food contamination for marine life. This study provides early exposure so that the community can take other initiatives to replace the use of polystyrene containers with safer food containers. Therefore, the community is advised to bring their food containers as a step to reduce the use of polystyrene.

CONCLUSION

The objective of this study is to identify the factors and effects of polystyrene use from the views of Bangi Gateway Mall customers. To achieve the objective of the study, 200 customers at Bangi Gateway Mall have provided their views. This section summarizes the findings of this study. This study found that customers at Bangi Gateway Mall agree that the use of polystyrene among consumers has various factors, and the effects range from human health deterioration and environmental pollution.

The findings of this study align with previous research on polystyrene usage patterns. Bahaman and Mohd Zahari (2017) found similar patterns of awareness and concern among university students, suggesting that consumer awareness of polystyrene's negative impacts is growing across different demographic groups. The consistency of these findings across different studies reinforces the validity of the concerns raised about polystyrene usage.

Therefore, it is proposed that to reduce the use of polystyrene among the community, the use of environmentally friendly containers at sales kiosks be made mandatory. This recommendation is particularly timely given recent regulatory developments, such as the Pahang state government's decision to ban polystyrene food containers starting July 1, 2025 (Alagesh, 2025). The success of such policies will depend on the availability of affordable alternatives and continued public education about the health and environmental risks

of polystyrene usage.

For example, reusable containers like brown bags and biodegradable containers instead of polystyrene. The implementation of such alternatives should be supported by comprehensive studies like the one conducted by Cascadia Consulting Group (2011), which can provide valuable insights into the practical challenges and solutions for replacing polystyrene food service containers.

The findings of this study contribute to the growing body of literature on polystyrene usage patterns in Malaysia. Previous research by Saidi and Choy (2016) and Rahman (2010) provides important context for understanding consumer behavior regarding polystyrene usage. The environmental geography perspective (Keng, 2005) reinforces the importance of considering local contexts in environmental policy development.

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