

No Single-Use Plastic Survey Report: Consumer



Findings and analyses

No Single Use Plastic survey took place from 1st August until 9th September 2018 involving 1948 respondents. The survey was done using convenient sampling method through online platform and on-site survey.

The objectives of the survey are:

1. To understand the public perception towards the usage of single-use plastic items at food eateries in Penang.
2. To provide the policymakers with a better understanding of the public views prior to the formation of state policy on the banning of single-use plastic items in Penang.

In order to address the objectives above, potential analysis was performed and results obtained were described as follow.

Sociodemographic Data

Table 1: Sociodemographic (n=1948)

	Frequency	%
Are you a resident of Penang?		
Yes	1736	89.1
No	210	10.9
* 2 did not answer		
Are you working in Penang?		
Yes	1556	80.2
No	385	19.8
* 7 did not answer		
Gender		
I prefer not to say	29	1.5
Male	763	39.2
Female	1152	59.3
* 4 did not answer		

Current Employment			
	Self-employed	232	11.9
	Private sector employee	876	45.0
	Public sector employee	395	20.3
	Student	285	14.7
	Housewives	74	3.8
	Unemployed	30	1.5
	Retired	53	2.8
		* 3 did not answer	
Highest Education Level			
	Primary education	11	0.6
	Secondary education (PT3/PMR/ SRP/SPM/O-Levels)	288	14.8
	STPM/A-Levels/Matriculation/ Diploma/Skill Certificate or equivalent	412	21.2
	Tertiary education (Degree/Masters/ PhD or equivalent)	1216	62.5
	Others	18	0.9
		* 4 did not answer	
Gross Household Income (Per month)			
	Below RM1500	266	13.8
	RM1501-RM4000	768	39.9
	RM4001-RM8500	564	29.3
	Above RM8501	328	17.0
		* 22 did not answer	

This public survey on single-use plastic items at food eateries in Penang showed that 89.1% of total respondents were Penang residents, while the rest were not (10.9%). Of those who were Penang residents (n = 1,736), 75.2% of them were working in Penang, while the other 267 respondents were working outside Penang. Note that the respondents involved are those who are either working or staying in Penang only.

Few respondents (0.05%) who were working in Penang were not residents of the state, and they might be staying in other states, such as in Kedah or Perak. Out of 1,948 respondents, majority

were working in private sector (45%), while 20.3% in the public sector. 14.7% of the respondents were students.

In terms of genders, majority of the respondents were female (59.3%) and the other 39.2% were male. However, 29 respondents (1.5%) did not state their gender.

As for educational background, the highest education level obtained by majority of respondents (62.5%) were tertiary education (i.e. degree, masters, PhD, or equivalent), followed by those with STPM, A-Levels, matriculation, diploma, skill certificate or equivalent (21.2%) and secondary education (14.8%). Only 0.6% had the highest level of education at primary school level.

In terms of household income, majority of the respondents (39.9%) had an average monthly income between RM1501 to RM4000, followed by those with RM4001 to RM8500 of monthly income (29.3%). While 17% of the respondents obtained the highest amount of monthly income (i.e. above RM8501), the other 13.8% earned less than RM1500 monthly. The remaining 22 respondents did not specify their monthly income.

District Area



*Not residing in Penang, 8.4%

Figure 1: Percentages of Residency in Penang Districts

Out of 1,736 respondents who were living in Penang, majority were living in the northeast (*Timur Laut*) area (32.8%), followed by Central Seberang Perai (*Seberang Perai Tengah*) and southwest (*Barat Daya*), 18.9% and 17.1% respectively. 13% of them were residing in the North Seberang Perai District, while 9.7% were in the South Seberang Perai District. Less than 9% of the respondents were not living in Penang area.

Age Groups

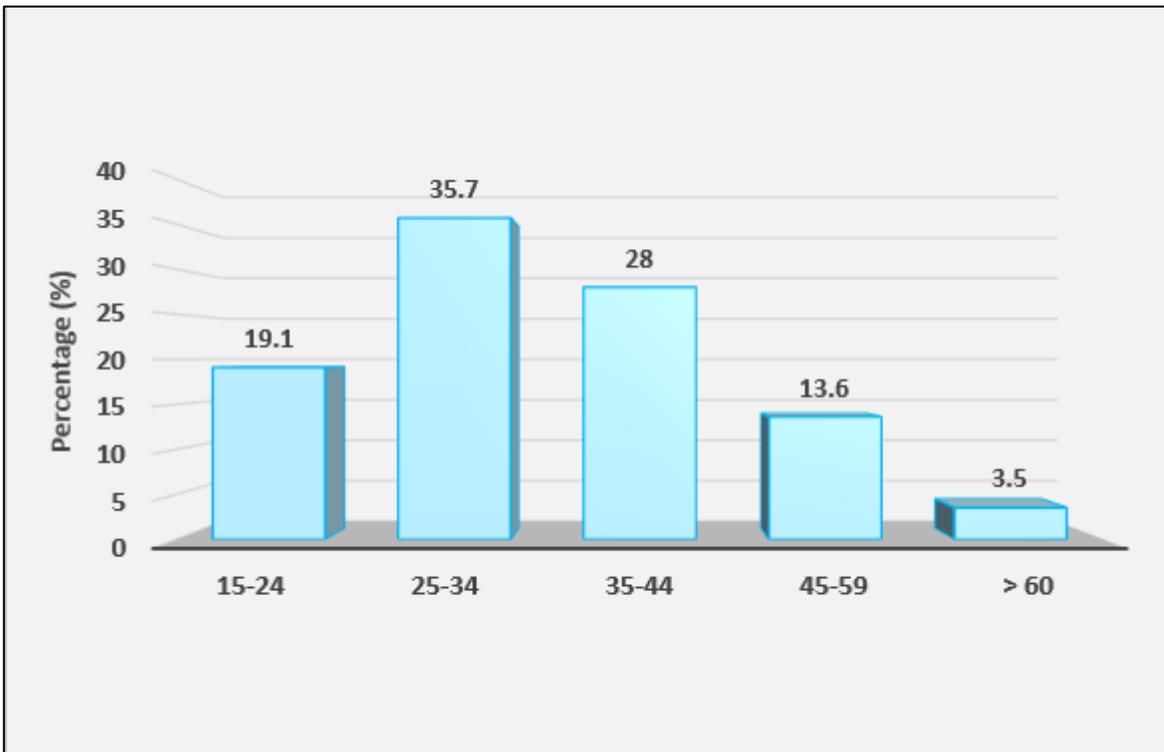


Figure 2: Age Groups

		Frequency	Valid Percent
Valid	15-24	372	19.1
	25-34	694	35.7
	35-44	545	28.0
	45-59	264	13.6
	> 60	68	3.5
	Total	1943	100.0

years old, while only 68 respondents (3.5%) were considerably senior citizen. On the other hand, the teenager or adult group, i.e. those between 15 to 24 years old, only occupied a percentage of 19.1% as compared to other groups. Five respondents did not specify their age group in this survey.

The average age of the majority of respondents (35.7%) was between 25 to 34

Q2: Do you support single-use plastic (straws, cups, saucer plate, lid cover, fork and spoon, bottles, bowls, plates and stirrer) ban at hotels, restaurants, cafe, and food outlets in Penang?

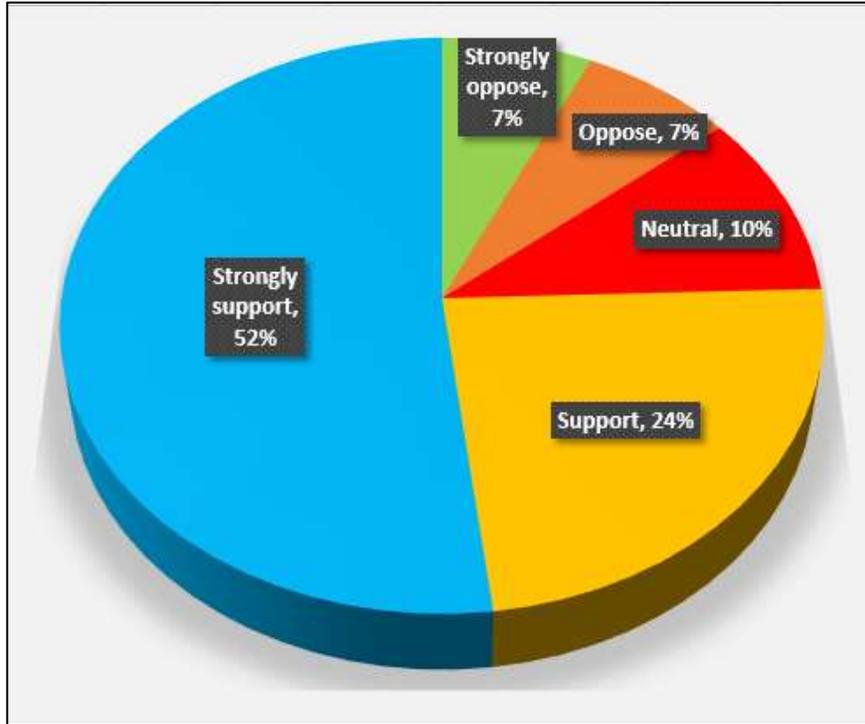


Figure 3: Level of support to ban the use of single-use plastic items

	Frequency	Percent
Strongly Oppose	136	7.0
Oppose	139	7.1
Neutral	202	10.3
Support	459	23.6
Strongly support	1012	52.0
Total	1948	100.0

Out of 1,948 total respondents, more than half (52%) strongly supported the campaign to ban the use of single-use plastic items. Only a few of them (less than 15 %) did not agree that the banning of plastic usage should be implemented, especially at the hotels, restaurants, café and also food outlets.

Based on the age group, majority of the respondents (35.5%) who supported the campaign were found to be in the age from 25 to 34 years old. There were also significant associations (p-values is less than 0.05) between respondents' level of supports on the banning of single-use plastic usage with both their age group and education level.

Further analysis by the age groups revealed that those who were between 25 to 34 years old are 1.5 times more likely to remain neutral than those who were against the banning of single-use plastic items at hotels, restaurants, café and food outlets. Similarly, those in the age between 35 to 44 years old were two times more likely to support than to oppose the ban of plastic usage at hotels, restaurants, café and food outlets.

Based on the difference by employment status, the analysis revealed that those who are employed were two times more likely to support than to oppose the banning of single-use plastic items usage at premises like hotels, restaurants, café, and food outlets.

However, regardless of the difference in household monthly income, the results showed that respondents of all groups were two to three times more likely to remain neutral than to oppose the banning of single-use plastic items at the various premises.

Q3 (i): When you use single-use plastic items, it's usually because - Single-use plastic items are more hygienic

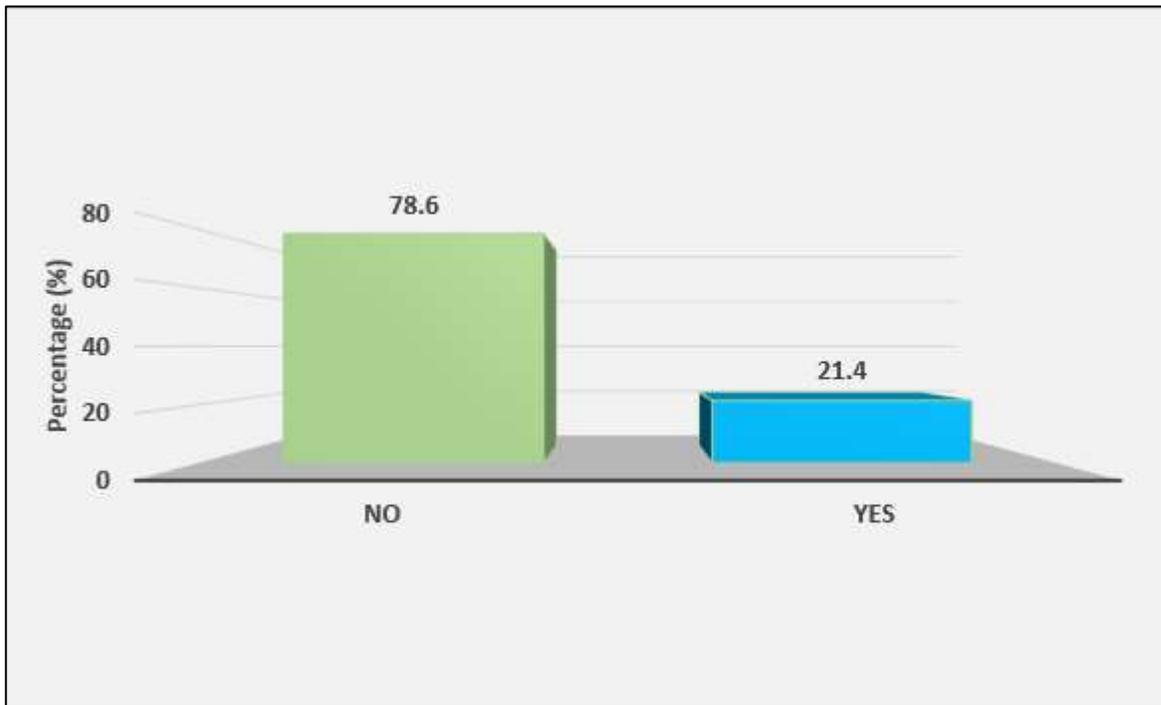


Figure 4: Hygiene as the factor to use single-use plastic items

	Frequency	Percent
No	1531	78.6
Yes	417	21.4
Total	1948	100.0

Most respondents (78.6%) stated that hygiene is not the reason why they use the single-use plastic items. Only 21.4% of them considered the usage due to the hygienic factor.

Further analysis of binary logistic regression was performed to assess the association between the demographic factors with respondents' single-use plastic items usage.

In terms of difference by gender status, the analysis revealed that as compared to the male group, those with unspecified gender were 2.5 times more likely to use single-use plastic items due to its hygienic factor.

Q3 (ii): When you use single-use plastic items, it's usually because - Single-use plastic items are cheaper

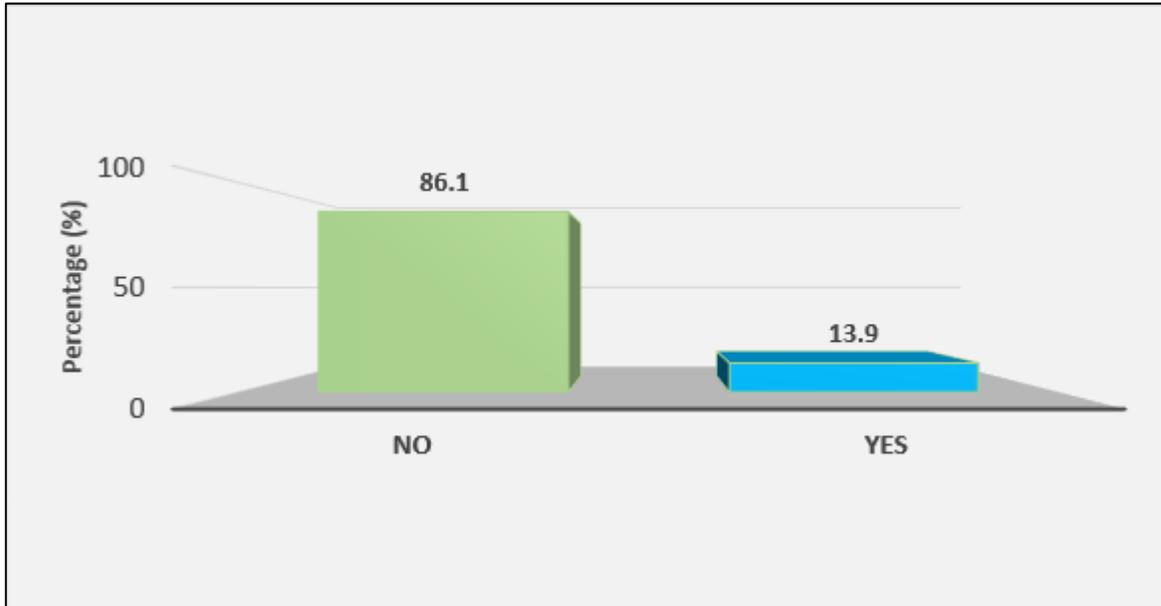


Figure 5: Low price as the factor to use single-use plastic items

	Frequency	Percent
No	1677	86.1
Yes	271	13.9
Total	1948	100.0

Only 14% of the respondents considered low price as the factor to use the single-use plastic items. The majority group (86.1%), on the other hand, did not agree that the affordability of price was the reason they keep on using such item.

In terms of gender, female customers in this study were 36% less likely to use single-use plastic items due to its low price compared to the male group.

In terms of age, those in the age group between 25 to 34 years old were three times more likely to use single-use plastic items due to the price factor compared to the senior citizen group.

Based on educational background, those with highest level of education at secondary school level were 1.5 times more likely to use single-use plastic items due to its low price compared to those with tertiary education. In terms of the difference by household income, those who earned RM 1501 to RM4000 monthly were 1.6 times more likely to use single-use plastic items due to its affordability compared to those with lower level of monthly income.

Q3 (iii): When you use single-use plastic items, it's usually because - Single-use plastic items are easily available

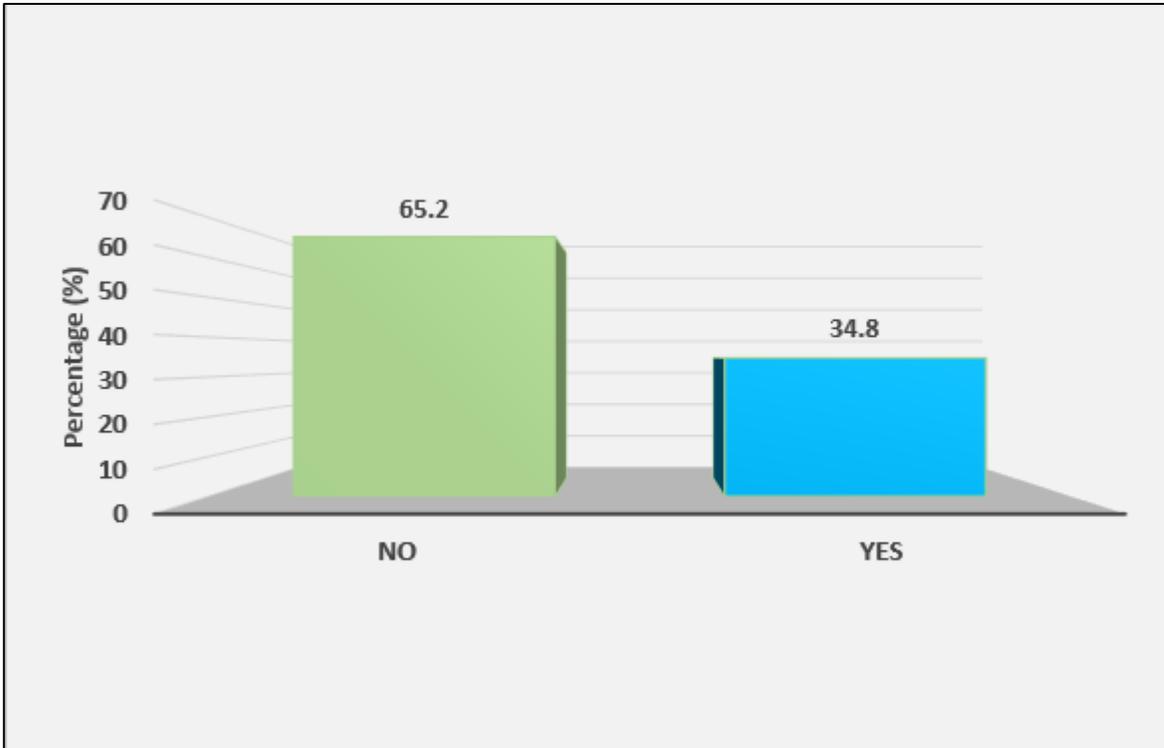


Figure 6: Easily available as the factor to use single-use plastic items

	Frequency	Percent
No	1271	65.2
Yes	677	34.8
Total	1948	100.0

The availability of single-use plastic items seemed to be the reason why some respondents (34.8%) use the items. However, a larger percentage (65.2%) did not seem to agree on this reason.

Based on the employment status, those who were unemployed were 73% less likely to use single-use plastic items due to its

availability compared to those who were still studying.

In terms of age, those in the age group between 15 to 44 years old were two to three times more likely to use single-use plastic items due to its availability compared to the senior citizen.

Those with highest level of monthly income (i.e. RM 8501 and above) were 42% less likely to use single-use plastic items due to its availability compared to those who earned less than RM1500 per month.

Q3 (iv): When you use single-use plastic items, it's usually because - I was given single-use plastic items by the hotel, restaurant, or food outlet

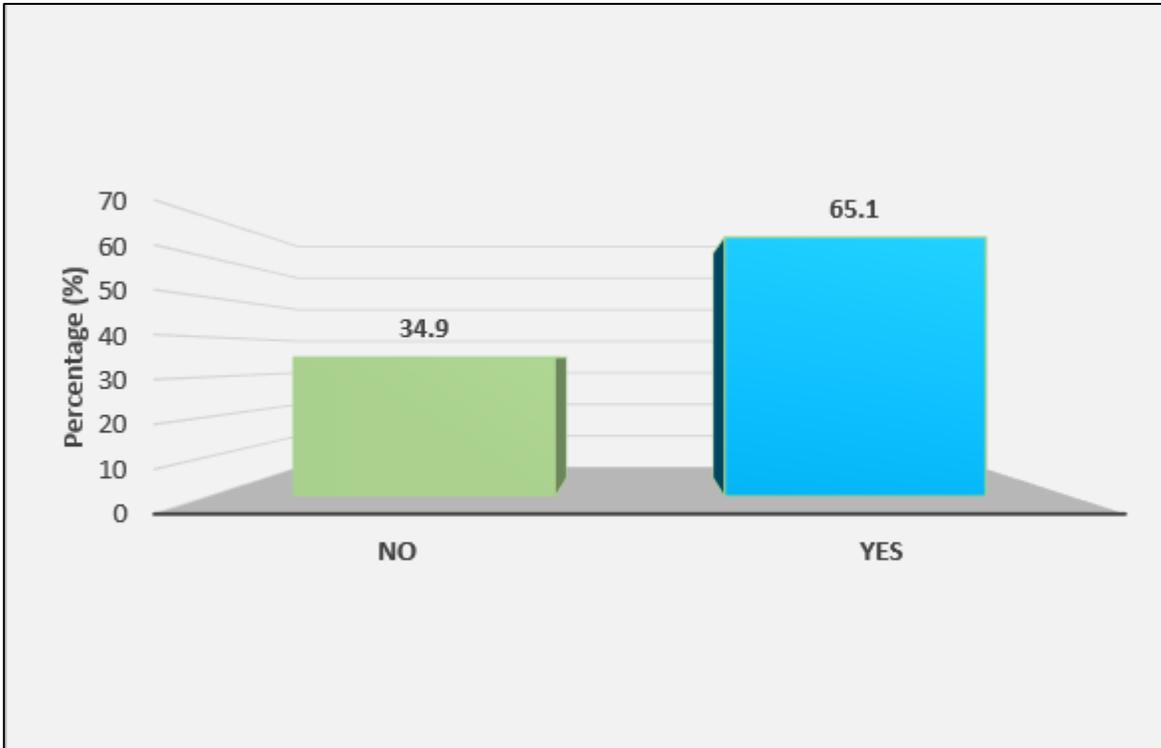


Figure 7: Provided by food outlet as the factor to use single-use plastic items

	Frequency	Percent
No	680	34.9
Yes	1268	65.1
Total	1948	100.0

Majority of respondents (65.1%) agreed that they use single-use plastic items, especially cups and plates, because the items were easy to find and being provided at the premises like hotels, café, restaurants, and other food outlets. The other 34.9% did not support this statement.

In terms of educational background, compared to those with only primary school education, those with higher level of education were two to four times more likely to use single-use plastic items due to the convenience factor as the items are being provided at the food places.

As for monthly income, those who earned at least RM 4001 monthly were 1.5 to two times more likely to use single-use plastic items due to convenience and availability factor compared to those who earned not more than RM1500 per month.

Q3 (v): When you use single-use plastic items, it's usually because - I don't use single-use plastic items

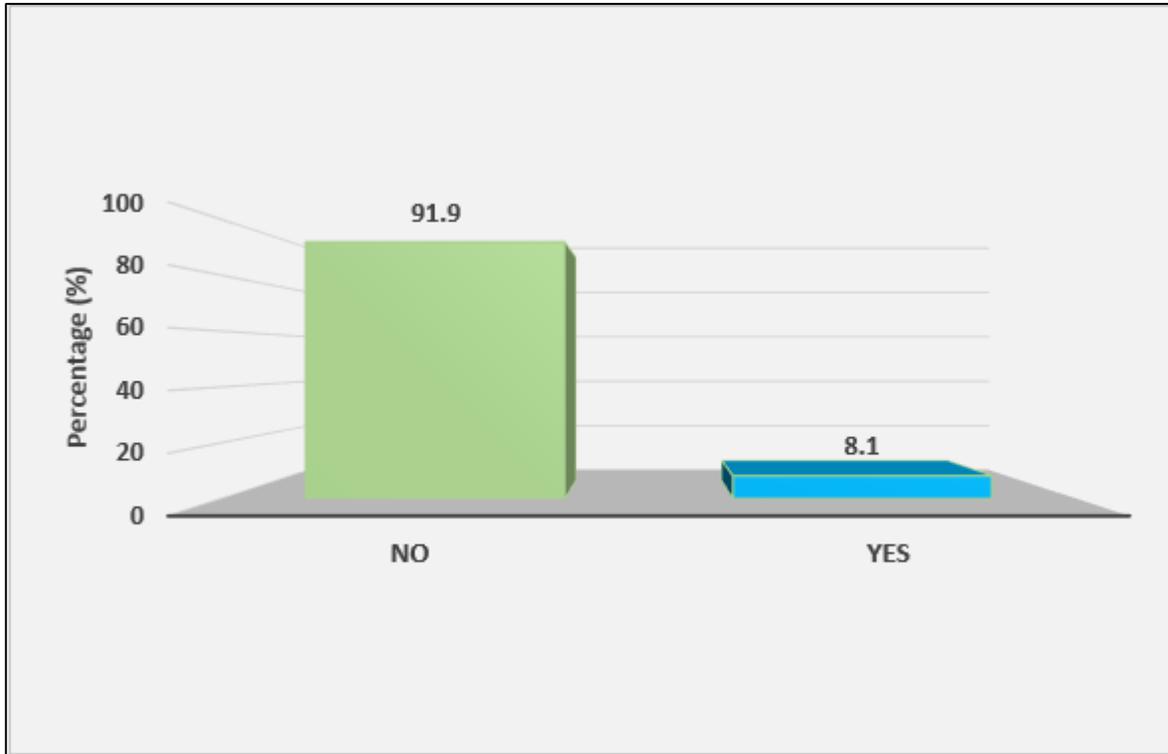
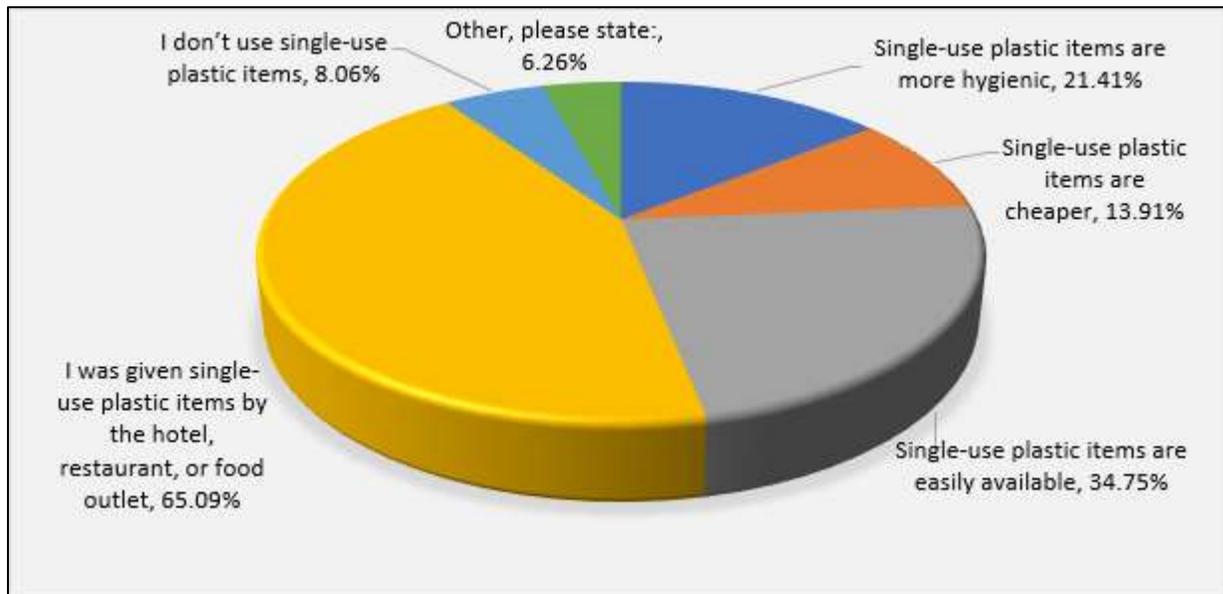


Figure 8: Usage of single-use plastic items

	Frequency	Percent
No	1791	91.9
Yes	157	8.1
Total	1948	100.0

Most of the respondents (91.9%) responded that they do not use the single-use plastic items, whereas only few (8.1%) were using such items.

Summary Q3: When you use single-use plastic items, it's usually because:



*Percentages are based on total respondent, i.e. 1,948

Figure 10: Summary of the reasons to use single-use plastic items

	Frequency	Percent
Single-use plastic items are more hygienic	417	21.41
Single-use plastic items are cheaper	271	13.91
Single-use plastic items are easily available	677	34.75
I was given single-use plastic items by the hotel, restaurant, or food outlet	1268	65.09
I don't use single-use plastic items	157	8.06
Other, please state:	122	6.26

Majority of the respondents (65.09%) said that they use the single-use plastic items because the items were provided to them when dining at hotel, restaurants, and other food outlets. This was followed by the other 34.75% who used the items because of its availability at the places. 21.41% of the respondents utilized the single-use plastic items because of the hygienic factor, while other 13.91% agreed that it was due to the price affordability factor. Few other respondents (6%) provided other reasons for their usage, including convenience, disposability, applicability for outdoor activities and others. Only 8% stated that they did not use the single-use plastic items at all.

Q4 (i): What do you do with your single-use plastic items after using? - Place in rubbish bin

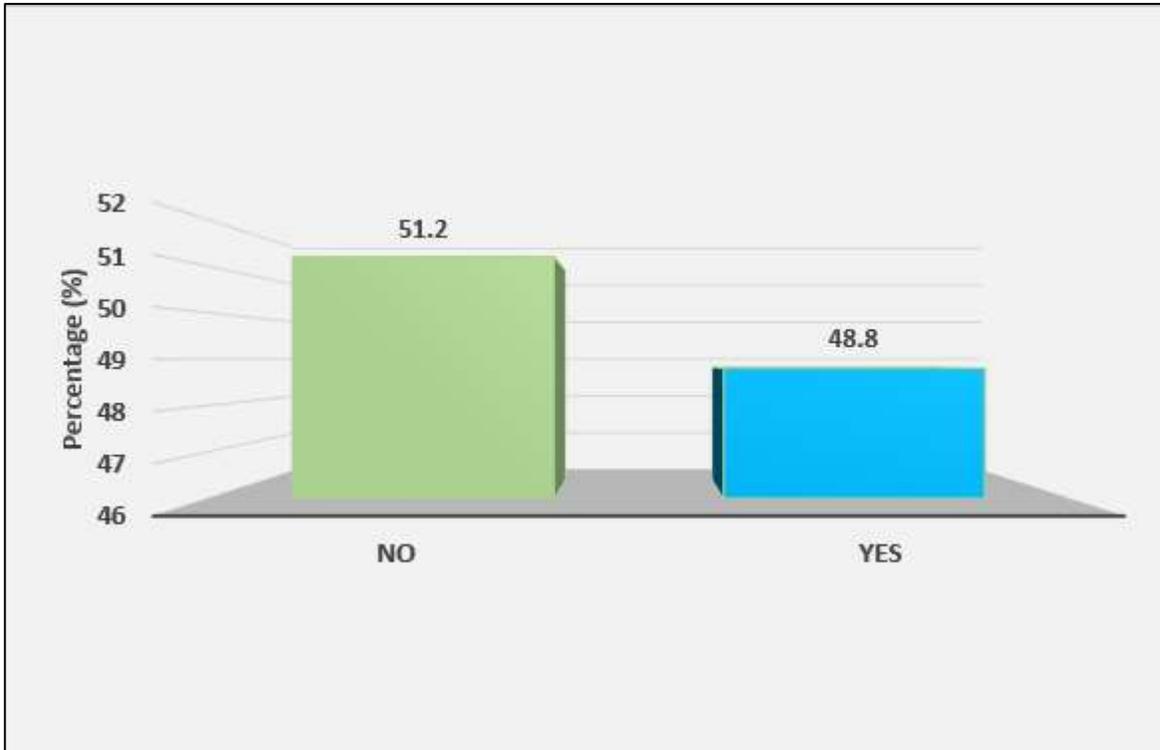


Figure 11: Action taken after using single-use plastic items (place in rubbish bin)

	Frequency	Percent
No	998	51.2
Yes	950	48.8
Total	1948	100.0

The survey results showed that the percentage of respondents (51.2%) who did not throw the single-use plastic items into rubbish bins was slightly higher than those who did (48.8%). This indicates that there was a rather balance distribution between customers with awareness on the

appropriate disposal of plastic items and those with lack of knowledge on such practice.

Another statistical analysis using simple binary logistic regression revealed that the demographic factors, which are gender, employment status, age group, education level, and monthly household income did not have significant effects on customers' practice of disposing single-use plastic items.

Q4 (ii): What do you do with your single-use plastic items after using? - Recycle at available recycling bin or bring home for recycle

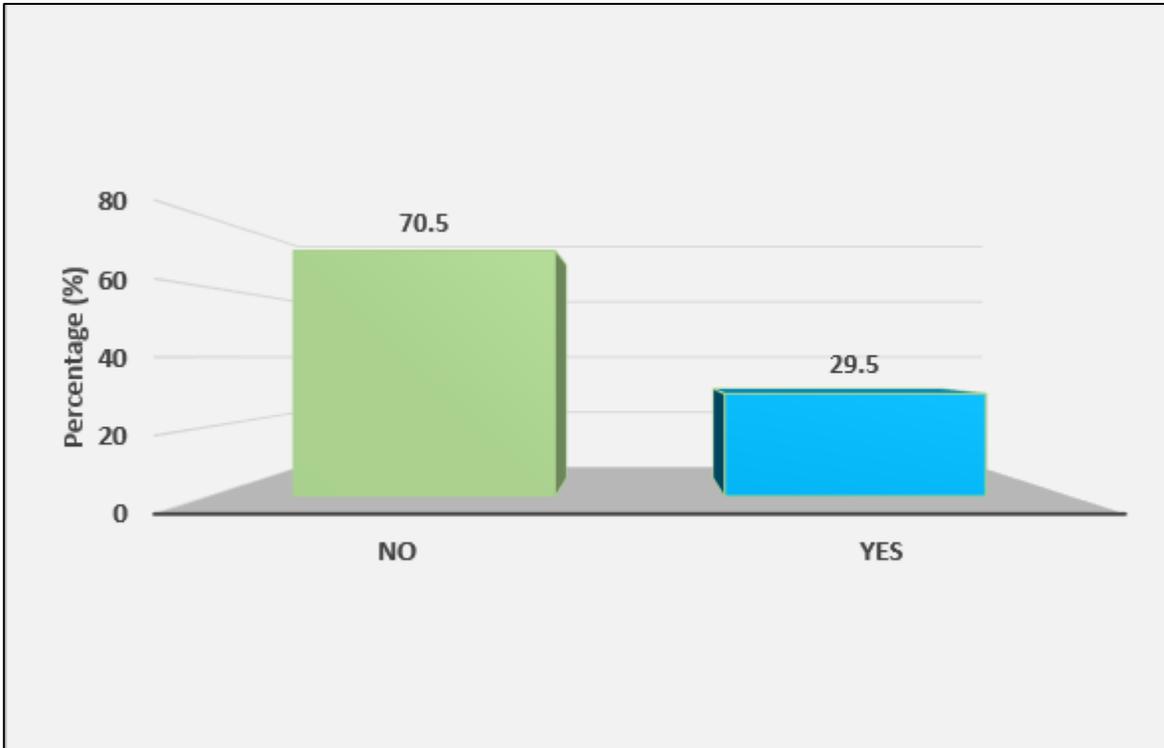


Figure 12: Action taken after using single-use plastic items(recycle)

	Frequency	Percent
No	1373	70.5
Yes	575	29.5
Total	1948	100.0

The next question revealed that majority of the respondents (70.5%) did not recycle the single-use plastic items, either through recycling bins or even by bringing the items home to be recycled. Only a small number

of respondents (29.5%) agreed that they recycle those items.

In terms of monthly income, results showed that those who earned RM 1501 to RM 4000 per month were 1.5 times more likely to recycle the single-use plastic items compared to those who earned less than RM1500 monthly.

Q4 (iii): What do you do with your single-use plastic items after using? - Reuse them

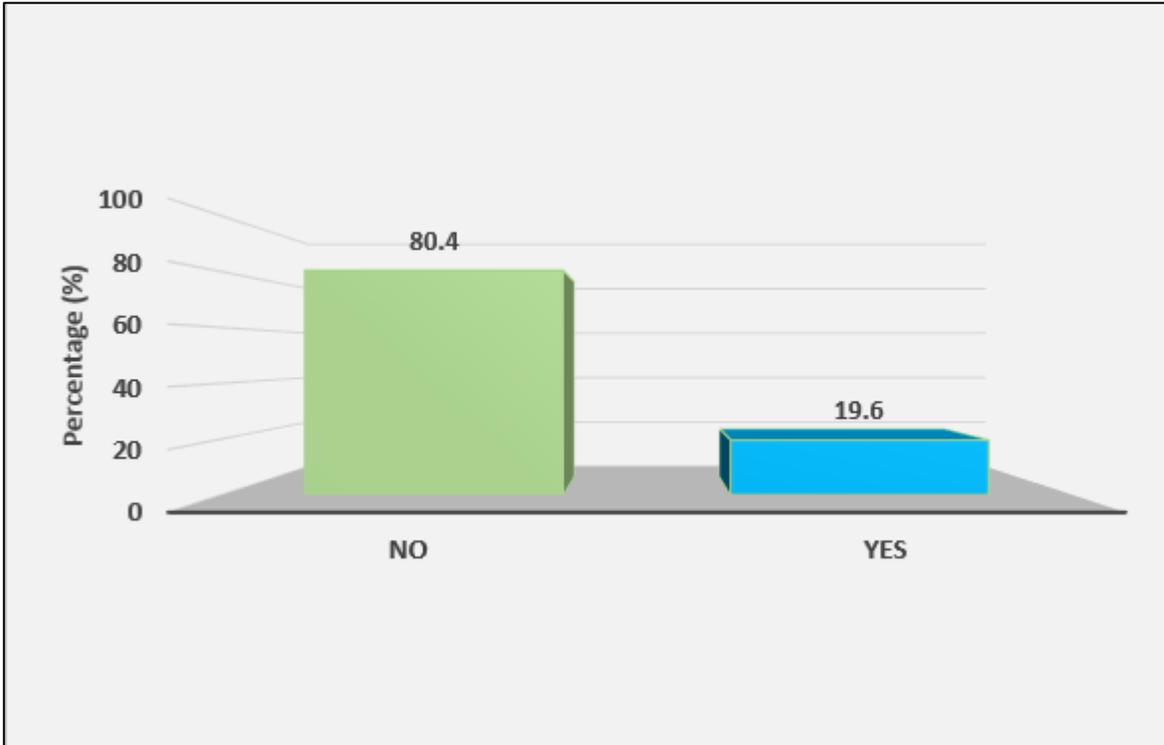


Figure 13: Action taken after using single-use plastic items (reuse)

	Frequency	Percent
No	1566	80.4
Yes	382	19.6
Total	1948	100.0

The result above showed that less than 20% of the respondents agreed that they would reuse the single-use plastic items, while more than 80% said the otherwise.

Further statistical analysis revealed that the demographic factors, such as gender, employment status, age group, education level, and monthly household income, did not have any significant effect on respondents' practice of reusing single-use plastic items.

Q4 (iv): What do you do with your single-use plastic items after using? - I don't use single-use plastic items

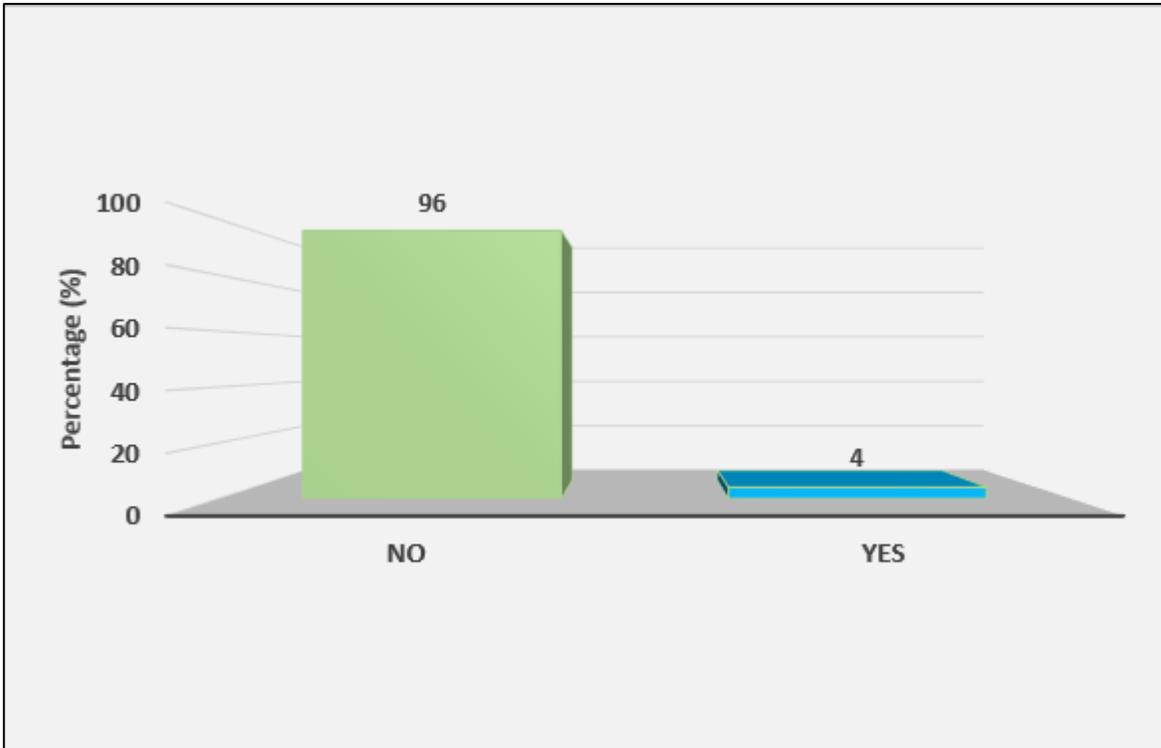


Figure 14: Action taken after using single-use plastic items (never use the items)

	Frequency	Percent
No	1870	96.0
Yes	78	4.0
Total	1948	100.0

As can be seen, only few respondents (4%) stated that they did not use the single-use plastic items, while majority (96%) were still using the items.

Q4 (v): What do you do with your single-use plastic items after using? - Other

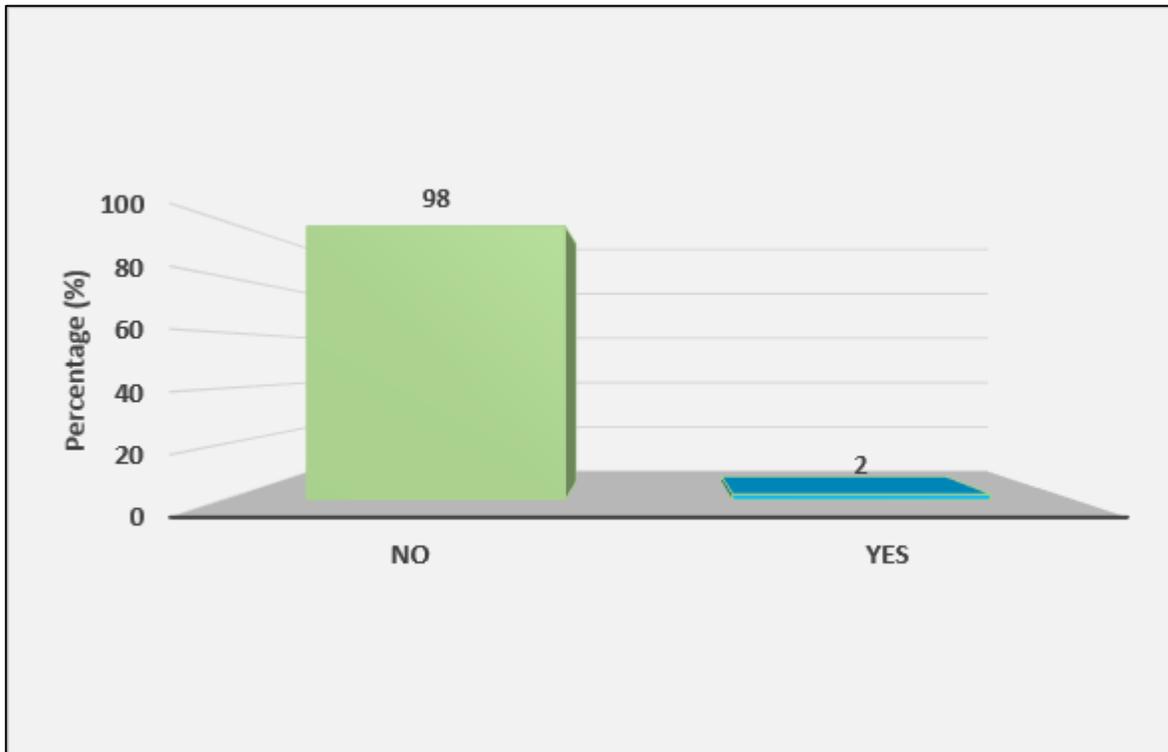


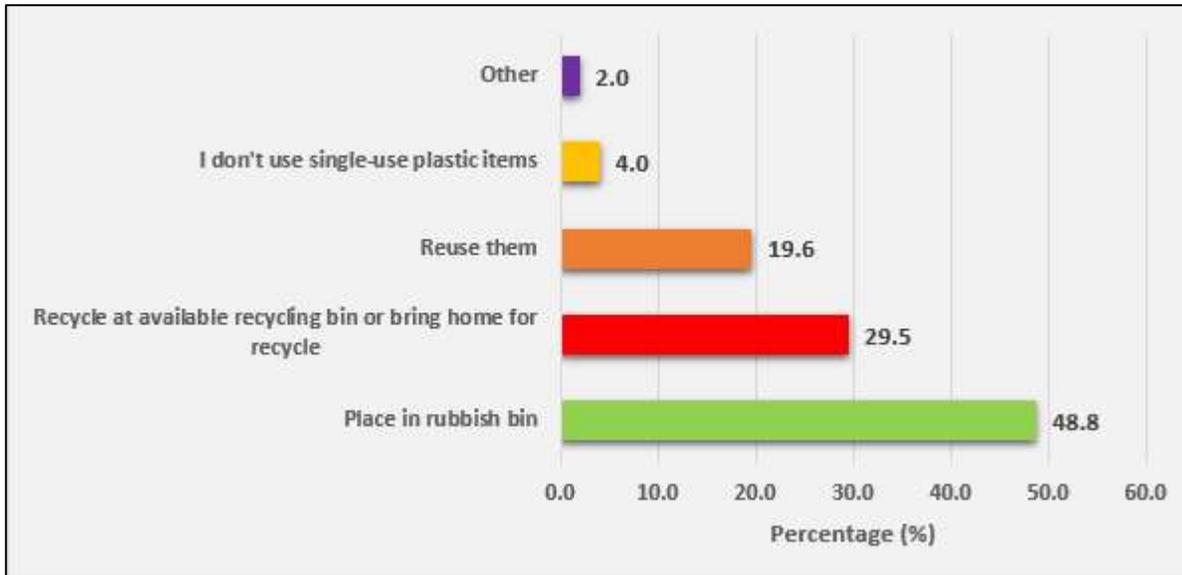
Figure 15: Action taken after using single-use plastic items (others)

	Frequency	Percent
No	1910	98.0
Yes	38	2.0
Total	1948	100.0

One of the many answers given by respondents about what they did with single-use plastic items was regarding the quality aspect. Majority of the respondents agreed

that they would keep the used plastic items due to the quality reason. Moreover, some of them shared that plastic bags and water bottles are examples of single-use plastic items which they would keep, unlike items like spoon, fork and plates. Another reason mentioned by respondents was that they would throw the single-use plastic items whenever there was a recycle bin nearby.

Summary Q4: What do you do with your single-use plastic items after using?



**Percentage based on total respondent, 1948*

Figure 16: Summary on actions taken after using single-use plastic items

Overall, it can be seen that majority of the respondents (48.8%) indicated that they place the single-use plastic items into rubbish bins after using the items. Only 29.5% of them applied the recycling practice to handle the single-use plastic items through the available recycling bin, and similarly, only 19.6% reuse the items after usage. The remaining 4% said that they do not use single-use plastic items at all.

Q5: Did you rinse and dry your single-use plastic items before sending for recycling?

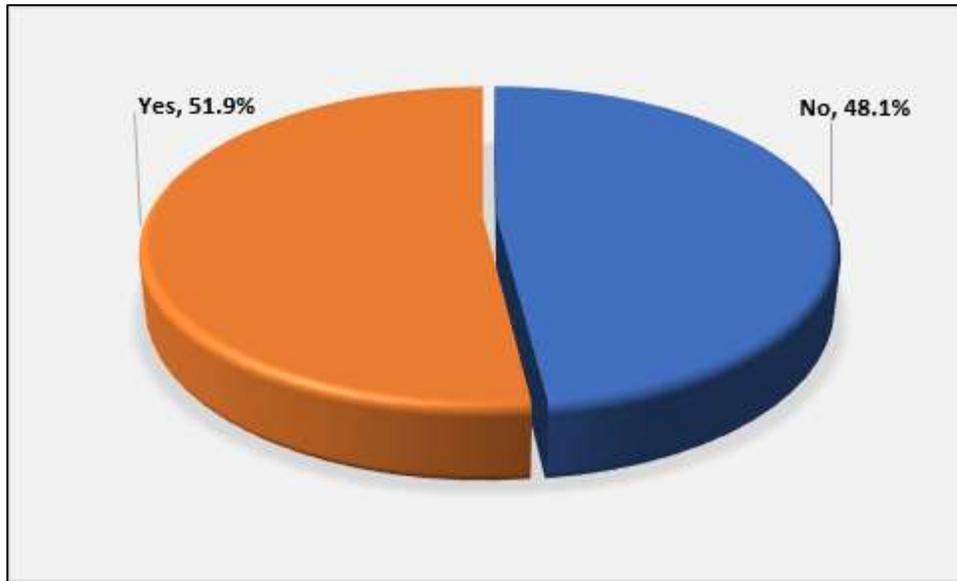


Figure 17: The practice to rinse and dry single-use plastic items before sending for recycling

It can be seen that there was a slight difference among respondents in terms of the cleaning practice of recyclable plastic items. Specifically, more respondents (51.9%) agreed that they would rinse and dry the single-use plastic items before sending to recycle centre compared to those who did not do such practice (48.1%).

Q6: If single-use plastic items were to be charged, which price point will you pay for using the following single-use plastic items?

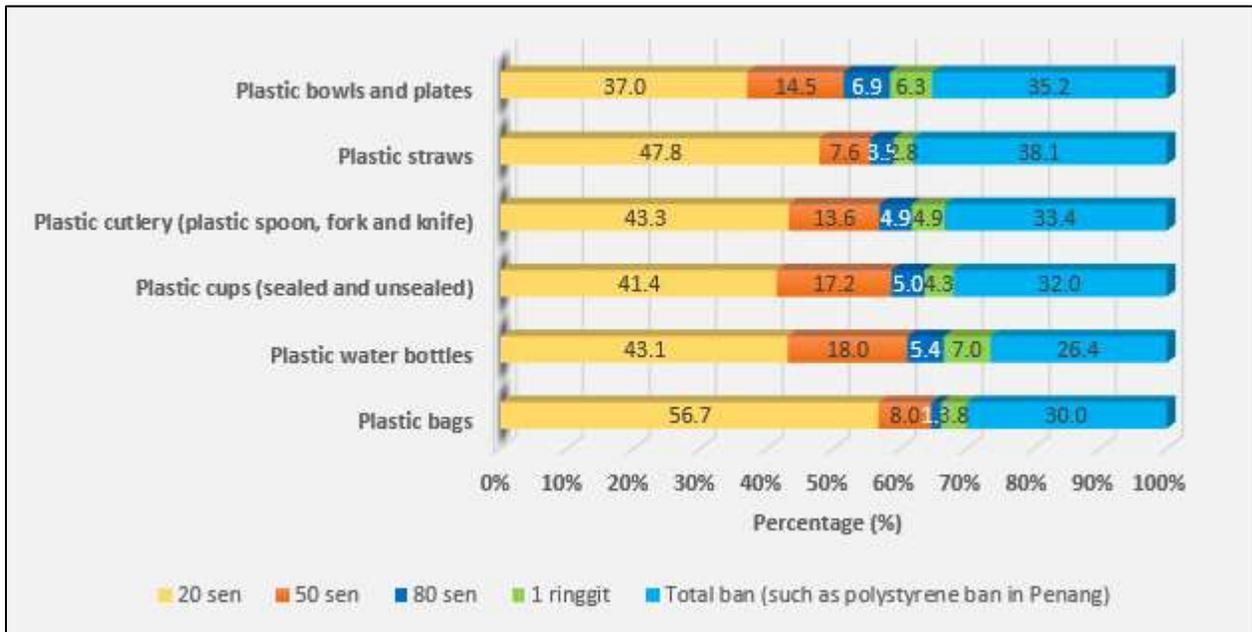


Figure 18: Amount willing to pay if single-use plastic items are charged and level of support on the banning

The item which majority of respondents mostly agreed that it should be banned in Penang was plastic straws (38.1%), followed by plastic bowls and plates (35.2%), plastic cutlery (35.2%) and plastic cups (33.4%). In addition, if the usage of single-use plastic items is to be charged, 7.0% of respondents were willing to pay at the price of as high as RM1 for plastic water bottles, followed by plastic bowls and plates (6.3%) and plastic cutlery (4.9%).

Furthermore, at the lowest price of 20 cents, majority respondents (56.7%) were willing to pay mostly for plastic bags, followed by plastic straws (47.8%) and plastic cutlery (43.3%).

Q7: If single-use plastic items were to be charged, what do you think the charges can be used for?

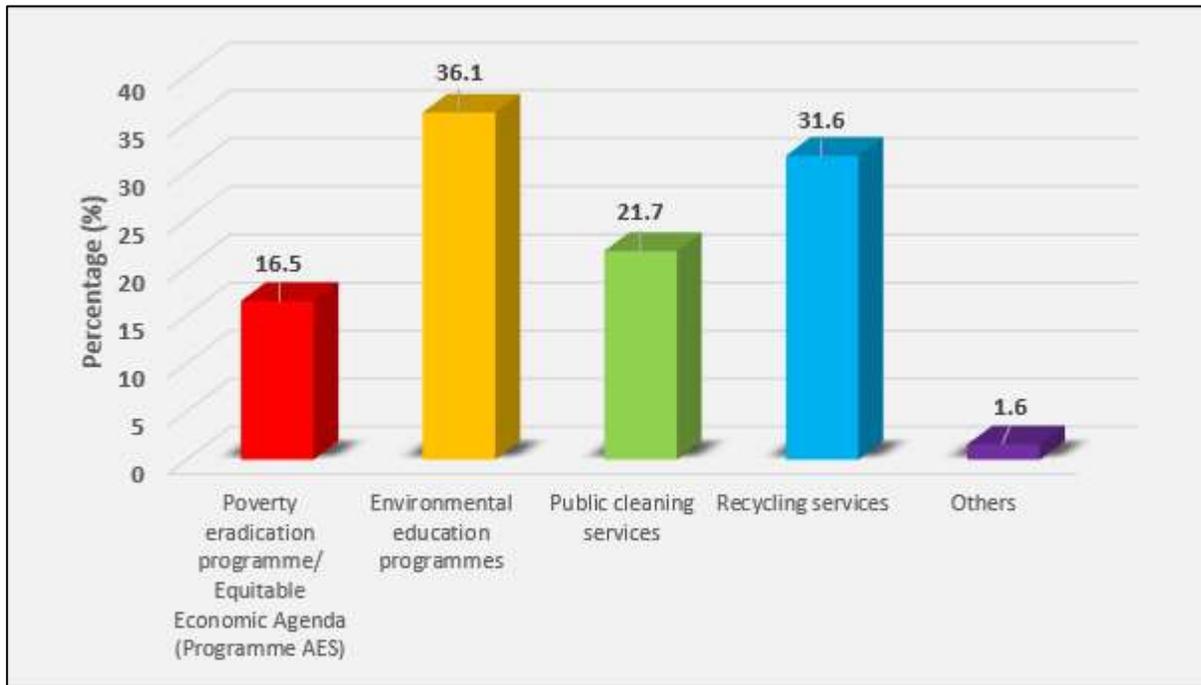


Figure 19: Areas where the charge of single-use plastic items usage can be used for

Regarding the benefits of charging the usage of single use plastic items, majority of respondents (36.1%) agreed that the money could be used for environmental education programmes, followed by recycling services (31.6%), and public cleaning services (21.7%). The other 16.5% agreed that the charges could be used to fund poverty eradication programme. Meanwhile, the remaining 1.6% provided other suggestions, such as for the development of a better technology, more green programme education on recycling (such as on daily house waste, public cleaning services) and also introducing the paper bags.

Q8: Which of the following are likely to encourage you to bring your own food or water containers?

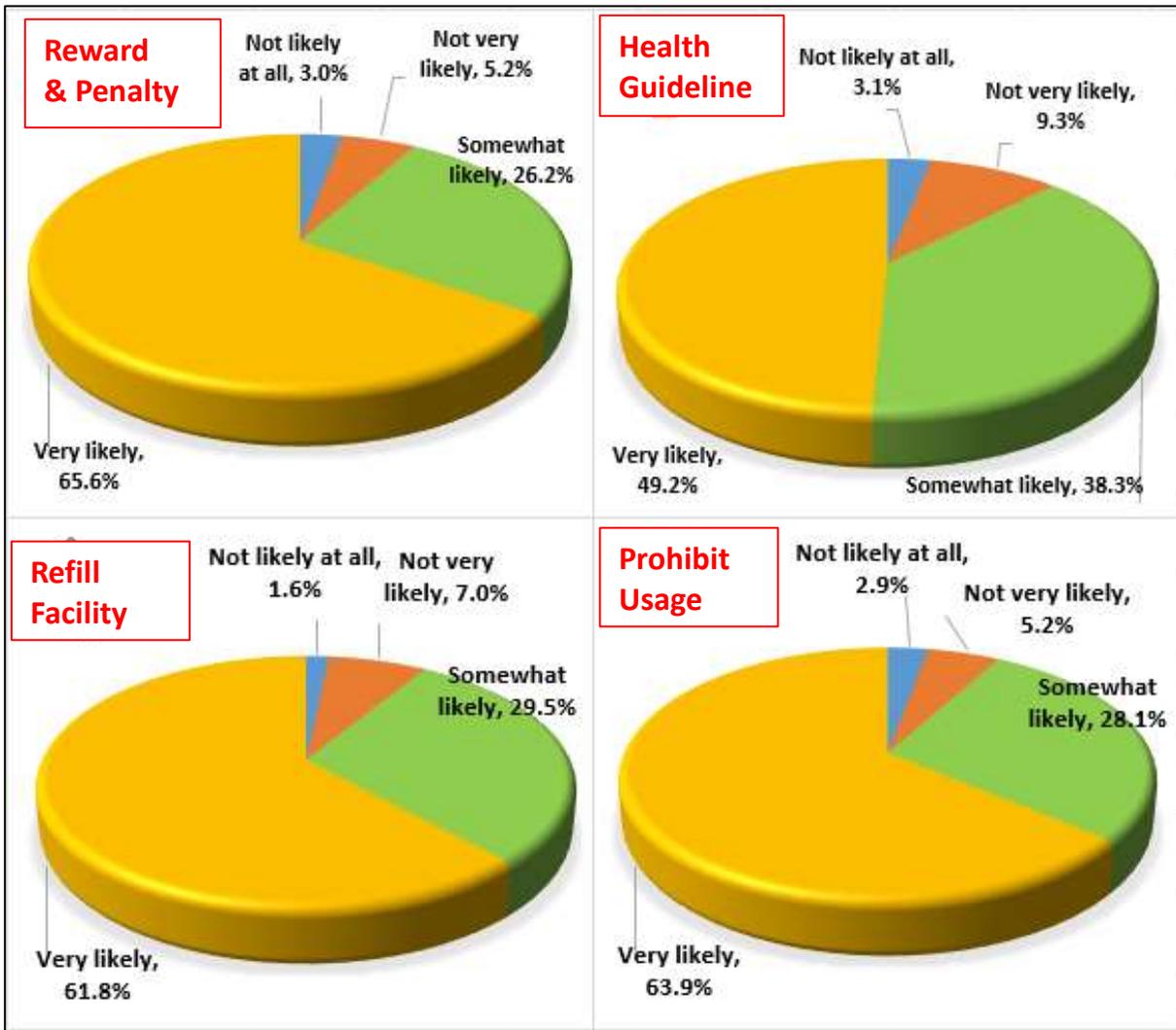


Figure 20: The encouragement to bring own food/water container

In terms of encouraging factors to bring own food or water containers, the results indicated that the type of encouragement which was agreed by most respondents (around 92%) was through the prohibition to distribute single-use plastic items, unless required by the customers. This was followed by 91.8% of respondents who agreed on the reward and penalty system whereby customers would be charged for requiring single-use plastic items; on the other hand, they would get greater discounts (i.e. discounted amount is more than plastic charges) for using own container, straws, or bottles. The next type of encouragement which was agreed by most respondents (91.3%) was by providing more mineral or filtered water refilling facilities for

customers who use own water bottles. Other than that, a large percentage of respondents (87.5%) also agreed that the health guidelines should be set up for handling customers' own plastic containers. Overall, these results indicated a positive support among respondents towards the various types of encouragement in order to increase their awareness in handling single-use plastic items.

Summary

In terms of gender, majority of the the respondents were female (50.3%). As for employment, more respondents were working in the private sector (45%) compared to those in the public sector (20.3%), whereas several others were either students (14.7%), self-employed (11.9%), housewives (3.8%), retired (2.8%), or unemployed (1.5%). The highest level of education obtained by majority of the respondents (62.5%) was tertiary education (Degree/Masters/ PhD or equivalent), while the average of monthly household income for majority of them (39.9%) was between RM1501 to RM4000.

In terms of residency, majority of respondents (32.8%) were residing in the northeast district of Penang. As for age, majority of the respondents were young adults, i.e. between 25 to 34 years old, followed by those in the age group of 35 to 44 years old, and a few senior citizen (3.5%). More than half of total respondents (52%) expressed their strong support towards the campaign of single-use plastic items usage, while few others (less than 15 %) indicated the otherwise. In terms of reasons to use single-use plastic items, majority of respondents (65.09%) stated that it was due to such items were provided to them when dining at hotel, restaurants and other food outlets. Some (34.75%) also agreed that it was because the items are easily available. Other reasons include the hygienic factor (21.41%) and price affordability (13.91%).

In term of attitude in dealing with used plastic items, majority of respondents (48.8%) stated that they placed the items into rubbish bins after usage. Some of them have more positive attitudes, which are either by recycling the items at the available recycling bin (29.5%) or by reusing the items (19.6%). In terms of cleaning practices, there was a slightly higher percentage of respondents who stated that they would rinse and dry the single-use plastic items before sending to recycle centre compared to those who said the otherwise.

In terms of the support on the banning of single-use plastic items, plastic straws, plastic bowls and plates, plastic cutlery and plastic cups were mostly seen by the respondents as the items that need to be banned in Penang.

In terms of the benefits if charges are to be imposed on the usage of single-use plastic items, majority of the respondents mostly supported that the charges should be used for environmental education programmes, followed by recycling services (31.6%) and public cleaning services (21.7%). As for the factors to encourage customers in bringing own food or water containers, the survey results revealed that more than 60% of the respondents were most likely to support the prohibition to distribute single-use plastic straws, cutlery and dishware to the customers. A large percentage of respondents also agreed on the use of a reward and penalty system, as well as by providing more mineral or filtered water refilling facilities for customers who use own water bottles. On the other hand, less than 50% of the respondents supported that health guidelines should be set up for handling customer's containers.

The analysis of multinomial logistic regression has also revealed several important findings pertaining to the association between demographic factors and respondents' support on the banning. It was found that the employment status had a significant influence on respondents' level of support on the banning of single-use plastic items, in which those who are employed were two times more likely to support than to oppose such ban at food premises, like hotels, restaurants, café and food outlets. Similarly, age could also be a factor affecting respondents' level of support on the banning. It was found in this study that those between 25 to 34 years old were 1.5 times more likely to be indecisive than to oppose the banning of single-use plastic items at hotels, restaurants, café and food outlets. In similar vein, those in the age group between 35 to 44 years old were two times more likely to support than to oppose the banning of single-use plastic items at the various premises.

However, there were no significant difference observed in respondents' level of support on the banning of single-use plastic items by their average monthly income. Regardless of the monthly income factor, respondents were two to three times more likely to remain neutral than to oppose the single-use plastic ban at hotels, restaurants, café and food outlets.

Respondents' varying reasons for using single-use plastic items were also associated with a number of demographic factors. In terms of difference by gender, the analysis revealed that the

respondents with unspecified gender were 2.5 times more likely to use single-use plastic items due to the hygiene factor compared to the male group. However, there was no significant difference observed in the female group.

In terms of the difference by educational background, respondents with highest level of education at the secondary level were found to be 1.5 times more likely to use single-use plastic items because of its price affordability factor compared to those with tertiary education. A significant difference due to the low price factor was also observed among those with household monthly income between RM 1501 to RM4000 who were 1.6 times more likely to use single-use plastic items .than those with lower income.

As for the difference by the availability factor, those who earned high (RM 8501 and above) were 42% less likely to use single-use plastic items compared to those who earned less than RM1500 per month. Looking at the difference by the reason that the items are being provided at the food places, those who earned high income (RM 4001 and above) were 1.5 to two times more likely to use single-use plastic items due to this reason compared to those who earned less than RM1500 per month. Similarly for action taken after using single-use plastic items, those who earned from RM 1501 to RM 4000 per month were 1.5 times more likely to recycle the items after usage compared to those who earned less than RM1500 per month. Thus, it can be concluded that respondents with high monthly earning tend to use the single-use plastic item because it is being provided at the food places, apart from other reasons. They also have more awareness to recycle used plastic items than those with lower income.