# CHAPTER FOUR
# RESULTS

The previous chapter explained how and when data was collected and analyzed. This chapter reports on the results of the findings collected from the 102 respondents, which is divided into 3 parts based on the questionnaire design. The first part will report the percentages of the respondent's personal data. The second part will report the percentages and scores of the respondents' knowledge and understanding of plastic and the global warming issues. The third part will report the respondents' behavior in using plastic bags retrieved from the returned questionnaires. Each question and answer has been analyzed and processed into tables with explanations provided.

## 4.1 THE RESPONDENTS' DEMOGRAPHIC DATA

The following tables consist of the data analyzed from the respondents' profiles and gives general information on the subjects regarding their gender, ages, educational backgrounds, and monthly income and daily expenses.

***Table 2.. Universities***

| Category | Frequency | Percent |
|---|---|---|
| **Chulalongkorn** | 53 | 52.0 |
| **Thammasat** | 35 | 34.3 |
| **Silpakorn** | 14 | 13.7 |
| **Total** | 102 | 100.0 |

Fifty-two percent of the respondents study at Chulalongkorn University, followed by Thammasat University, accounting for 34.3%, and Silpakorn University, accounting for 13.7%.

*Table 3. Faculties*

| Category | Frequency | Percent |
|---|---|---|
| **Law** | 30 | 29.4 |
| **Commerce and Accountancy** | 11 | 10.8 |
| **Mass Communication and Journalism** | 11 | 10.8 |
| **Liberal Arts** | 10 | 9.8 |
| **Education** | 8 | 7.8 |
| **Archaeology** | 7 | 6.9 |
| **Fine Arts** | 7 | 6.9 |
| **Economics** | 6 | 5.9 |
| **Political Science** | 4 | 3.9 |
| **Social Works** | 4 | 3.9 |
| **Architecture** | 2 | 2.0 |
| **Science** | 1 | 1.0 |
| **Engineering** | 1 | 1.0 |
| **Total** | 102 | 100.0 |

Twenty-nine point four of the respondents from all the universities study in the Faculty of Law, followed by the Faculty of Commerce and Accountancy and the Faculty of Journalism and Mass Communication, each accounting for 10.8%. The respondents from both the faculty of Archaeology and of Fine Arts accounted for 6.9%, followed by the Faculty of Economics accounting for 5.9%; whereas only 1% of the respondents each came from the Faculty of Science and the Faculty of Engineering.

*Table 4. Year of Study*

| Category | Frequency | Percent |
|---|---|---|
| **First year** | 9 | 8.8 |
| **Second year** | 30 | 29.4 |
| **Third year** | 24 | 23.5 |
| **Fourth year** | 38 | 37.3 |
| **Fifth year** | 1 | 1.0 |
| **Total** | 102 | 100.0 |

As shown in Table 4, out of a total number of 102 respondents, there are 9 students who are first-year students, 30 second-year students, 38 fourth-year students and 1 fifth-year student, accounting for 8.8%, 29.4%, 23.5%, 37.3%, and 1%, respectively.

*Table 5. Gender*

| Category | Frequency | Percent |
|---|---|---|
| **Female** | 73 | 71.6 |
| **Male** | 29 | 28.4 |
| **Total** | 102 | 100.0 |

There are 73 female respondents (71.6%) and 29 male respondents (28.4%).

***Table 6. Monthly Income***

| Category | Frequency | Percent |
|---|---|---|
| **5,000 or less** | 11 | 10.8 |
| **5,001-10,000** | 28 | 27.5 |
| **10,001-15,000** | 37 | 36.3 |
| **15,001-20,000** | 23 | 22.5 |
| **20,000 or more** | 3 | 2.9 |
| **Total** | 102 | 100.0 |

Thirty-six point three of the respondents' income is 10,001-15,000 baht per month, followed by an income of 5,001-10,000, accounting for 27.5%. There are only 2.9% of the respondents who have a monthly income of more than 20,000 baht.

***Table 7. Daily Expenses***

| Category | Frequency | Percent |
|---|---|---|
| **100 or less** | 5 | 4.9 |
| **101-200** | 34 | 33.3 |
| **201-300** | 41 | 40.2 |
| **more than 300** | 22 | 21.6 |
| **Total** | 102 | 100.0 |

There are 41 of 102 respondents (40.2%) who have daily expenses in the range of 201-300 baht, followed by range of 101-200 baht per day, which accounts for 33.3%. Only 5 respondents spend 100 baht or less per day.

## 4.2 KNOWLEDGE AND UNDERSTANDING OF PLASTIC BAGS AND GLOBAL WARMING

The following tables consist of the data analyzed from the respondents' basic knowledge and understanding of plastic bags and the global warming issue.

***Table 8. Plastic Bags Are Made From***

| Category | Frequency | Percent |
|---|---|---|
| **Petroleum** | 91 | 89.2 |
| **Metal** | 0 | 0 |
| **Plants** | 2 | 2.0 |
| **Others** | 9 | 8.8 |
| **Total** | 102 | 100.0 |

There are 91 respondents (89.2%) who chose petroleum for their answers and 2 respondents (2%) chose plant. There are 9 respondents who chose "others" and specified their own answers such as plastic beads, PVC, polymer, plastic, plastic waste. However, none of them chose metal.

***Table 9. Plastic Bags Take Time to Degrade***

| Category | Frequency | Percent |
|---|---|---|
| **Less than 3 years** | 0 | 0 |
| **3-10 years** | 4 | 3.9 |
| **Decades** | 14 | 13.7 |
| **Centuries** | 22 | 21.6 |
| **Undegradable** | 62 | 60.8 |

*Table 9. (Continued)*

| | | |
|---|---|---|
| **Total** | 102 | 100.0 |

Sixty-two of the respondents believe that plastic bags are nondegradable, accounting for 60.8%. Still, there are 22 respondents (21.6%) who believe that it takes centuries for plastic bag degradation, while 14 respondents (13.7%) believe that it would take decades to do so. Four of them believe that it would take 3-10 years; however, none of the respondents believe that plastic bags could degrade in less than three years.

***Table 10. When Plastic Bags are Being Burnt, the Gas (Gases) Produced (are) (More Than 1 Choice Allowed)***

| Category | Frequency | Percent |
|---|---|---|
| **Carbon monoxide (CO)** | 43 | 42.2 |
| **Carbon dioxide ($CO_2$)** | 80 | 78.4 |
| **Oxygen (O)** | 1 | 1 |
| **Nitrogen (N)** | 0 | 0 |
| **Chlorofluorocarbon (CFC)** | 26 | 25.5 |
| **Others** | 0 | 0 |

Table 10 reveals that 78.4% of the respondents answered that there carbon dioxide gas will be produced when plastic bags are burnt. At the same time, 42.2% of the respondents also answered that there will be carbon monoxide and 25.5% answered that there will be chlorofluorocarbon. Only 1 respondent answered that there'll be oxygen when burning plastic. None of the respondent answered nitrogen or other gases.

***Table 11. Global Warming Occurs Due to the Gathering of Gas (Gases) in the Atmosphere. Such Gas (Gases) is (are) (More Than 1 Choice Allowed)***

| Category | Frequency | Percent |
|---|---|---|
| **Carbon monoxide (CO)** | 44 | 43.1 |
| **Carbon dioxide ($CO_2$)** | 68 | 66.7 |
| **Methane ($CH_4$)** | 2 | 2 |
| **Nitrogen (N)** | 0 | 0 |
| **Chlorofluorocarbon (CFC)** | 26 | 25.5 |
| **Others** | 0 | 0 |

Table 10 shows that 66.7% of the respondents answered that carbon dioxide is the gas that gathers in the atmosphere and causes global warming, followed by carbon monoxide and chlorofluorocarbons which account for 43.1% and 25.5% respectively. Only 2% chose methane as another gas; however, none of them chose nitrogen.

## 4.3 THE RESPONDENTS' BEHAVIORS IN USING PLASTIC BAGS

The following tables contain data analyzed from the respondents' behavior in answering in the questionnaires. The behavior includes the actions before, during, and after the shopping.

***Table 12. Approximate Number of Plastic Bags the Respondents Use Each Day***

| Category | Frequency | Percent |
|---|---|---|
| **Fewer than 3** | 35 | 34.3 |
| **3-5** | 60 | 58.8 |

*Table 12. (Continued)*

| | | |
|---|---|---|
| **More than 5** | 7 | 6.9 |
| **Total** | 102 | 100.0 |

Sixty respondents use 3-5 plastic bags each day, accounting for 58.8%. There are 35 respondents (34.3%) who use fewer than 3 plastic bags and 7 respondents (6.9%) who use more than 5 plastic bags per day.

***Table 13. When Buying Merchandise from the Sellers, the Respondents Use Plastic Bags to Carry the Goods***

| Category | Frequency | Percent |
|---|---|---|
| **Always** | 13 | 12.7 |
| **Frequently** | 49 | 48.0 |
| **Sometimes** | 23 | 22.5 |
| **Rarely** | 16 | 15.7 |
| **Never** | 1 | 1.0 |
| **Total** | 102 | 100.0 |

Table13 shows that 48% of the respondents frequently use plastic bags when they do the shopping, while 22.5% sometimes use and 15.7% rarely use. There are 12.7% of the respondents who answered that they always use the plastic bags to carry goods when they do the shopping. Only 1 respondent never uses plastic bags when shopping.

***Table 14. The Frequency that Respondents Prepare Other Carriers that are Reusable Instead of Receiving New Plastic Bags from the Sellers***

| Category | Frequency | Percent |
|---|---|---|
| **Always** | 4 | 3.9 |
| **Frequently** | 11 | 10.8 |
| **Sometimes** | 55 | 53.9 |
| **Rarely** | 21 | 20.6 |
| **Never** | 11 | 10.8 |
| **Total** | 102 | 100.0 |

According to table 14, 53.9% of the respondents sometimes bring their own reusable carriers to carry the goods instead of using plastic bags provided by the sellers. While 20.6% of the respondents hardly ever bring the carriers of their own when shopping; the respondents who often bring their own carriers and the respondents who never bring their own carriers when shopping are equal, accounting for 10.8%. Only 4 respondents (3.9%) answered that they always bring reusable carriers of their own with them when they go shopping.

***Table 15. The Frequency that the Respondent Rejects the Plastic Bags When the Sellers are Putting the Goods into the Plastic Bags***

| Category | Frequency | Percent |
|---|---|---|
| **Always** | 19 | 18.6 |
| **Frequently** | 33 | 32.4 |
| **Sometimes** | 41 | 40.2 |

*Table 15. (Continued)*

| | | |
|---|---|---|
| **Rarely** | 8 | 7.8 |
| **Never** | 1 | 1.0 |
| **Total** | 102 | 100.0 |

When the sellers are about to put the merchandises into the plastic bags; 40.2% of the respondents sometimes refuse using such plastic bags if they are not necessary. In similar situations; 19 respondents (18.6%) always refuse and 33 respondents (32.4%) frequently refuse using the plastic bags while 8 respondents rarely refuse and only 1 respondent never refuses using the plastic bags.

***Table 16. The Frequency that the Respondents Reject the Plastic Bags When the Sellers Have already Put the Goods into the Plastic Bags***

| Category | Frequency | Percent |
|---|---|---|
| **Always** | 15 | 14.7 |
| **Frequently** | 31 | 30.4 |
| **Sometimes** | 42 | 41.2 |
| **Rarely** | 13 | 12.7 |
| **Never** | 1 | 1.0 |
| **Total** | 102 | 100.0 |

Table 16 shows the actions of respondents in situations where the plastic bags are not necessary but the sellers have already put the goods into the bags. Forty-two of the respondents, accounting for 41.2%, sometimes refuse using the plastic bags and ask the merchandisers to take them back. Thirty-one respondents (30.4%) often reject and 15 respondents (14.7%) always reject the plastic bags in the same situation.

However, 13 respondents (12.7%) seldom refuse and only 1 respondent never refuses to use plastic bags and ask the sellers to take them back although they are not necessary.

***Table 17. The Respondents' Actions after Using Plastic Bags***

| Category | Frequency | Percent |
|---|---|---|
| **Burn** | 1 | 1.0 |
| **Bury** | 0 | 0 |
| **Dispose of** | 38 | 37.3 |
| **Keep for reuse later** | 62 | 60.8 |
| **Others (depend on actual situation)** | 1 | 1.0 |
| **Total** | 102 | 100.0 |

There are 62 respondents (60.8%) who keep the plastic bags for later reuse after use while 38 respondents (37.3%) dispose of them. Only 1 respondent burns the plastic bags after use and the other respondent specified that it depends on the actual situation. None of the respondents bury the plastic bags.

***Table 18. The Frequency that the Respondents Save the Plastic Bags for Later Use***

| Category | Frequency | Percent |
|---|---|---|
| **Always** | 30 | 29.4 |
| **Frequently** | 40 | 39.2 |
| **Sometimes** | 26 | 25.5 |
| **Rarely** | 6 | 5.9 |

*Table 18. (Continued)*

| | | |
|---|---|---|
| **Never** | 0 | 0 |
| **Total** | 102 | 100.0 |

In the case that the plastic bags seem reusable; 30 respondents (29.4%) always keep those plastic bags for reuse. There are 40 respondents (39.2%) who frequently save them for later reuse and 26 of them (25.5%) sometimes do it. While in the same situation; 6 respondents rarely do such a thing and there is no respondent who never does that.

***Table 19. In the Past, the Respondents Used to Litter the Plastic Bags at Any Place Specified for Waste***

| Frequency | Amount | Percent |
|---|---|---|
| **Always** | 2 | 2.0 |
| **Frequently** | 1 | 1.0 |
| **Sometimes** | 19 | 18.6 |
| **Rarely** | 39 | 38.2 |
| **Never** | 41 | 40.2 |
| **Total** | 102 | 100.0 |

Table 19 reveals that 40.2% of the respondents claimed that they had never littered any plastic bags at places not set aside for waste keeping and 38.2% rarely littered plastic bags in the past. However; 19 respondents (18.6%) sometimes littered plastic bags, 1% often did, and 2% always did.

***Table 20. The Respondents' Actions after Using the Plastic Bags and Having no Desire to Use Such Bags Any More***

| Category | Frequency | Percent |
|---|---|---|
| **Litter the plastic bags right there and go away without caring** | 1 | 1.0 |
| **Litter the plastic bags at any place that cannot be seen by others** | 3 | 2.9 |
| **Place at the garbage pile** | 10 | 9.8 |
| **Dispose properly in the litter bins or at the places specified for disposal** | 84 | 82.4 |
| **Others** | 4 | 3.9 |
| **Total** | 102 | 100.0 |

After using the plastic bags and with no desire to use them any more, 82.4% of the respondents dispose of the plastic bags properly in the litter bins or at the places specified for disposal, 9.8% place at the garbage pile, 2.9% litter at any place that cannot be seen by others and 1% litter them right there and go away without caring.

***Table 21. The Respondents' Reactions When there is no Disposal Place Nearby***

| Category | Frequency | Percent |
|---|---|---|
| **Litter the plastic bags right there and go away without caring** | 0 | 0 |
| **Litter the plastic bags at any places that cannot be seen by others** | 3 | 2.9 |
| **Place at the garbage pile** | 14 | 13.7 |

*Table 21. (Continued)*

| | | |
|---|---|---|
| **Keep the plastic bags and dispose of properly in the litter bins or at the places specified for disposal later** | 85 | 83.3 |
| **Others** | 0 | 0 |
| **Total** | 102 | 100.0 |

In the situation that there was neither a litter bin nor place set up for garbage disposal nearby; significantly, 83.3% of the respondents decided to keep the plastic bags with them after use and dispose of the plastic bags properly when they find litter bins or other proper places. There are 14 respondents (13.7%) who place at the garbage pile, 3 respondents (2.9%) litter at any place that cannot be seen by others. None of them litter the plastic bags right away and leave without caring.

***Table 22. The Respondents' Reactions When the First-Noticed Litter Bin or Disposal Place are Extremely Full and There is Garbage Spilling Out of it***

| Category | Frequency | Percent |
|---|---|---|
| **Leave the plastic bags there anyway** | 28 | 27.5 |
| **Head to another place** | 74 | 72.5 |
| **Others** | 0 | 0 |
| **Total** | 102 | 100.0 |

In the situation that the respondents want to dispose of the plastic bags in the litter bins or at the places arranged for disposal but the first litter bin or the place arranged for disposal they reach are extremely full and there is garbage spilling out of

it; 72.5% of the respondents head to another place to dispose of it. However; 27.5% left the plastic bags at the first place they reached anyway.

***Table 23. The Actions When the Respondents Find the Plastic Bags Being Littered Improperly***

| Category | Frequency | Percent |
|---|---|---|
| **Be unconcerned** | 20 | 19.6 |
| **Litter the plastic bags at any places that cannot be seen by others** | 1 | 1.0 |
| **Place at the garbage pile** | 8 | 7.8 |
| **Dispose of those plastic bags properly in the litter bins or at the places arranged for disposal if it's not difficult to do so** | 55 | 53.9 |
| **Dispose of those plastic bags properly in the litter bins or at the places arranged for disposal no matter how difficult it is** | 17 | 16.7 |
| **Others** | 1 | 1.0 |
| **Total** | 102 | 100.0 |

Table 23 shows that, when the respondents find plastic bags being littered improperly, 53.9% of them dispose of those plastic bags properly in the litter bins or at the places arranged for disposal if it's not difficult to do so. However; 16.7% of the respondents will dispose of those plastic bags properly no matter how difficult it is. There are 8 respondents (7.8%) who will place at the garbage pile and 1 respondent (1%) litter the plastic bags at any place that cannot be seen by others. Unsurprisingly, 19.6% of the respondents are unconcerned about those plastic bags littered. There is 1 respondent whose actions depend on dirtiness of the plastic bags.