3.4 Consumer Characteristics

3.4.1 Summary of Consumer Characteristics

The following sections summarised characteristics of the consumers:

a) Product Awareness and Perception

Our survey showed that 72 percent of respondents were able to differentiate between chilled and frozen food. Respondents perceived that chilled food is of higher quality food as compared to frozen and canned food. About 56 percent of respondents perceived frozen food as unhealthy compared to 28 percent for chilled food. Respondents perhaps felt that the freezing process reduces the foods nutritional value.

55 percent of respondents relied on the halal logo as an indicator of halal status. Out of this, only 60 percent insist on the official logo issued by JAKIM. 38 percent of respondents will check both the halal logo and ingredients to make sure the food is halal. In the absence of the halal logo, majority of the respondents will check the ingredient labelling to determine the halal status. Almost all of the respondents (98 percent) agreed that the Malaysian government should standardise the halal logo.

b) Chilled and Frozen Food Consumption Pattern

In terms of consumption pattern, 89 percent of the respondents consumed chilled and frozen food. The main reasons of choosing chilled and frozen food are convenience, easy to get, time saving, easy to serve/cook, delicious, and reasonable pricing. Reasons for not consuming chilled and frozen food are expensive, not healthy, not fresh and not tasty. In general, chilled and frozen foods are consumed by all family members (63 percent).

The most popular meal and snack are *roti canai*, pizza, curry puff, *pau*, and spring rolls. Respondents consumed them for breakfast or as a snack. Consumption frequency is about two to three times a month with an average consumption quantity of 1.5 to two packages per month. 86 percent of respondents indicated that they would continue to consume chilled and frozen meals and snacks.

Other popular types of chilled and frozen food ingredients are chilled fruits and vegetables. About 30 percent of the respondents use frozen vegetables, chilled noodles and tofu, in preparing normal meals. Consumption frequency is more than once a week for chilled fruits and vegetables and two to three times a month for other chilled and frozen food ingredients. Consumption quantity is about two to five packages per month. 94 percent of the respondents indicated that they would continue to use chilled and frozen food ingredients.

The most frequently consumed types of chilled and frozen meat and seafood products are nuggets, burgers, chicken, and sausages. They are consumed as part of a component to prepare normal meals or snacks, totalling two to three times a month and on average. On average, two to three packages are consumed per month, depending on the packaging size. 94 percent of the respondents indicated that they would continue to consume chilled and frozen meat and seafood products.

c) Purchasing Pattern and Consumer Preferences

In terms of purchasing pattern, hypermarkets and supermarkets are popular places to buy chilled and frozen food products. Quality of chilled and frozen food products are considered the most important factor influencing food purchases, except for Malay respondents where halal status is their major concern. Other important criteria are first hygiene, followed by nutrition, price, taste, convenience, brand, outlet, and packaging. The largest respondent group normally purchases once a week, followed by once a month. They usually buy one to three packages of chilled and frozen food products per purchase.

In terms of price, about 82 percent of the respondents felt that prices of chilled and frozen food are reasonable. 58 percent of the respondents spent less than RM100 per month on chilled and frozen food and about 29 percent spent RM101-RM200, with less respondents spending more than RM300 per month. About 64 percent of the respondents indicated that they are willing to pay more for chilled and frozen food that are properly handled, stored, and displayed.

In terms of preference, respondents prefer chilled and frozen food ingredients, followed by chilled and frozen meal, snacks, and meat and seafood products. They also preferred Malay varieties, followed by Western and Chinese. Respondents relatively prefer less Japanese types of chilled and frozen food and enjoy more hot and spicy ones.

Respondents also indicated most of the people around them are consumers of chilled and frozen food. They will consume more of these types of food in future and it will form a significant proportion of their total food consumption. They believed that the consumption of chilled and frozen food will be an important trend in future.

d) Influence of Socio-Demographic Characteristics

The result of the survey shows that Malays as a whole are the main consumers of chilled and frozen food. They mostly consume curry puffs, *murtabak, roti canai, nasi lemak*, coconut milk, *cendol/cincau*, frozen vegetables, *satay/kebab*, burgers, and nuggets. Chinese respondents mostly consume chilled and frozen *mantau, dim sum*, Japanese ingredients, tofu, noodles, Japanese type meats and marinated meats. They are willing to pay more for quality food compared to Malays and Indians. Indian respondents mostly consume chilled and frozen *naan/capati*, spice pastes and limited amount of chilled and frozen meat and seafood products. They are also more sensitive to price.

The middle-middle income and upper middle-income group of respondents is the major consumers of chilled and frozen food. Higher income group are also top consumers. The lower income group consumed very little chilled and frozen food, approximately 10 percent of the total consumption of chilled and frozen food.

The results also indicated that the higher the income level, the higher the awareness and positive perception towards chilled and frozen food. This group also bought more quantities at one time but not exceeding more than seven packages per purchase. The findings also show that as household income increases, factors such as quality, hygiene, nutritional value, and convenience become more important as compared to price.

Results also indicated that the higher the household income is, the higher the probability of continuity buying. It also showed that the higher educated respondents (secondary school education and above) are major consumers of chilled and frozen food. This implies that as the level of education increases, food quality is more appreciated. We can infer that there is a positive association between education level and future buying intention as well as willingness to pay more for quality food.

3.4.2 Detailed Consumer Characteristics Analysis

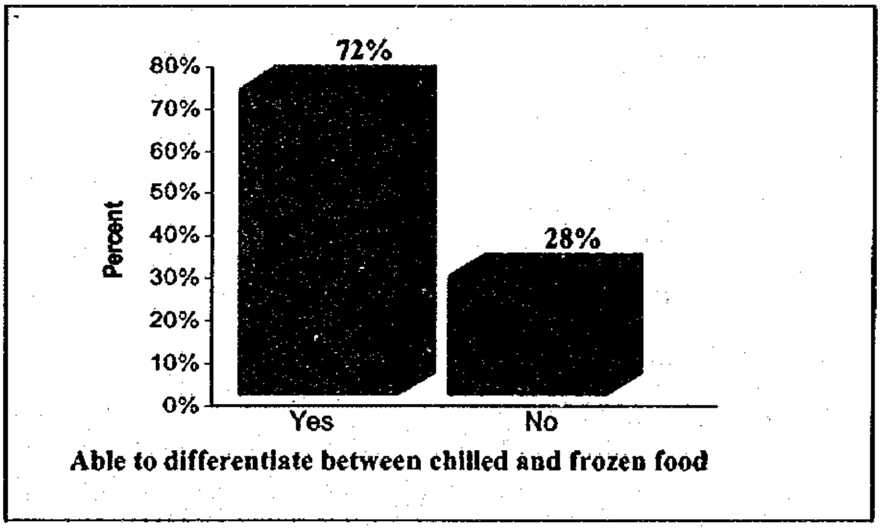
a) Product Awareness and Perception

(1) Product Awareness

Chilled food concept is new in the Malaysian market. We, therefore, posed a question to test whether respondents are aware that chilled food is available in the market. The results show that almost all of the respondents (95.25 percent) are aware that chilled food is available in the market now. Out of 800 respondents, only a small portion of respondents (4.75 percent) is still unaware of chilled food.

72 percent of the respondents are aware of the difference between chilled and frozen food. From the consumers' point of view, chilled food means food are kept within 2-5°C from the point of preparing up to the point of consumption and it is ready to serve or ready to eat. Respondents are also aware that frozen food involved freezing technology and are kept under -18°C. Frozen food needs to be defrosted before cooking. However, only a small portion of respondents (28 percent) is still unable to differentiate between chilled and frozen food (see Chart 3.12).

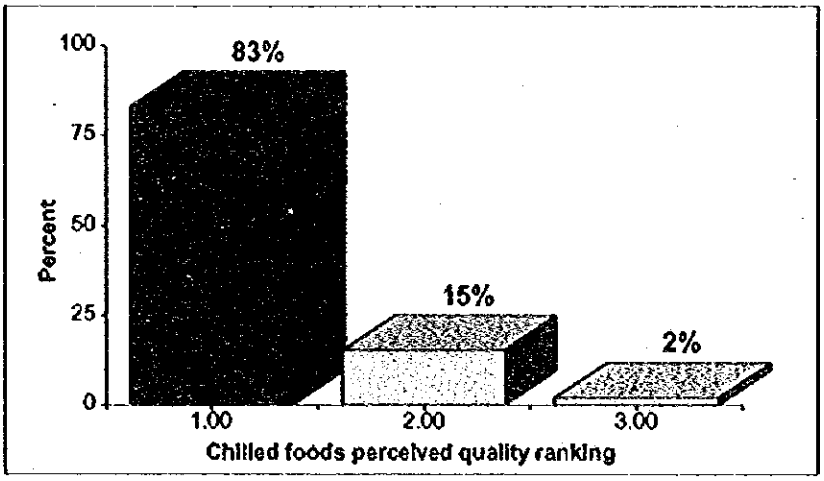
Chart 3.12 Ability to differentiate Chilled and Frozen Food



(2) Perception of food quality

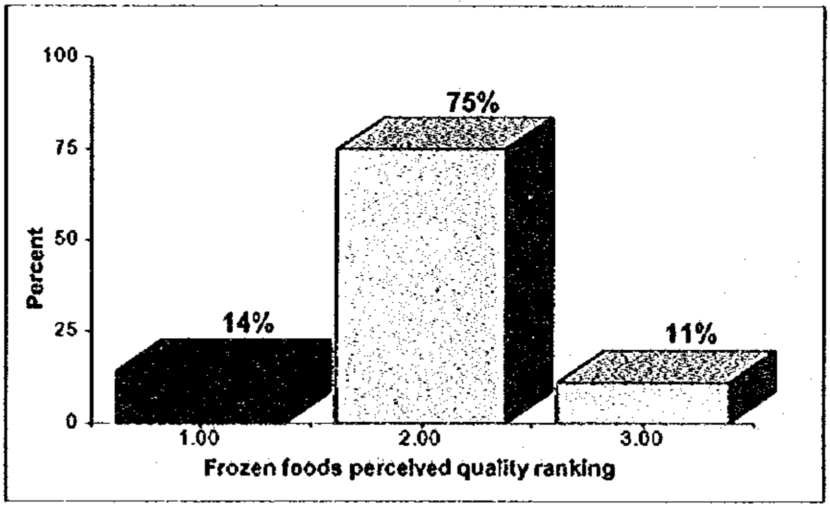
The actual food ranking from the food science perspective is that the least processed and heated food is of the highest quality followed by chilled food, frozen food, and finally, canned food. With reference to Charts 3.13, 3.14and 3.15, it appears that respondents are able to provide correct quality ranking.

Chart 3.13 Chilled Food Perceived Quality Ranking



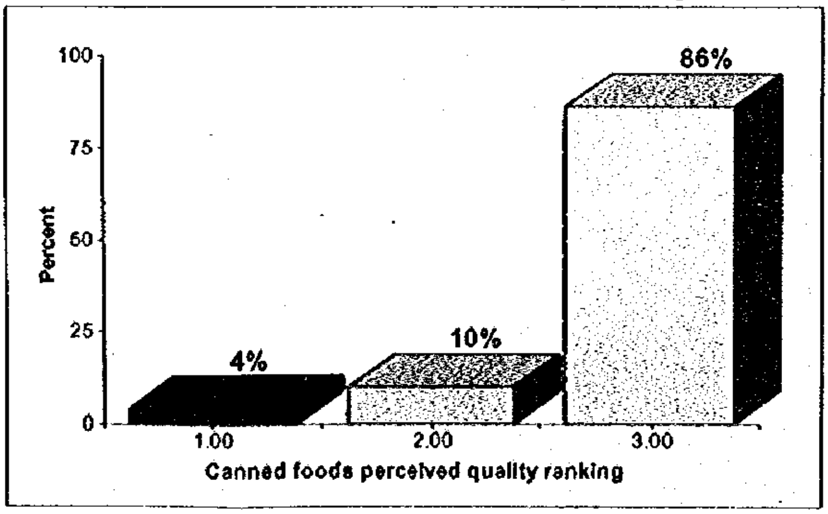
Note: Ranking position is in ascending order with 1 as higher quality, followed by 2 and 3.

Chart 3.14 Frozen Food Perceived Quality Ranking



Note: Ranking position is in ascending order with 1 as higher quality, followed by 2 and 3.

Chart 3.15 Canned Food Perceived Quality Ranking



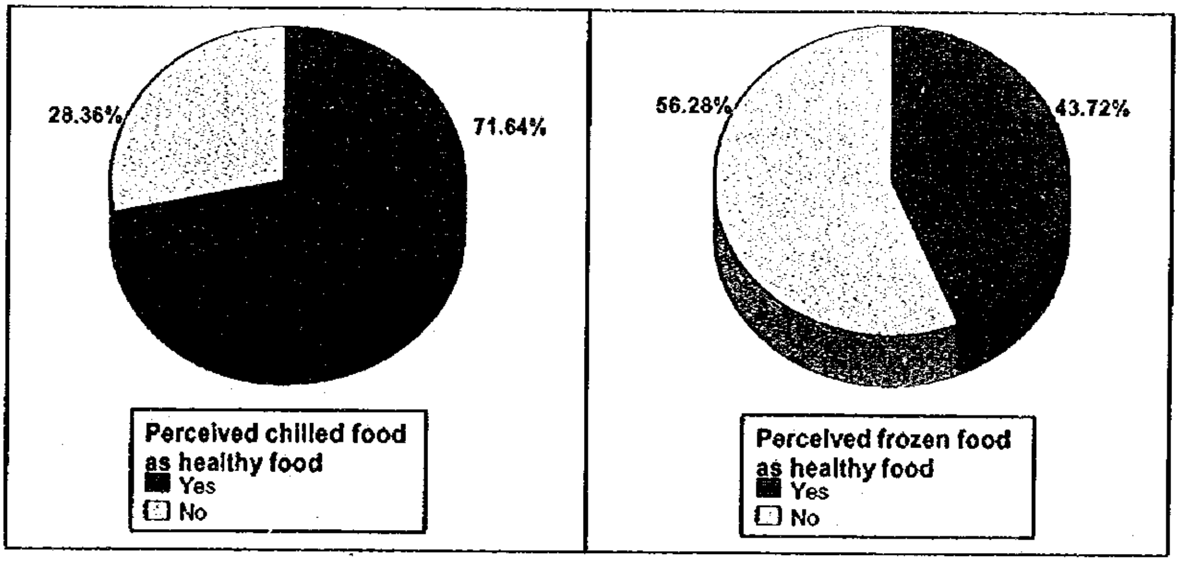
Note: Ranking position is in ascending order with 1 as higher quality, followed by 2 and 3.

(3) Perception of chilled and frozen food

71.6 percent of the respondents perceived chilled food as healthy food, whereas 28.4 percent of the respondents perceived chilled food as unhealthy food. Relatively, more respondents (56.3 percent) perceived frozen food as unhealthy food and only 43.7 percent of the respondents perceived frozen food as healthy food (see Chart 3.16).

The reason for the negative perception toward frozen food is highly related to the general understanding of nutritional value of food. In Malaysia, consumers tend to belief that fresh food (without processing) is the healthiest food. It could be that consumers believe food processing, especially the freezing process, will affect the food's nutritional quality.

Chart 3.16 Perceptions of Chilled and Frozen Food



(4) Perception and Determinant of Halal Status

Most of the respondents (55 percent) perceived food as halal if there is a halal logo on the label. Small portion of respondents (seven percent) will check the ingredients of the food to determine the halal status. However, 38 percent of the respondents will do both, check the logo and ingredients to make sure the food is halal (see Chart 3.17).

60 percent of respondents who used halal logo as an indicator in identifying halal status will only accept the official logo issued by JAKIM. 40 percent of the respondents are willing to accept any halal logo as an indicator of halal food (see Chart 3.18). Almost all of the respondents (97.88 percent) agreed that the Malaysian Government should standardise the halal logo (see Chart 3.19).

Chart 3.17 Determinant of Halal Status

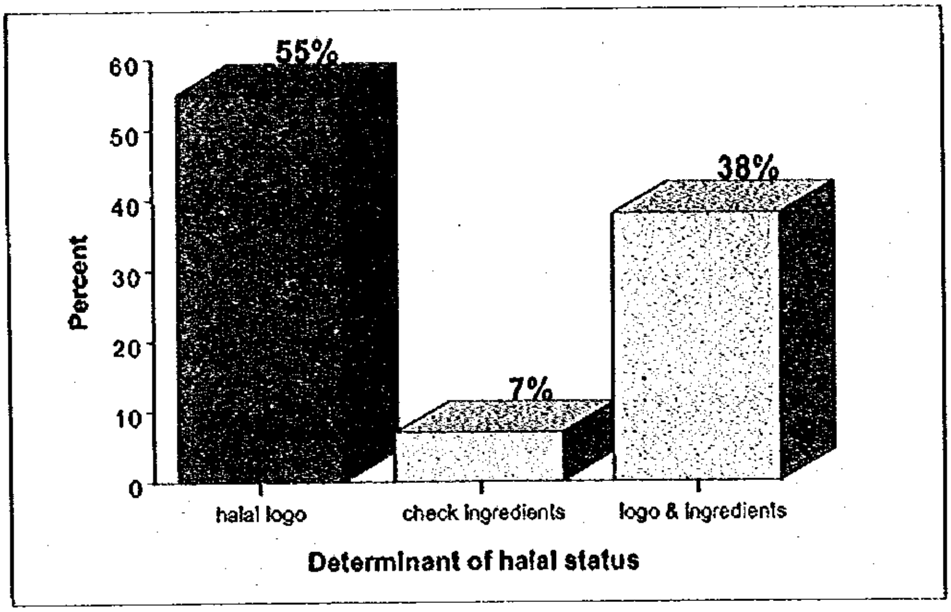


Chart 3.18 Acceptance of Halal Logo

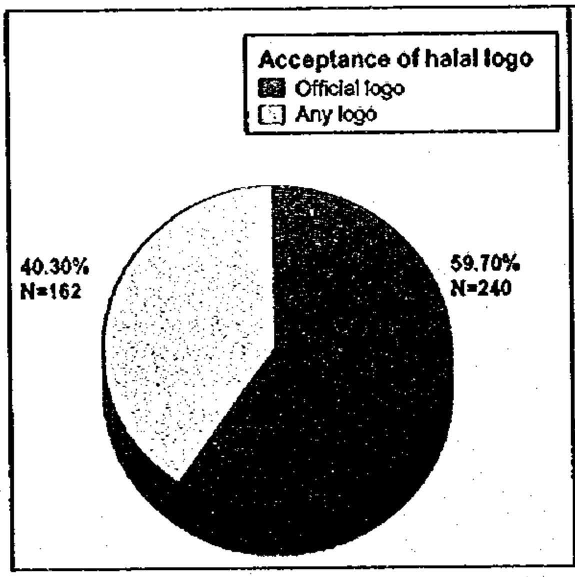
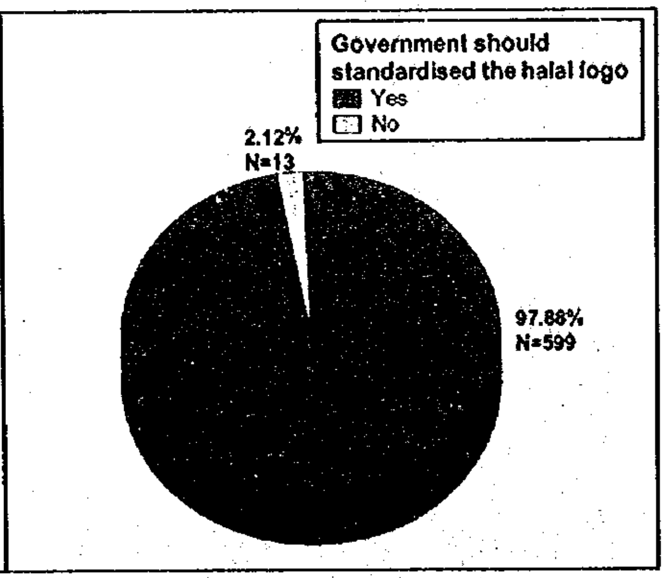
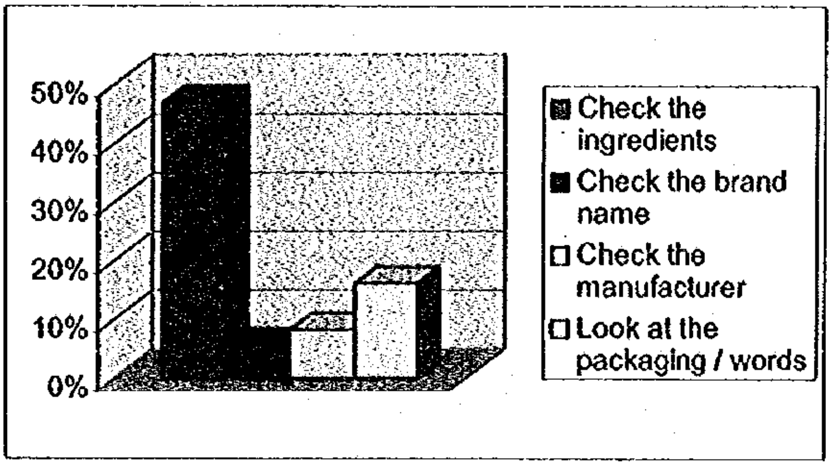


Chart 3.19 Standardisation of Halal Logo



In the absence of the halal logo, respondents will use several methods to identify the halal status. The most popular method used is to check the ingredients of the food (46.9 percent), followed by checking the packaging or wording (16.1 percent), the manufacturer (8.3 percent) and the brand name (5.6 percent) (see Chart 3.20).

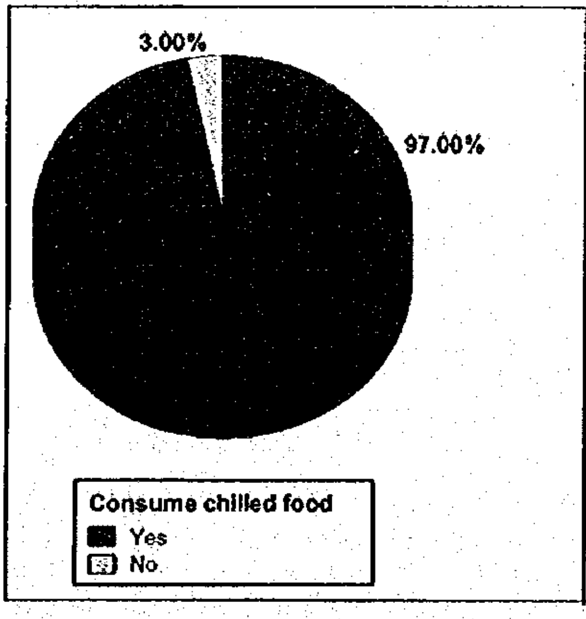
Chart 3.20 Methods to Determine the Halal Status in Absence of Halal Logo



b) Chilled and Frozen Food Consumption Pattern

The respondents of the survey are either current or former consumers of chilled or frozen food or both types of food. 97 percent of them consume chilled food and 91 percent of them consume frozen food. 89 percent of the respondents consume both chilled and frozen food. There are eight percent of respondents who consume chilled food but not frozen food, and only two percent who consume frozen food but not chilled food. One percent or seven respondents who were former consumers of chilled and frozen food participated in the survey and shared their experiences or their family members' consumption situations (see Chart 3.21 and 3.22)

Chart 3.21 Consumption of Chilled and Frozen Food



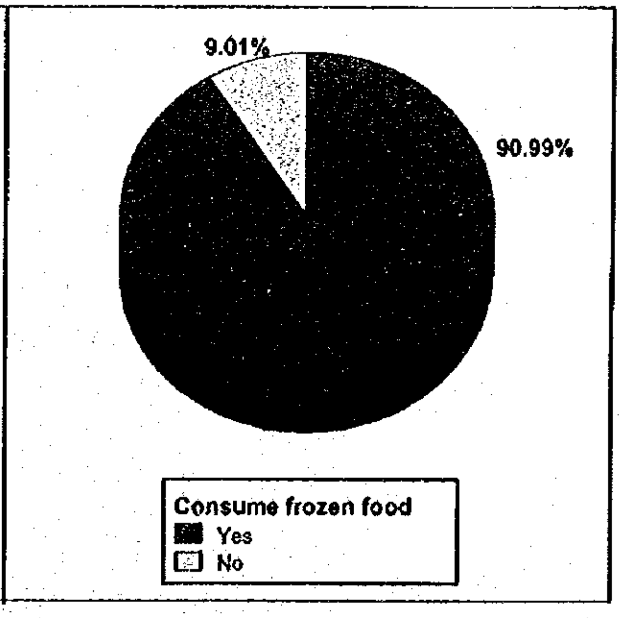
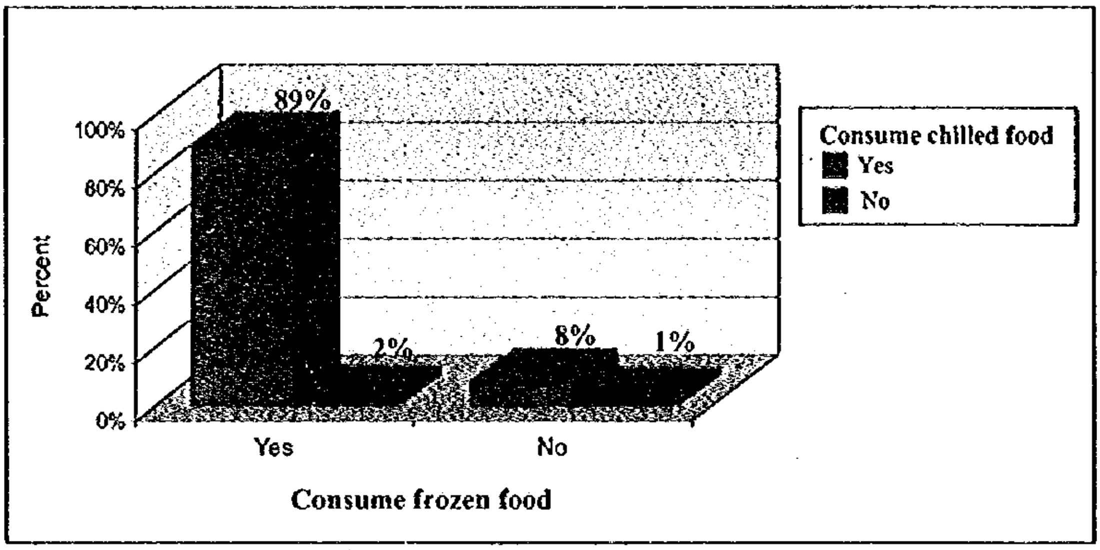


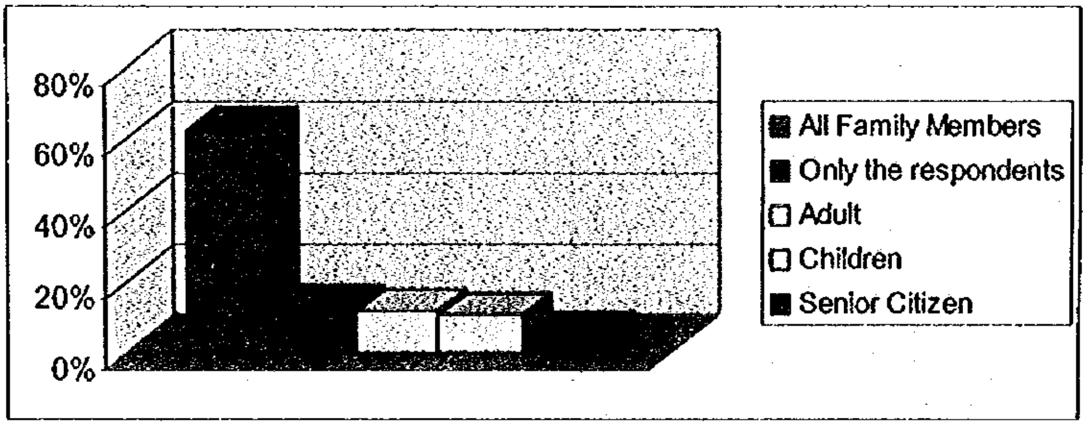
Chart 3.22 Cross-tabulation between Consumption of Chilled and Frozen Food



(1) General Consumption Pattern

sBased on the number of respondents who provided qualitative responses, the major reason for choosing chilled and frozen food is convenience (137 respondents) (see Chart 3.24). Since it is available at various outlets, another reason for its popularity is that it is easy to access (132 respondents). Other reasons include time saving/faster, easy to serve/cook, reasonable prices, and easy to prepare. Only 73 respondents find chilled and frozen food delicious. Some of them also understand that chilled and frozen foods are healthy products, have longer shelf life and that there are a number of choices available in the market.

Chart 3.23 Consumers of Chilled and Frozen Food



On the other hand, the major reason for not consuming chilled and frozen food is the expensive price (76 respondents) and the perception that the food is unhealthy (48 respondents). Some of the respondents said they prefer fresh food and home cooked meals, others feel that chilled and frozen foods are not fresh, not tasty, lack variety with limited sales outlets. Cautious consumers doubt the halal status and the quality of the chilled and frozen food (see Chart 3.25). This indicates that educating the public is important, as some of the respondents are still suspicious about the quality and nutritional value of chilled and frozen food.

Chart 3.24 Reasons for Consuming Chilled and Frozen Food

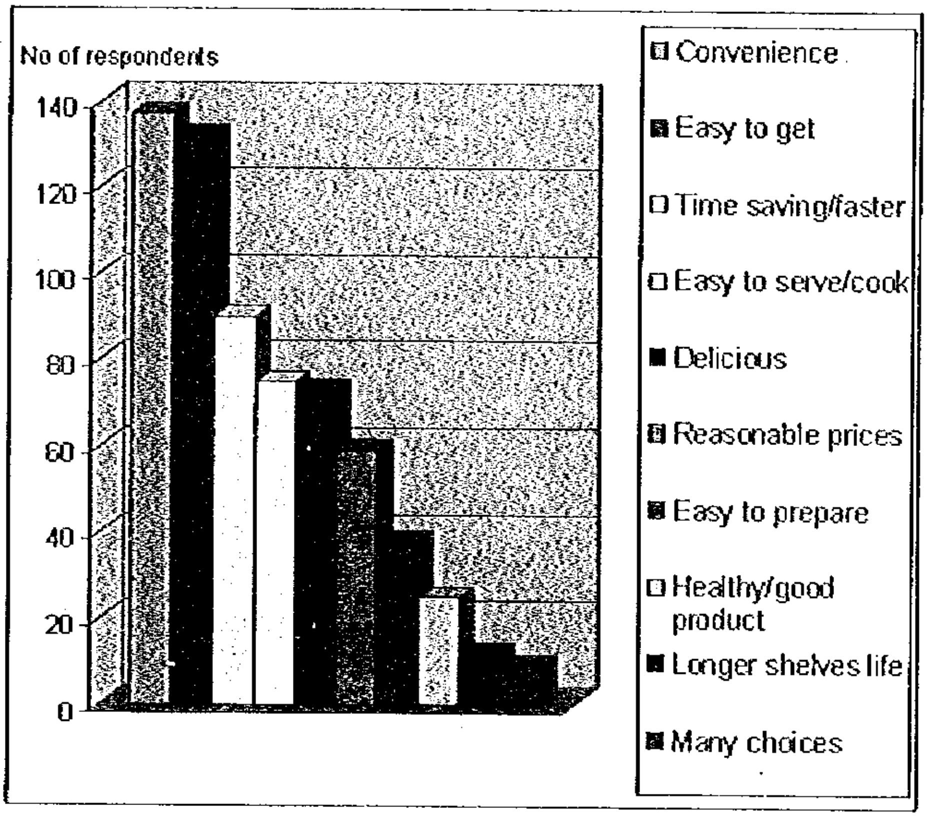
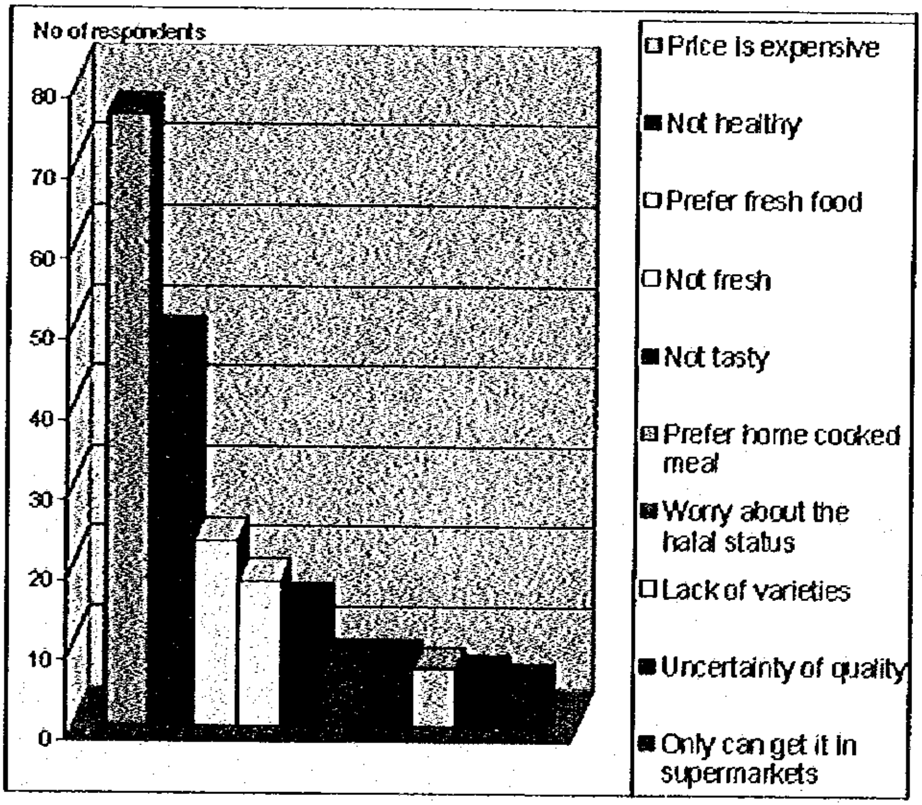


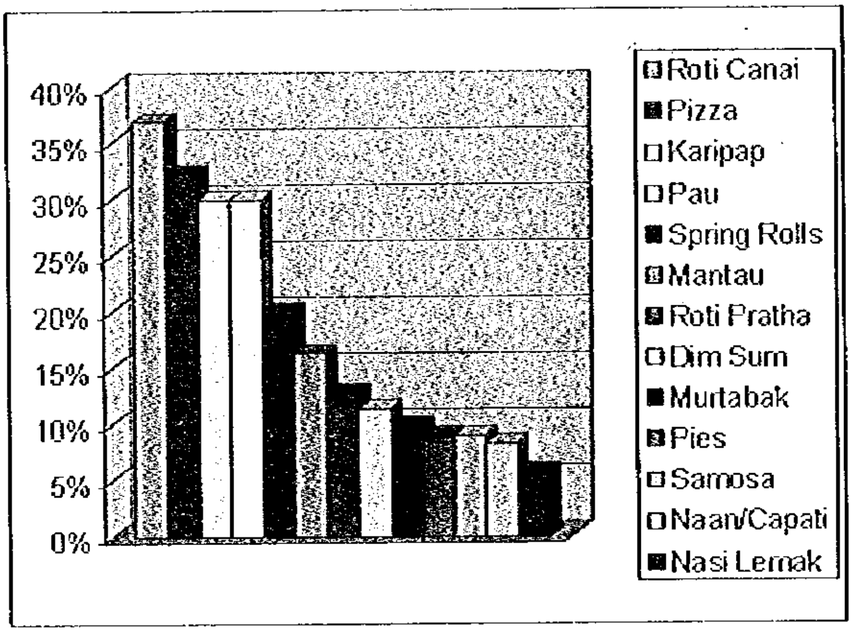
Chart 3.25 Reasons for Not Consuming Chilled and Frozen Food



(2) Chilled and Frozen Meals and Snacks Consumption Patterns

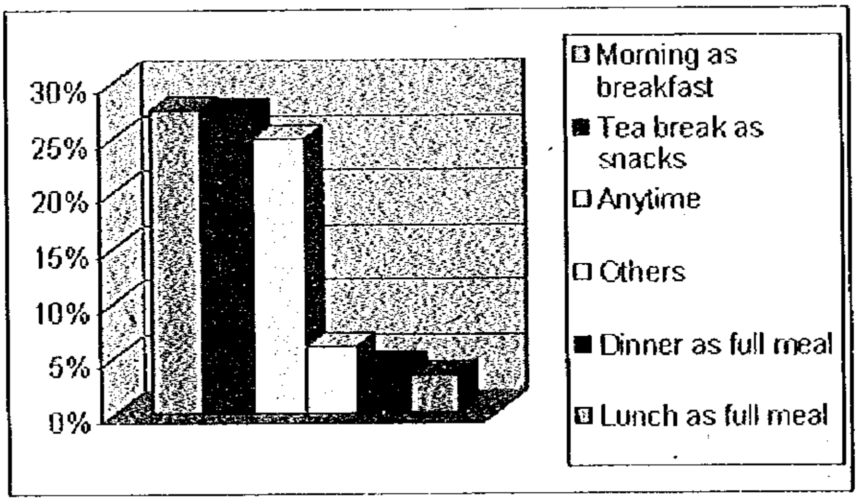
The types of chilled and frozen meals and snacks that are commonly consumed are *roti canai* (37 percent), pizzas (32.3 percent), curry puffs (30 percent) and *pau* (30 percent) followed by spring rolls (2.1 percent) and *mantau* (16.3 percent). About five to fifteen percent of the respondents buy chilled or frozen *roti pratha, dim sum, murtabak*, pies, *samosa, naan/capati* and *nasi lemak* (see Chart 3.26).

Chart 3.26 Types of Chilled and Frozen Meals and Snacks Consumed



Majority of the respondents consumes chilled and frozen meals and snacks for breakfast (27.6 percent) and tea breaks (27.5 percent). 24.9 percent said they consume it anytime. Respondents seldom consume chilled and frozen meals and snack products for lunch or dinner, however, some do enjoy them for supper or when they are in a hurry (see Chart 3.27).

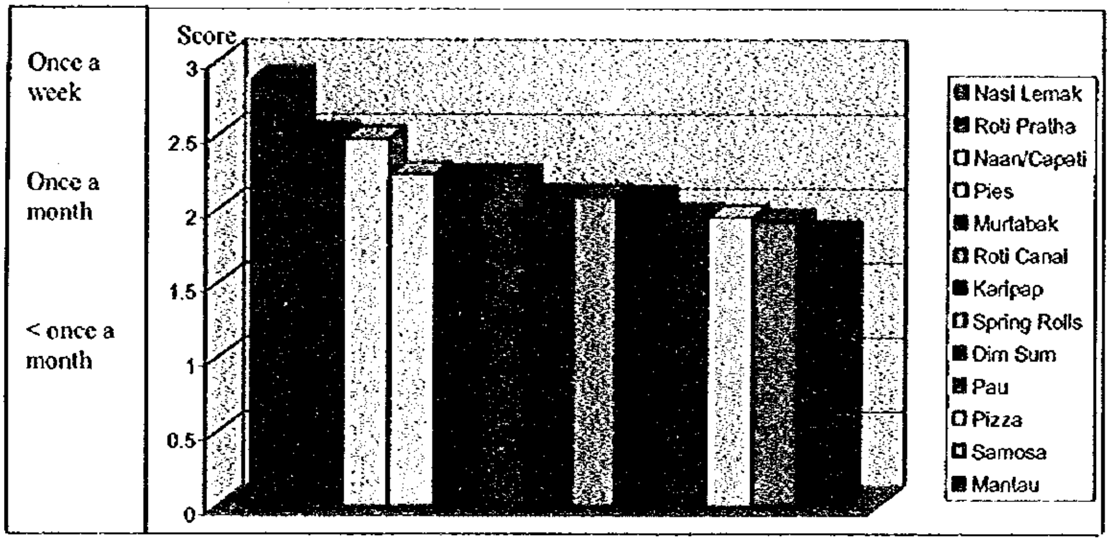
Chart 3.27 When Chilled and Frozen Meals and Snacks are Consumed



(i) **Consumption frequency of chilled and frozen meals and snacks**

Respondents usually consume chilled *nasi lemak* about once a week. Frozen *roti pratha, naan/capati*, pies, *murtabak* and *roti canai* are consumed two to three times a month (see Chart 3.28).

Chart 3.28 Consumption Frequency of Chilled and Frozen Meals and Snacks



(ii) **Consumption quantities and future trend of chilled and frozen meals and snacks**

The respondents usually consume 1.5 to two packages of chilled and frozen meals and snacks per month (see Chart 3.29). The consumption quantity of chilled *nasi lemak*, however, is about 3.5 packages per month. For the purposes of this survey, we used the average packaging size as an indicator of quantities consumed.

Chart 3.29 Average Quantities of Chilled and Frozen Meals and Snacks Consumed per Month (in packages)

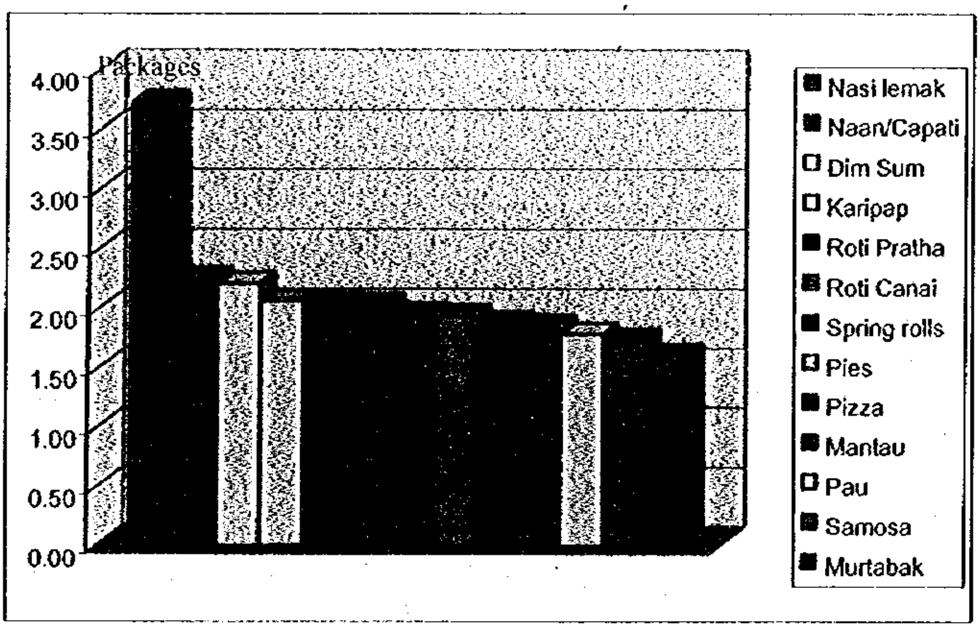
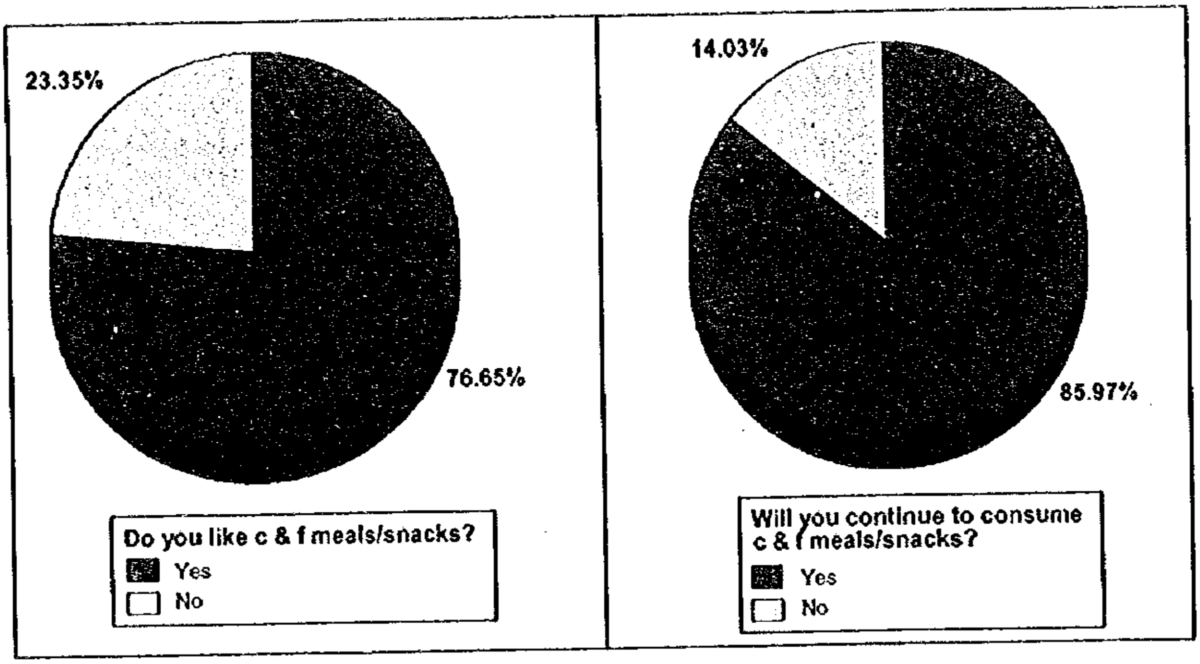


Chart 3.30 Potential of Future Consumption of Chilled and Frozen Meals and Snacks



(3) Chilled and Frozen Food Ingredients Consumption Patterns

Two types of food ingredients that are most frequently consumed are chilled fruits (68.3 percent) and chilled vegetables (60.5 percent). About 30 percent of the respondents consume frozen vegetables, chilled noodle and tofu; 20 percent consume coconut milk/grated; *cendol/cincau*; 17 percent use chilled or frozen spice pastes; and less than 10 percent consume Japanese ingredients (see Chart 3.31).

Majority of the respondents uses chilled and frozen food ingredients to prepare normal meals (54.3 percent). Some of the chilled and frozen food ingredients are eaten as fresh (31.6 percent) such as chilled fruits, chilled vegetables, and Japanese ingredients. 14.3 percent of the respondents use them to prepare snacks and others use it whenever needed (see Chart 3.32).

Chart 3.31 Types of Chilled and Frozen Food Ingredients Consumed

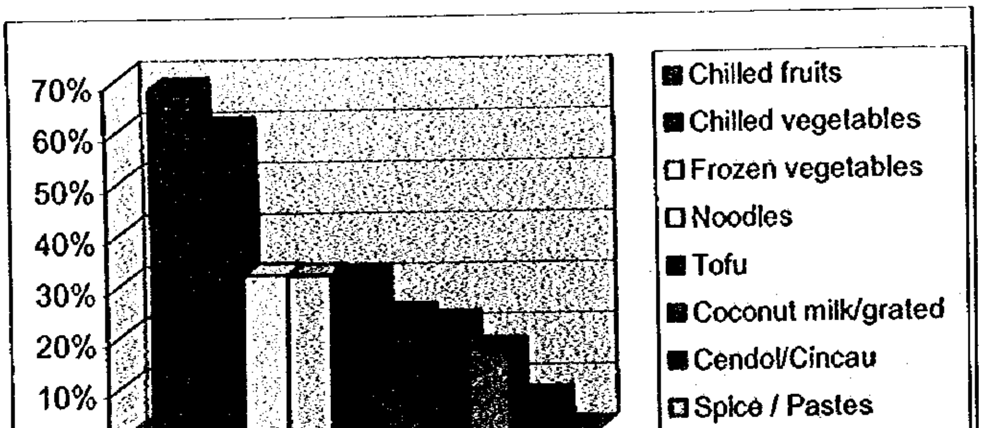
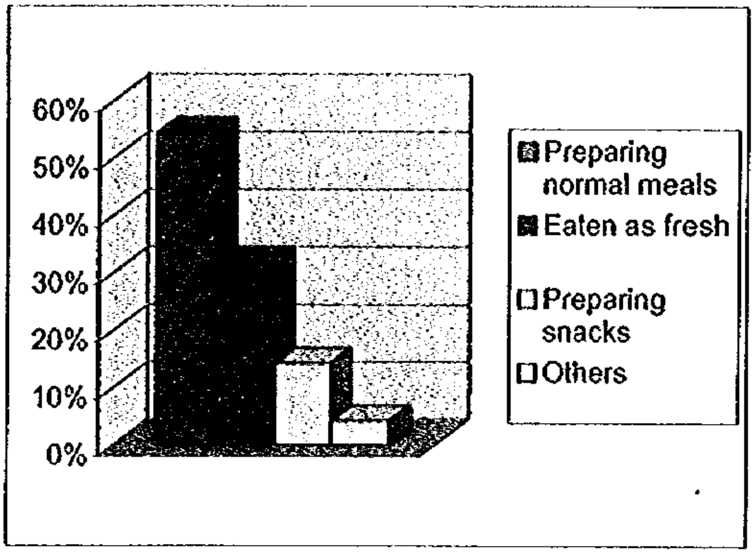


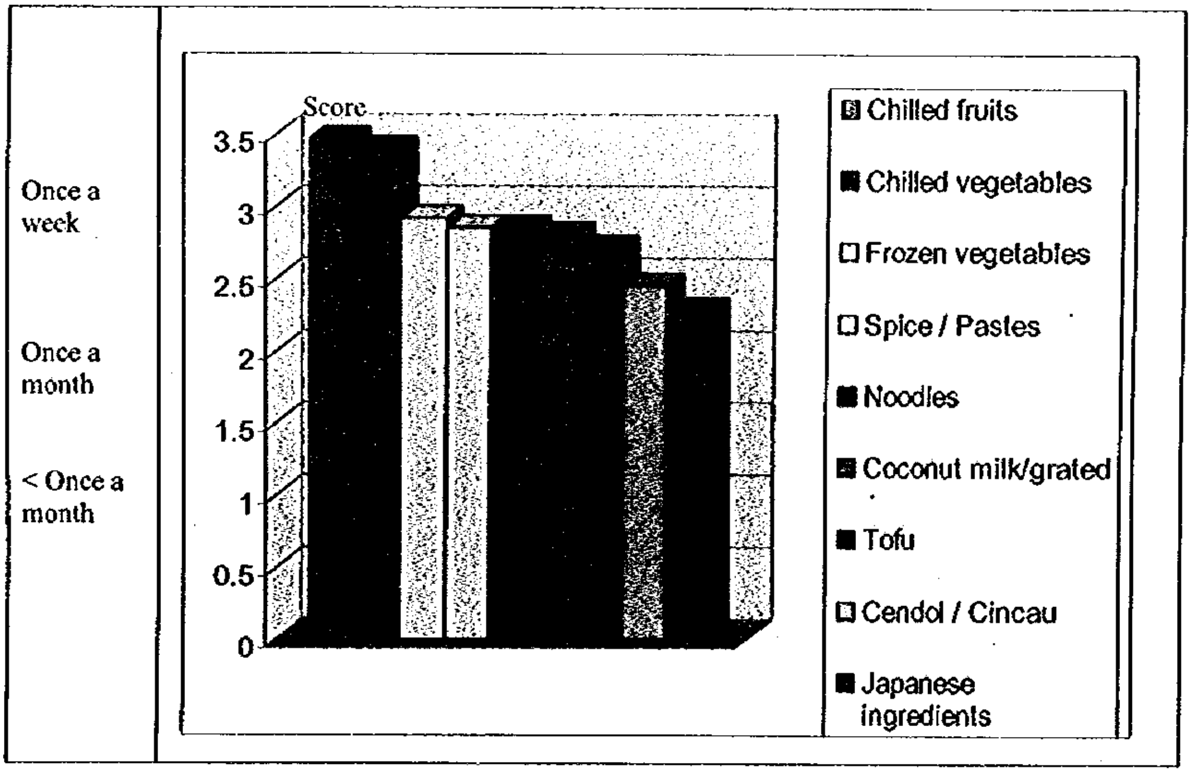
Chart 3.32 When Chilled and Frozen Food Ingredients are Consumed



(i) Consumption frequency of chilled and frozen food ingredients

On average, chilled and frozen food ingredients are consumed at least two to three times a month and chilled fruits and vegetables are consumed more frequently (more than once a week) than others. This suggests that chilled fruits and vegetables have a large market potential (see Chart 3.33).

Chart 3.33 Consumption Frequency of Chilled and Frozen Food Ingredients



(ii) Consumption quantities and future trend of chilled and frozen food ingredients

On monthly basis, respondents usually consume four to 5.5 packages of chilled vegetables and fruits; three to four packages of coconut milk/grated, noodles and frozen vegetables; two to three packages of tofu, spice pastes, Japanese ingredients, and *cendol / cincau* (see Chart 3.34).

As shown in Chart 3.35, almost all of the respondents (91.5 percent) like chilled and frozen food ingredients. Only 8.5 percent of the respondents do not like them because they perceive that frozen ingredients are not as fresh (15 respondents) as unprocessed foods. Others say frozen ingredients are unhealthy (10 respondents) for consumption and not delicious. Nevertheless, 94 percent of the respondents agreed they would continue to consume chilled and frozen food ingredients. Only 5.7 percent of them intent to stop using them because they prefer fresh food ingredients.

Chart 3.34 Average Quantities of Chilled and Frozen Food Ingredients Consumed per Month (in packages)

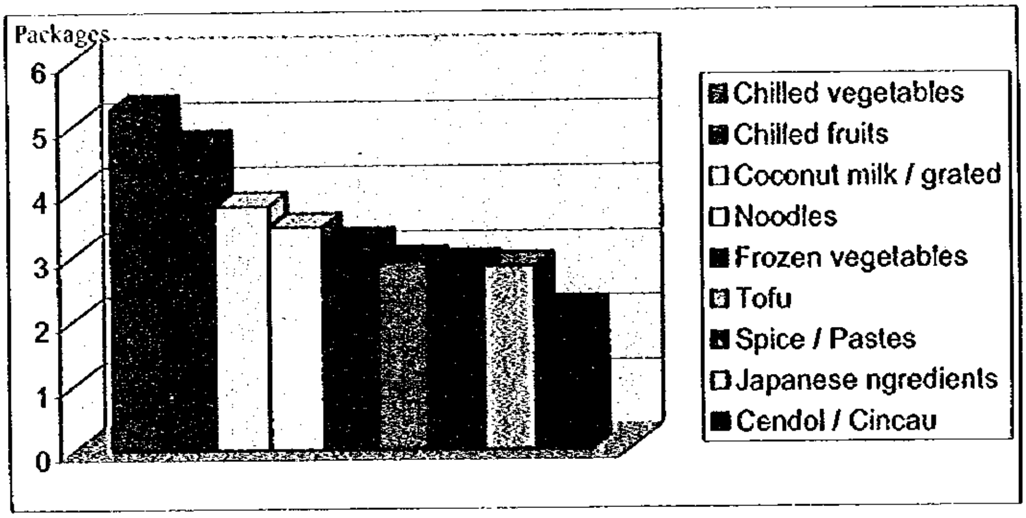
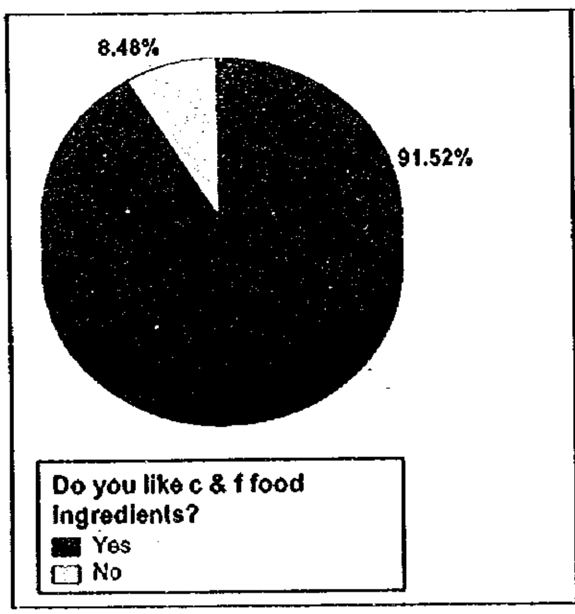
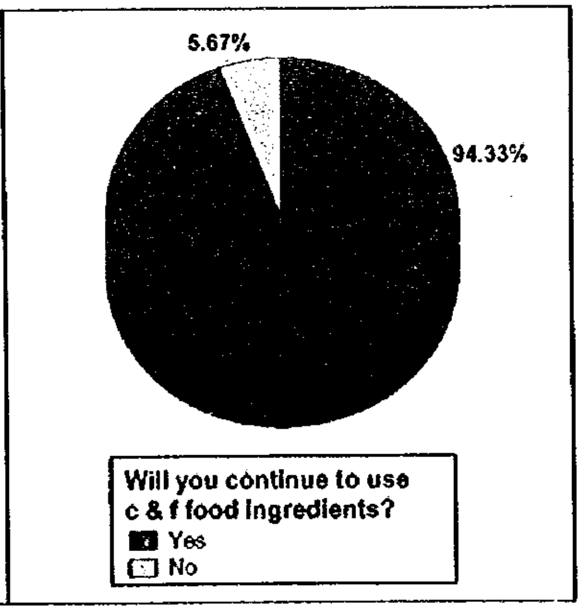


Chart 3.35 Potential of Future Consumption of Chilled and Frozen Food Ingredients





(4) Chilled and Frozen Meat and Seafood Products Consumption Pattern

The types of chilled and frozen meat, and seafood products that are mostly consumed are nuggets (70.1 percent), followed by burgers, chicken and sausages (ranging from 50 to 60 percent). 37.4 percent of the respondents consume seafood, 24.5 percent meat cuts and 16.9 percent cold cuts. The respondents hardly take marinated meat, *satay/kebab*, Japanese type meat and TV dinner meal pack (less than 10 percent) (see Chart 3.36).

Chilled and frozen meat and seafood products are mostly used to prepare normal meals (48.6 percent) and snacks (43.5 percent). Some respondents said that they also used them as part of their party servings or when they are in a rush. These types of chilled and frozen food are seldom eaten fresh, except items such as cold cuts for sandwiches and certain types of Japanese meat (see Chart 3.37).

Chart 3.36 Types of Chilled and Frozen Meat and Seafood Products Consumed

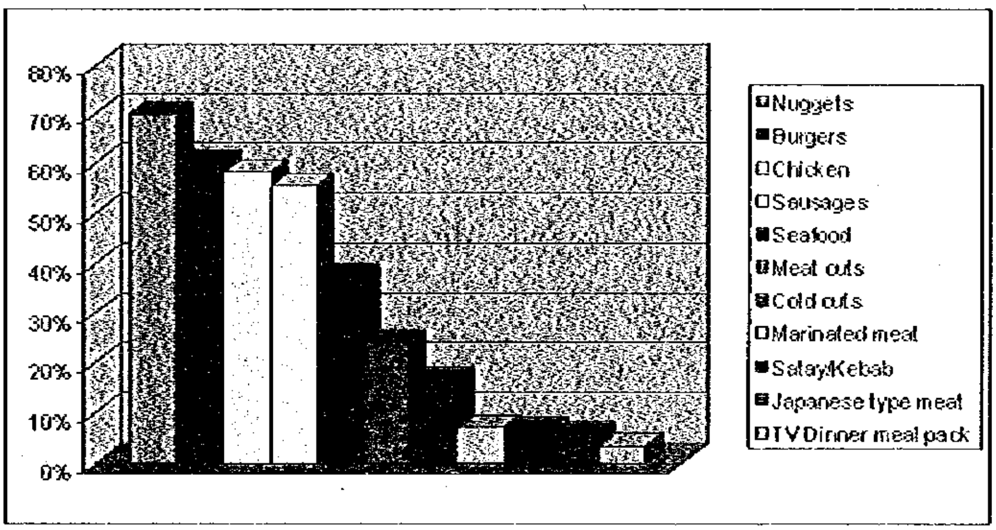
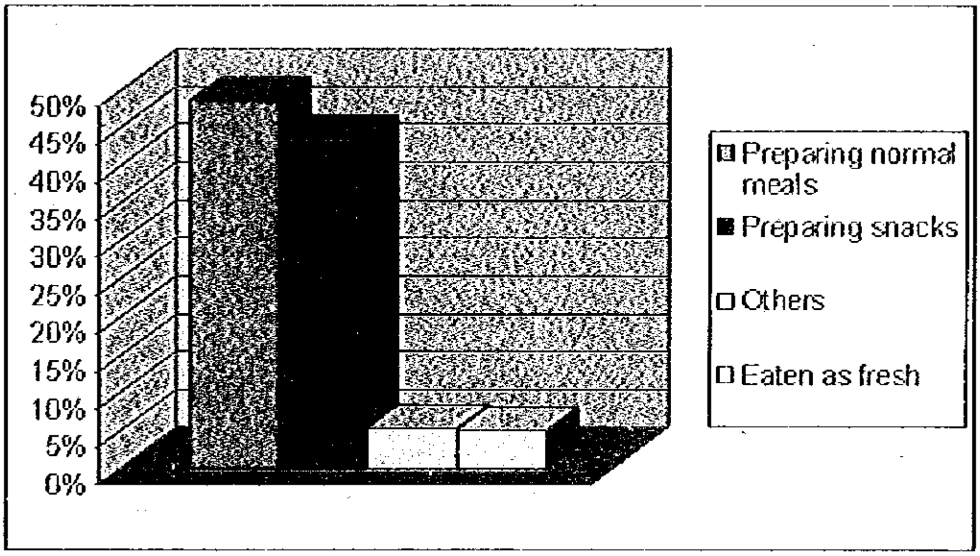


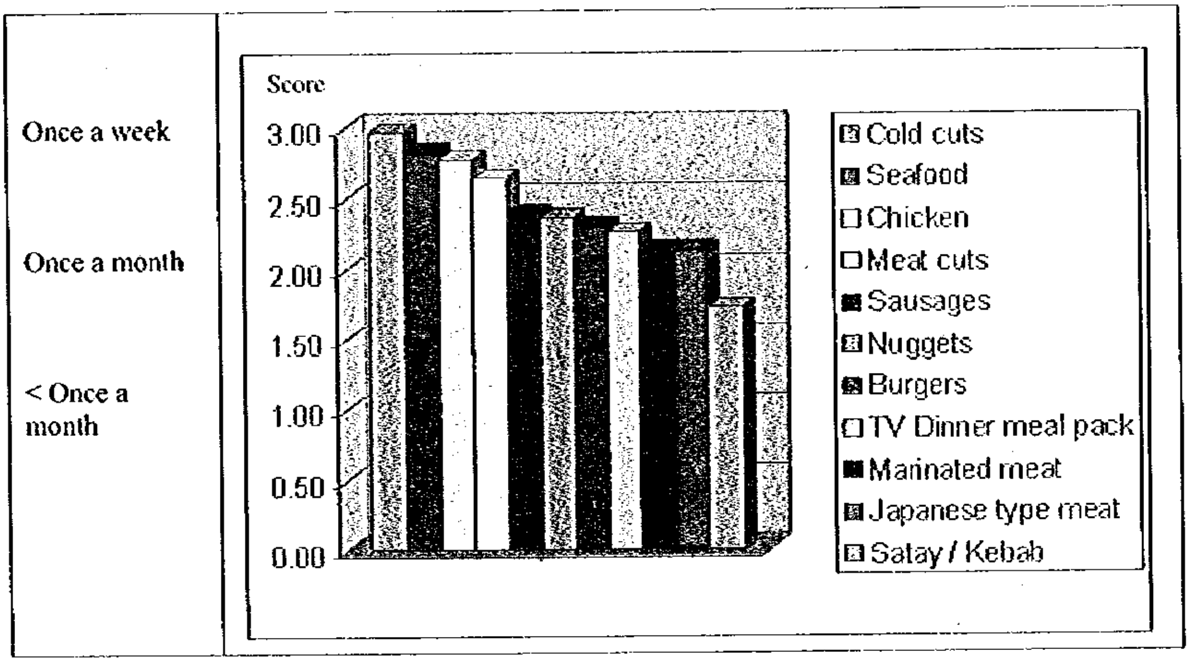
Chart 3.37 When Chilled and Frozen Meat and Seafood Products are Consumed



(i) Consumption frequency of chilled and frozen meat and seafood products

Almost all types of chilled and frozen meat and seafood products are consumed two to three times a month. Chilled and frozen cold cuts, seafood, chicken and meat cuts are more frequently consume, though consumption frequency of chilled and frozen *satay* / kebab is low (see Chart 3.38).

Chart 3.38 Consumption Frequency of Chilled and Frozen Meat and Seafood Products



(ii) Consumption quantities and future trend of chilled and frozen meat and seafood products

On monthly basis, respondents usually consume two to three packages of TV dinners, cold cuts, seafood, chicken, sausages, Japanese type meats, and marinated meats; 1.5 to two packages of meat cuts, burgers, nuggets and about one package of *satay / kebab* (see Chart 3.39).

As shown in Chart 3.40, almost all of the respondents (90.85 percent) like chilled and frozen meat and seafood products. Only 9.15 percent of the respondents do not like it because they prefer fresh products (25 respondents) and perceived it as unhealthy (eight respondents). Some of the respondents have expressed that these types of products are expensive and taste differently from fresh food products. However, 93.91 percent of the respondents will continue to consume chilled and frozen meat and seafood products. Only 6.09 percent indicate that they will stop consuming, the reasons given are that these products are expensive, not fresh, and unhealthy.

Chart 3.39 Average Quantities of Chilled and Frozen Meat and Seafood Products Consumed per month (in packages)

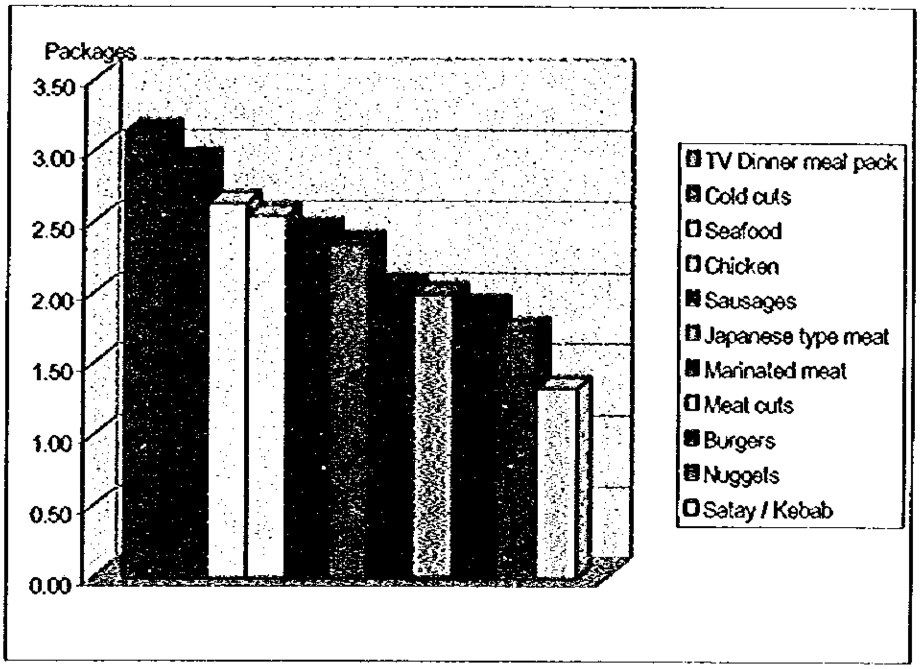
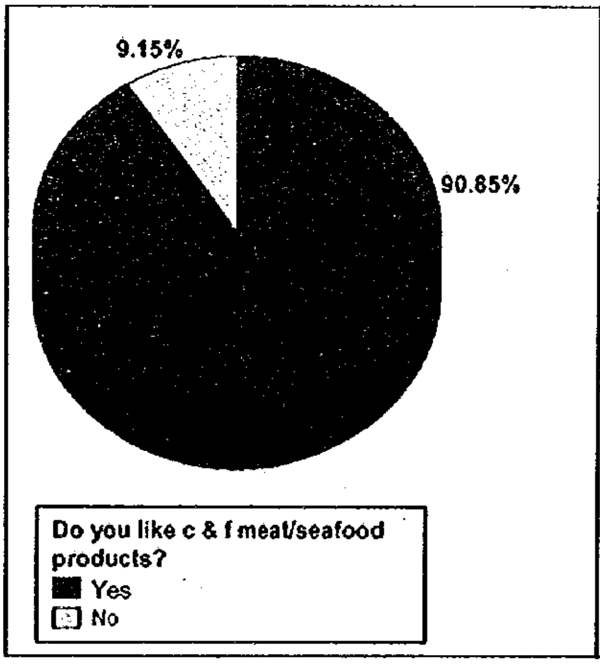
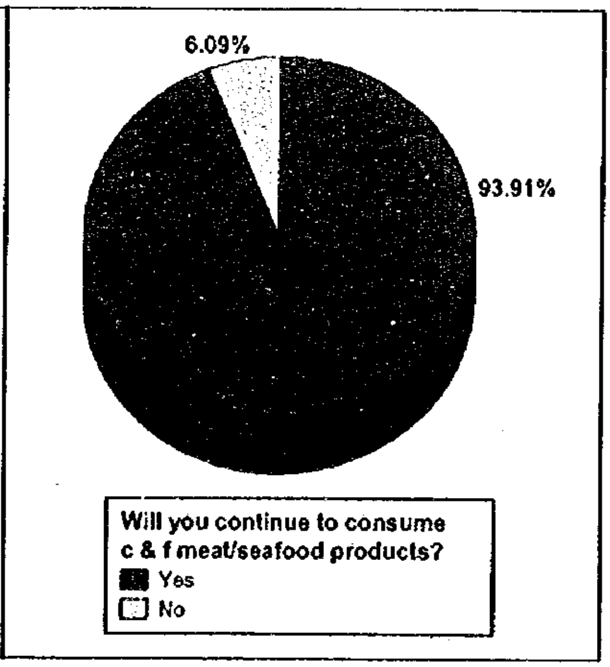


Chart 3.40 Potential of Future Consumption of Chilled and Frozen Meat and Seafood Products





c) **Purchasing Pattern and Consumer Preferences**

(i) **Chilled and Frozen Food Products Purchasing Pattern**

Hypermarket and supermarket (90 percent) are popular places to buy chilled and frozen food products as they are normally situated in or near shopping areas. "One-stop shopping" premises, such as Carrefour, Giant, Makro (cash and carry) and Xtra, are becoming more popular places for shopping. Small portions of respondents purchase chilled and frozen food products from mini market/groceries stores (13.4 percent) and wet market (9.4 percent) but seldom buy chilled and frozen food from night markets or deli shops (see Chart 3.41).

Quality of chilled and frozen food products is considered the most important factor influencing chilled and frozen food purchasing. Other important criterions are first hygiene, followed by nutrition/healthy, price, taste, halal status, convenience, brand, outlet, and packaging (see Chart 3.42). However, the ranking may differ according to demographic characteristics such as ethnic groups, income, and education level.

Chart 3.41 Places for Purchasing Chilled and Frozen Food Products

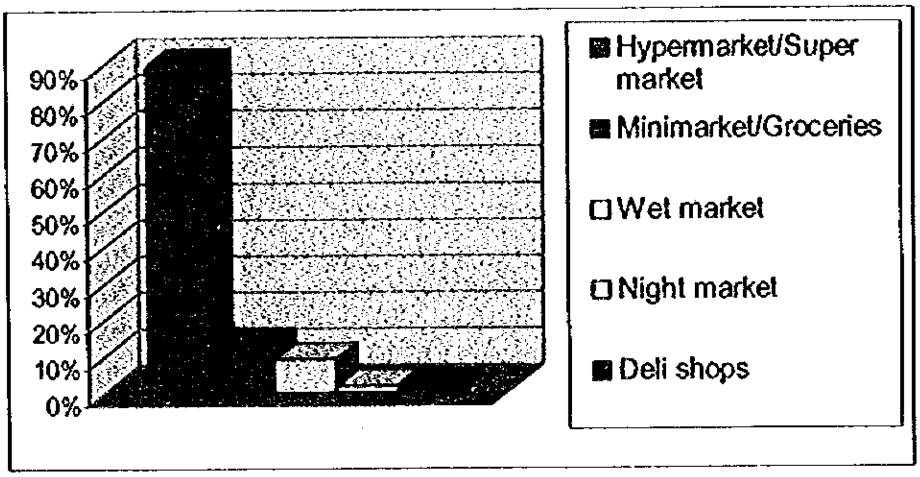
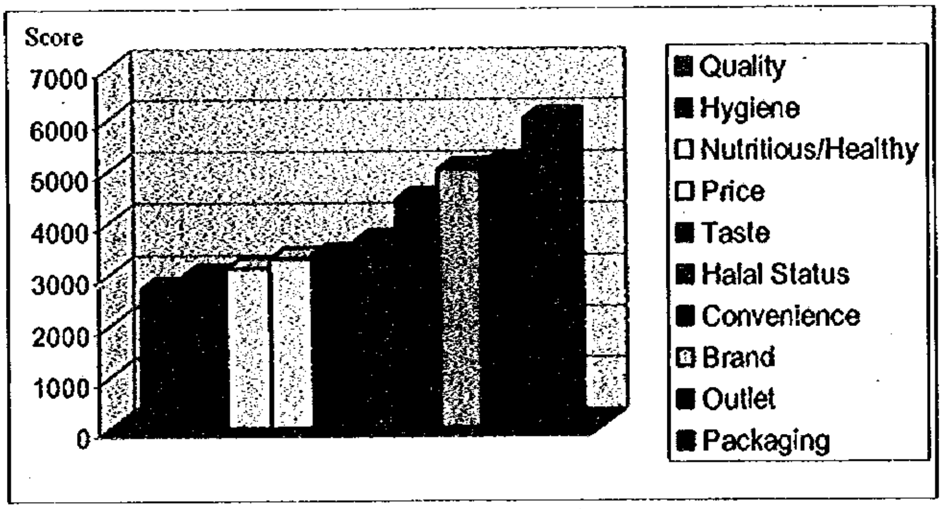


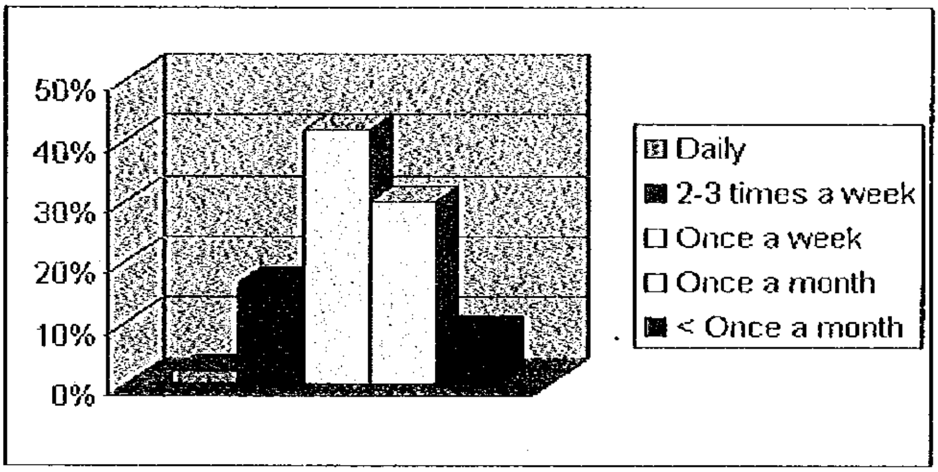
Chart 3.42 Factors Influencing Chilled and Frozen Food Products Purchasing



Note: Factor with lower score means higher influential power

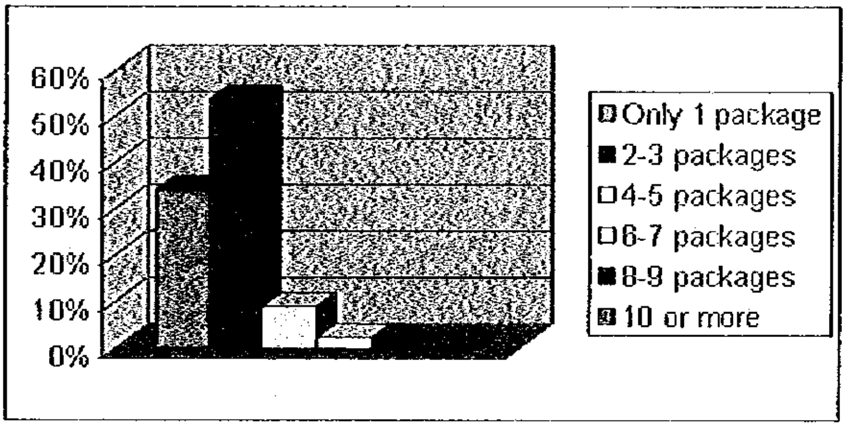
The result of the survey shows that 42.0 percent of the respondents do their purchasing activity once a week, followed by once a month (30.1 percent). However, 16.6 percent of the respondents said that they purchase chilled and frozen food products two to three times a week (see Chart 3.43).

Chart 3.43 Purchasing Frequency of Chilled and Frozen Food Products



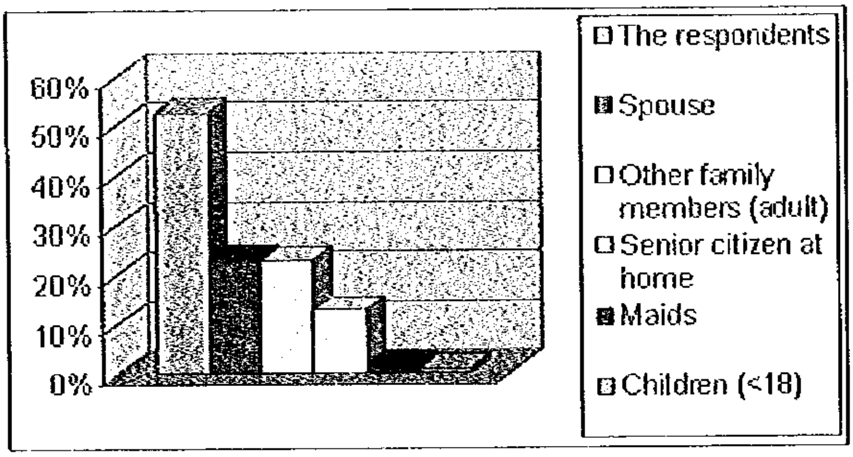
The respondents usually buy two to three packages of chilled and frozen food products per purchase (53.5 percent). 34 percent will only buy one package at one time. They seldom buy more than three packages per purchase (see Chart 3.44).

Chart 3.44 Quantities of Chilled and Frozen Food Products Purchased at One Time (in packages)



52.9 percent of the respondents (201 male and 222 female) said they are the ones who are responsible for purchasing chilled and frozen food products. About 23 percent of the respondents (119 male and 67 female) said that their spouse is normally responsible for purchasing food. Other adult family members also do the purchasing (23 percent). However, maids and children are not responsible in food purchasing activities (see Chart 3.45).

Chart 3.45 Purchasers of Chilled and Frozen Food Products



The cross tabulation between income and buyers shows who is responsible for the purchase of chilled and frozen food products. Generally, the respondents, their spouses, and other adult family members are mainly responsible for purchasing chilled and frozen foods.

Table 3.31 Cross Tabulation between Income and Buyers of Chilled and Frozen Food

Income/ Buyer	<RM 1,000	RM 1,000-2,000	RM 2,001-3,000	RM 3,001-4,000	RM 4,001-5,000	>RM 5,000	Total
The respondents	43	87	81	78	56	77	422
Spouse	7	29	35	38	23	54	186
Senior Citizen at home	17	23	32	14	9	8	103
Children (<18)	2	1	3	2	0	1	9
Maids	1	0	3	3	2	4	13
Other adult family members	24	39	46	30	21	23	183
Total	94	179	200	165	111	167	916

Note: Figures represent number of respondents

(2) Price Perception and Evaluation on Chilled and Frozen Food Products

82.06 percent of the respondents feel that the overall price of chilled and frozen food are reasonable. About 17.94 percent of the respondents consider the price as expensive (see Chart 3.46). Overall, about 93.48 percent of the respondents said that they will continue buying chilled and frozen food products in the future (see Chart 3.47).

Chart 3.46 Price Evaluation on Chilled and Frozen Food Products

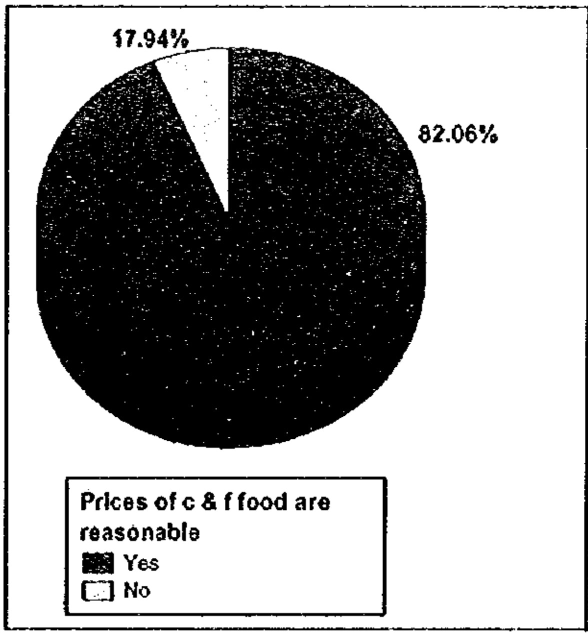
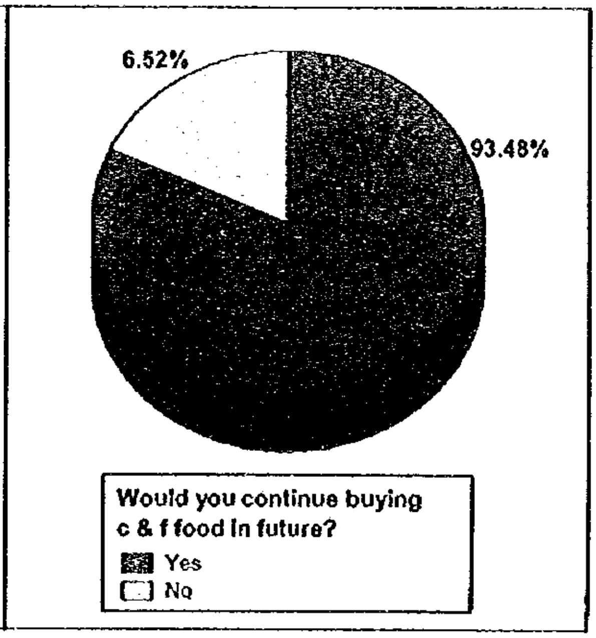


Chart 3.47 Potential of Future Buying



The result of the survey shows that 57.8 percent of the respondents spend less than RM100 per month on chilled and frozen food. 28.6 percent spend RM101 to 200 on these types of food. Only 9.6 percent spend RM201 to 300 per month. Most of them will not spend more than RM300 per month on chilled and frozen food (see Chart 3.48). Nevertheless, 63.73 percent of the respondents are willing to pay more for chilled and frozen food products that are properly handled, stored and displayed (see Chart 3.49).

Chart 3.48 Monthly Spending on Chilled and Frozen Food Products

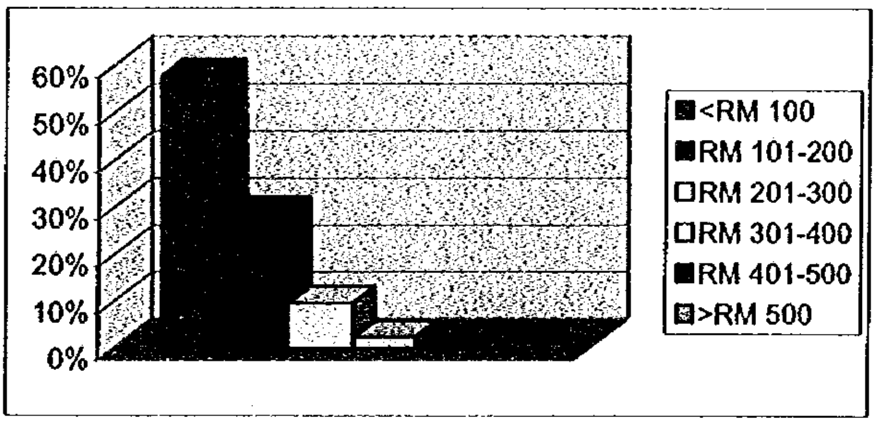
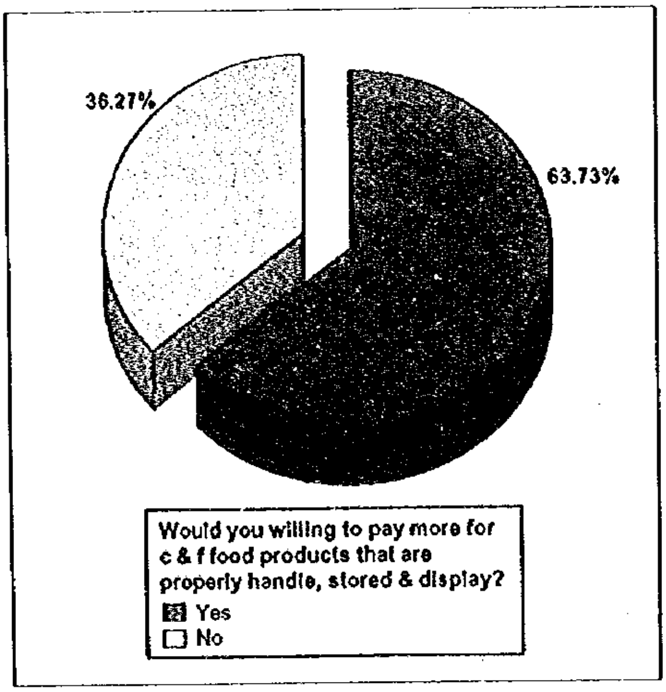


Chart 3.49 Willingness to Pay More for Chilled and Frozen Food Products that are Properly Handled, Stored, and Display.

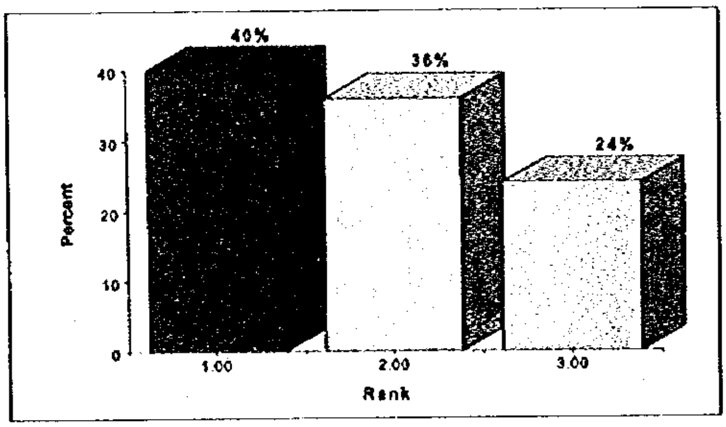


(3) Preference on Chilled and Frozen Food Products

With regard to the category of chilled and frozen food products, the preferences ranking are first chilled and frozen ingredients, followed by chilled and frozen meals and snacks, and chilled and frozen meat and seafood products (see Charts 3.50, 3.51 and 3.52).

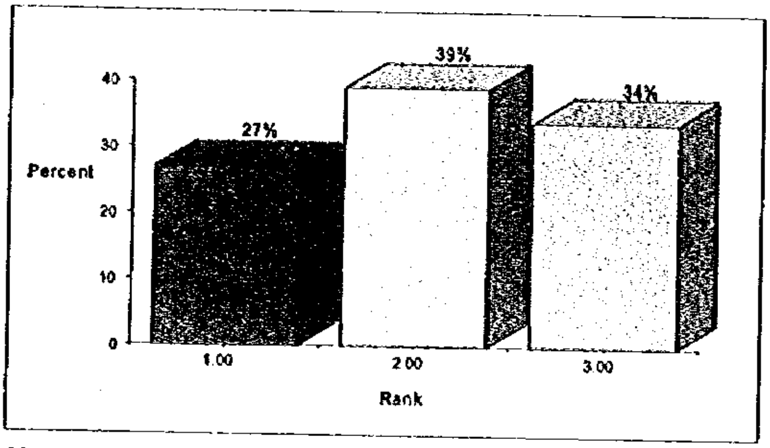
Malay varieties of chilled and frozen food products are the most preferred category (56.6 percent). This is followed by the Western varieties (51.1 percent) and Chinese varieties (36.9 percent). It appears that ethnic food and Western varieties have high market potential. Japanese type of chilled and frozen foods is relatively less preferred (see Chart 3.53). In term of taste, hot and spicy food is most favoured (77.8 percent) compared to the others (see Chart 3.54).

Chart 3.50 Chilled and Frozen Food Ingredients Preference Ranking



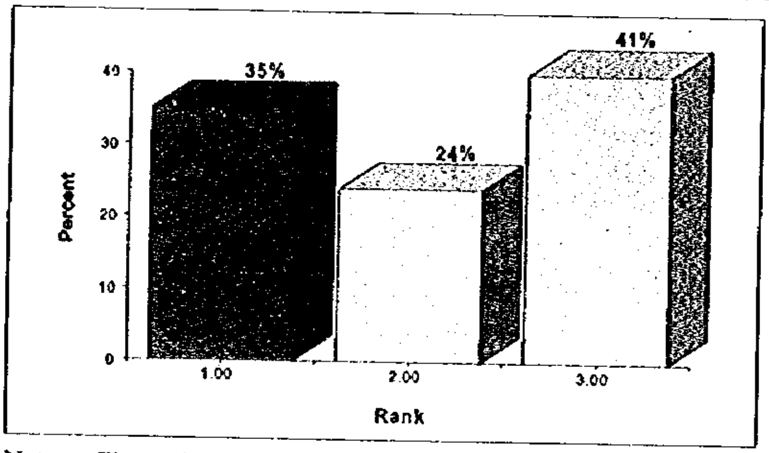
Note: The preference ranking is in ascending order with 1 as the most preferable and 3 as the least preferable.

Chart 3.51 Chilled and Frozen Meals and Snacks Preference Ranking



Note: The preference ranking is in ascending order with 1 as the most preferable and 3 as the least preferable.

Chart 3.52 Chilled and Frozen Meat and Seafood Products Preference Ranking



Note: The preference ranking is in ascending order with 1 as the most preferable and 3 as the least preferable.

Chart 3.53 Preference on Food Varieties of Chilled and Frozen Food Products

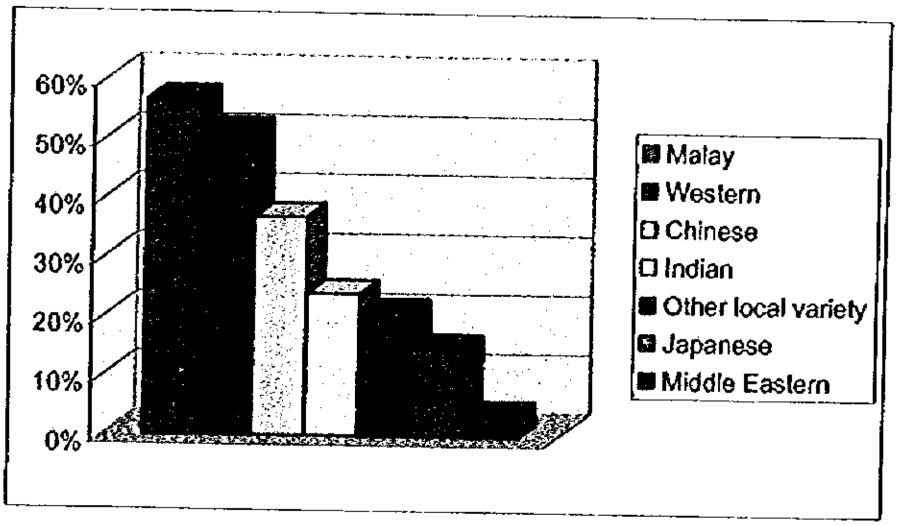
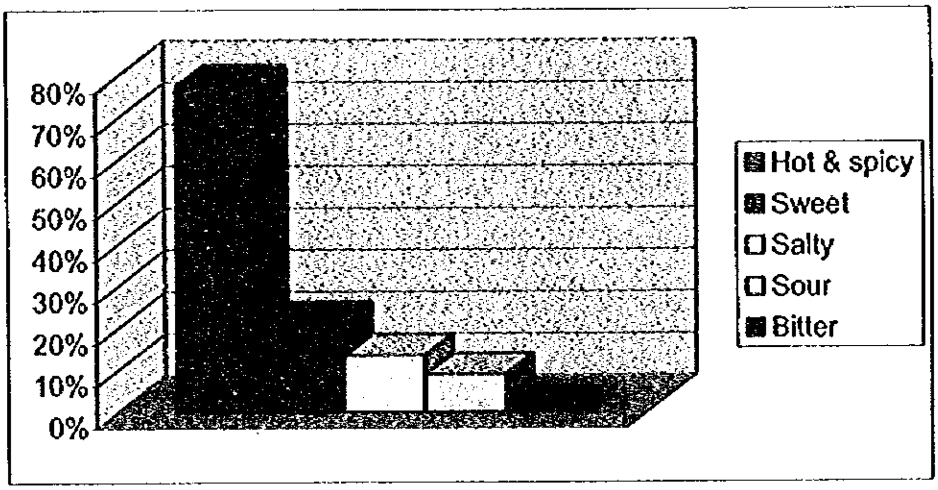


Chart 3.54 Preference on Taste of Food



(4) Future Prospects of Chilled and Frozen Food Products

The survey showed that most of the respondents agree that chilled and frozen foods form a significant proportion of their total food consumption and they will consume more of these types of food in the future. Besides, they also agree that most of the people around them consume chilled and frozen food. They believe that the consumption of chilled and frozen food will be an important trend in future (see Chart 3.55).

As chilled and frozen food consumers, the respondents acknowledged that they do try new food products in the market and are aware of some food advertisements. Generally, they are satisfied with the chilled and frozen food that they have consumed. However, these consumers expressed that they may not have tasted all chilled and frozen food products available in the supermarkets' food testing sections (see Chart 3.55).

The Food consumption trend as shown in Chart 3.56, most of the respondents (72.6 percent) still enjoy home cooked meals with traditional cooking style. 33.1 percent of the respondents informed that they normally eat out. 15.5 percent of the respondents said that they do consume convenience food such as chilled and frozen food. Some respondents acknowledged that they seldom consume canned food (3.3 percent).

Chart 3.55 Indicator of Future Consumption Trend

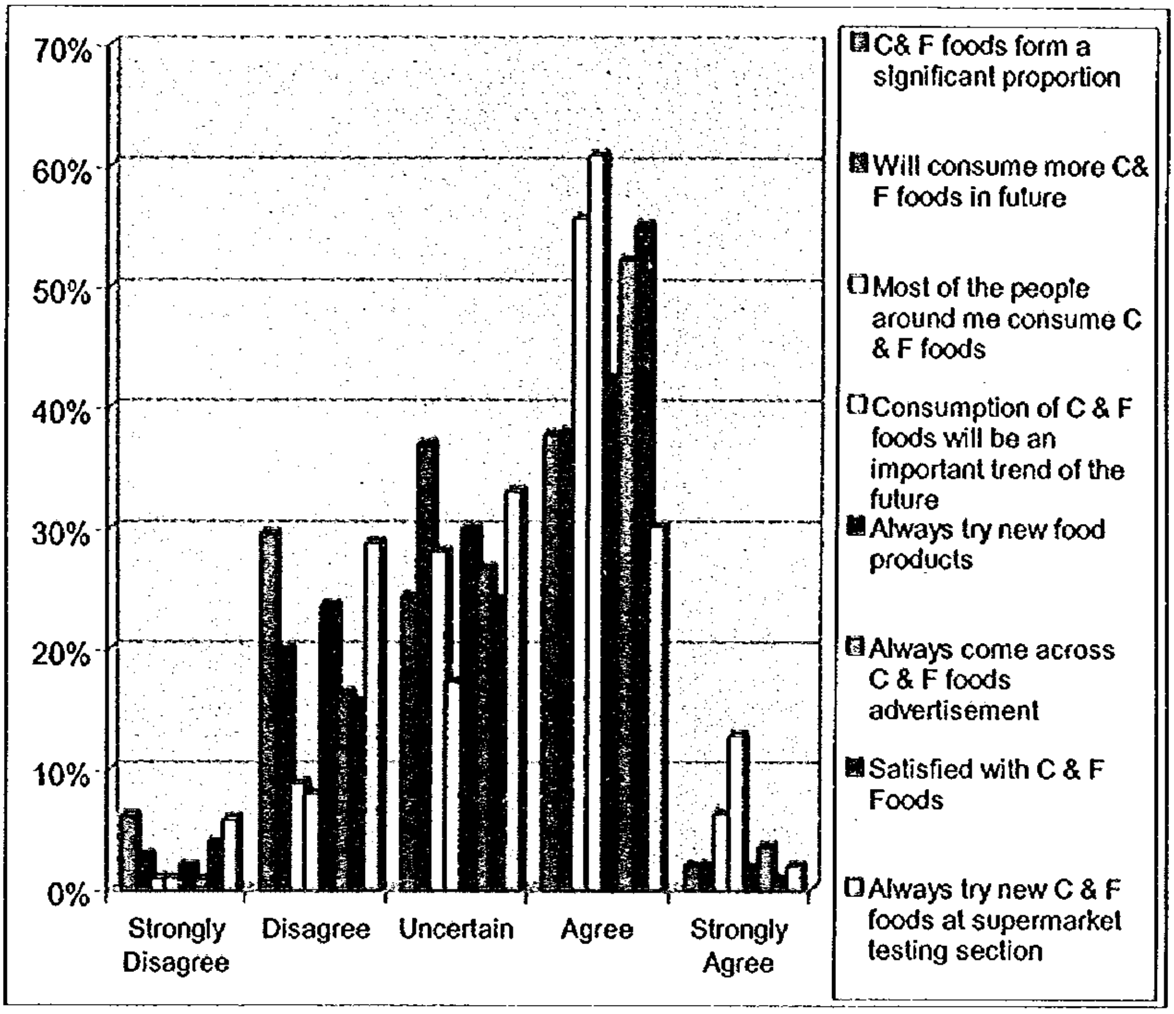
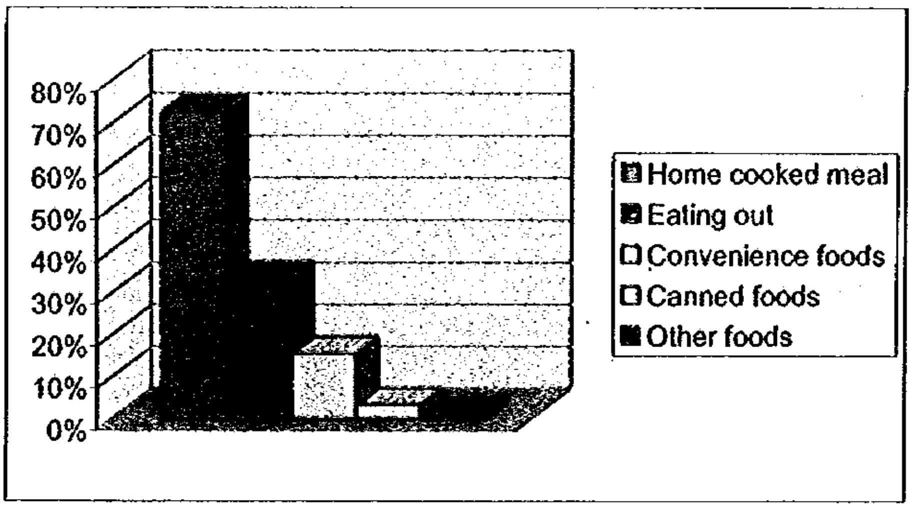


Chart 3.56 Current Food Consumption Trend



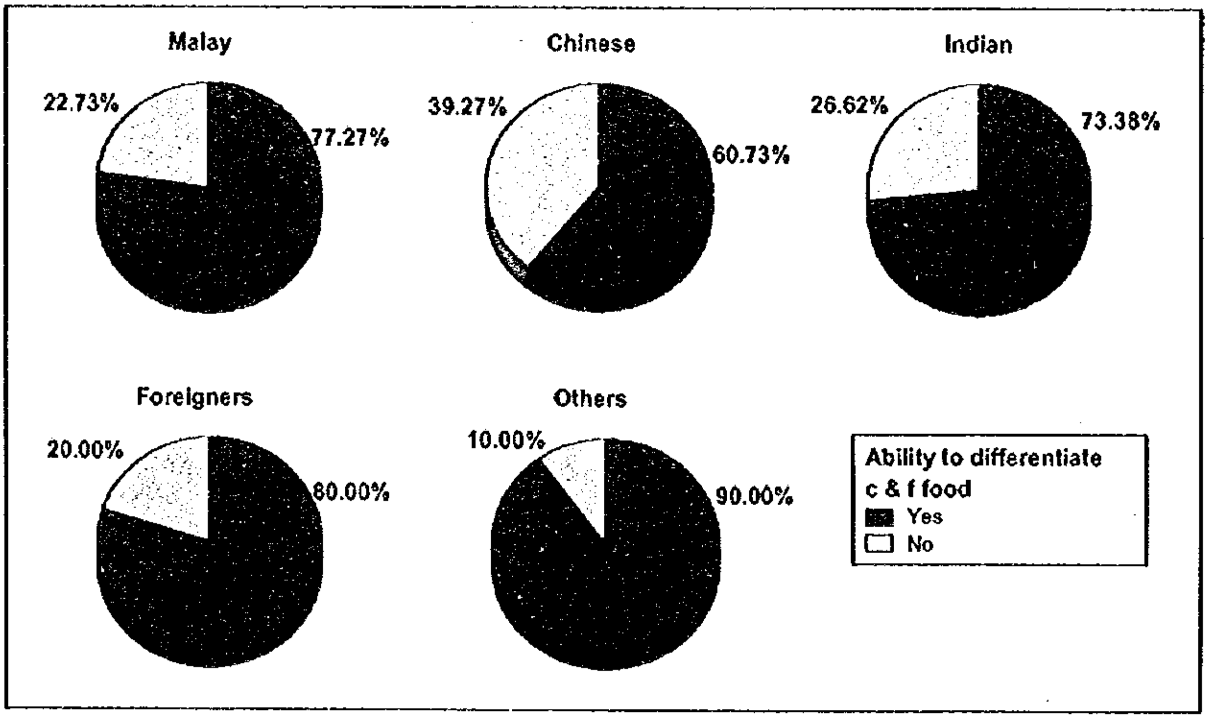
d) Influence of Socio-Demographic Characteristics

(I) Influence of Ethnic Group

The comparison will mainly be made based on three main ethnic groups, which are Malay (44.2 percent), Chinese (30.95) and Indian (19.35). The result of cross tabulation shows that influence of ethnic group is significant in several variables such as ability to differentiate chilled and frozen food, purchase quantity, evaluation of price, monthly spending and willingness to pay more for quality food. The influence of ethnic group, however, is not significant towards chilled and frozen food perception, purchase frequency and future purchasing intention.

As shown in Chart 3.57, the highest awareness of differences between chilled and frozen food are among foreigners, followed by Malay, Indian, and Chinese respondents.

Chart 3.57 Ability to Differentiate Chilled and Frozen Food



(i) Consumption pattern of Malay respondents

The result of the survey shows that Malays are the main consumers of chilled and frozen foods. Malay respondents most frequently consume chilled and frozen curry puffs, murtbak, roti canai and nasi lemak (ranging from 50 to 75 percent). This is followed by roti pratha, samosa, pau, pizzas, spring rolls, pies, and naan/capati (30 to 45 percent). The types of chilled and frozen food ingredients that are preferred are coconut milk/grated (about 60 percent), cendol/cincau, frozen vegetables, noodles, chilled vegetables, chilled fruits, and spice pastes (ranging from 40 to 50 percent). They are also the main consumers for chilled and frozen meat and seafood products such as satay/kebab and burgers (50 to 60 percent), nuggets, meat cuts, cold cuts, chicken and sausages (40 to 50 percent), seafood, TV dinner meal packs, and marinated meats (25-35 percent) (see Charts 3.58, 3.59 and 3.60).

(ii) Consumption pattern of Chinese respondents

Most of the Chinese respondents consume chilled and frozen mantau and dim sum (75-85 percent). This is followed by pau and spring rolls (40 percent to 50 percent), pizzas, pies and samosa (30-40 percent), and chilled nasi lemak (about 20 percent). The types of chilled and frozen food ingredients that they preferred are Japanese Ingredients, tofu and noodles (40-55 percent), followed by cendol/cincau, chilled vegetables, chilled fruits, frozen vegetables, and spice pastes (20-35 percent). They are also the main consumers for chilled and frozen meat and seafood products, such as Japanese type meats and marinated meats (45-55 percent), sausages, seafood, meat cuts, chicken, TV dinner meal pack, nuggets (30-40 percent) and about 25 percent of burger and cold cuts (see Charts 3.58, 3.59 and 3.60).

(iii) Consumption pattern of Indian respondents

Most Indian respondents consume chilled and frozen naan/capati (60 percent), followed by roti pratha, nasi lemak and roti canai. The types of chilled and frozen food ingredients preferred are spice pastes (about 28 percent), coconut milk/grated (about 22 percent) and chilled fruits, chilled vegetables, frozen vegetables and cendol/cincau (10-20 percent). Among the consumers of chilled and frozen meat and seafood products, 10 to 20 percent are Indians. This shows that Indian respondents are light consumers of chilled and frozen food (see Charts 3.58, 3.59 and 3.60).

Chart 3.58 Type of Chilled and Frozen Meals and Snacks Consumed by Ethnic Group

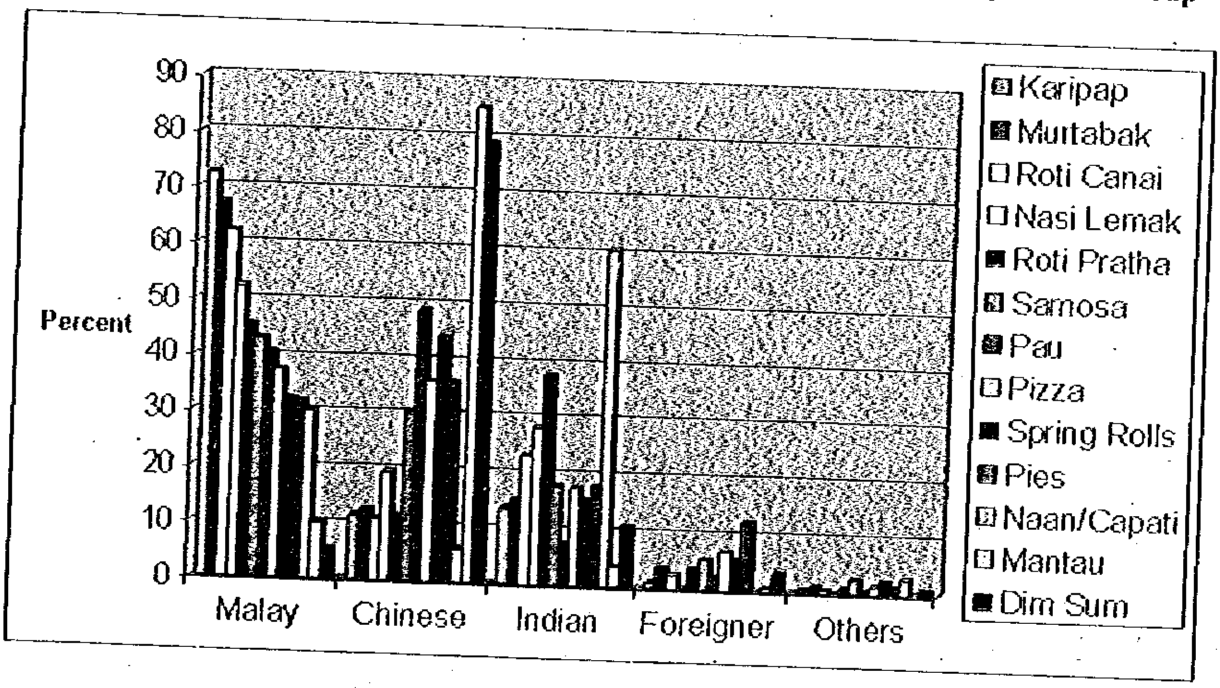


Chart 3.59 Types of Chilled and Frozen Food Ingredients Consumed by Ethnic Group

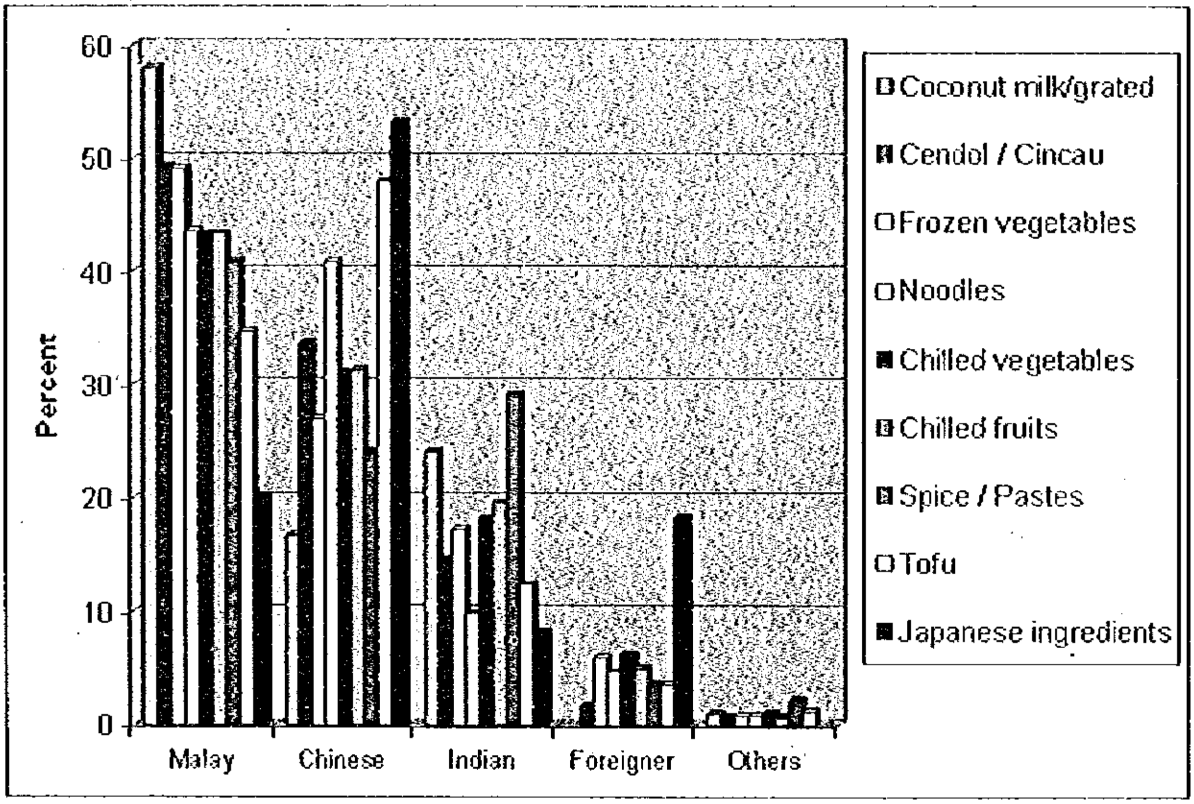
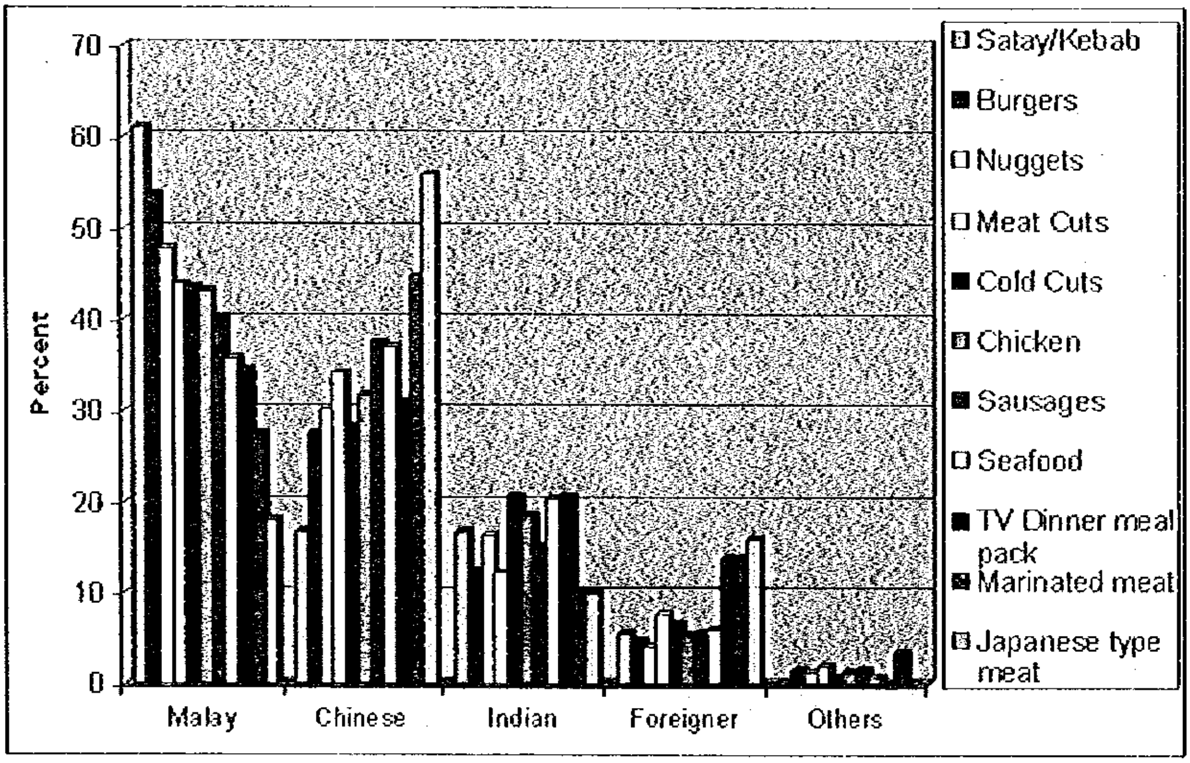


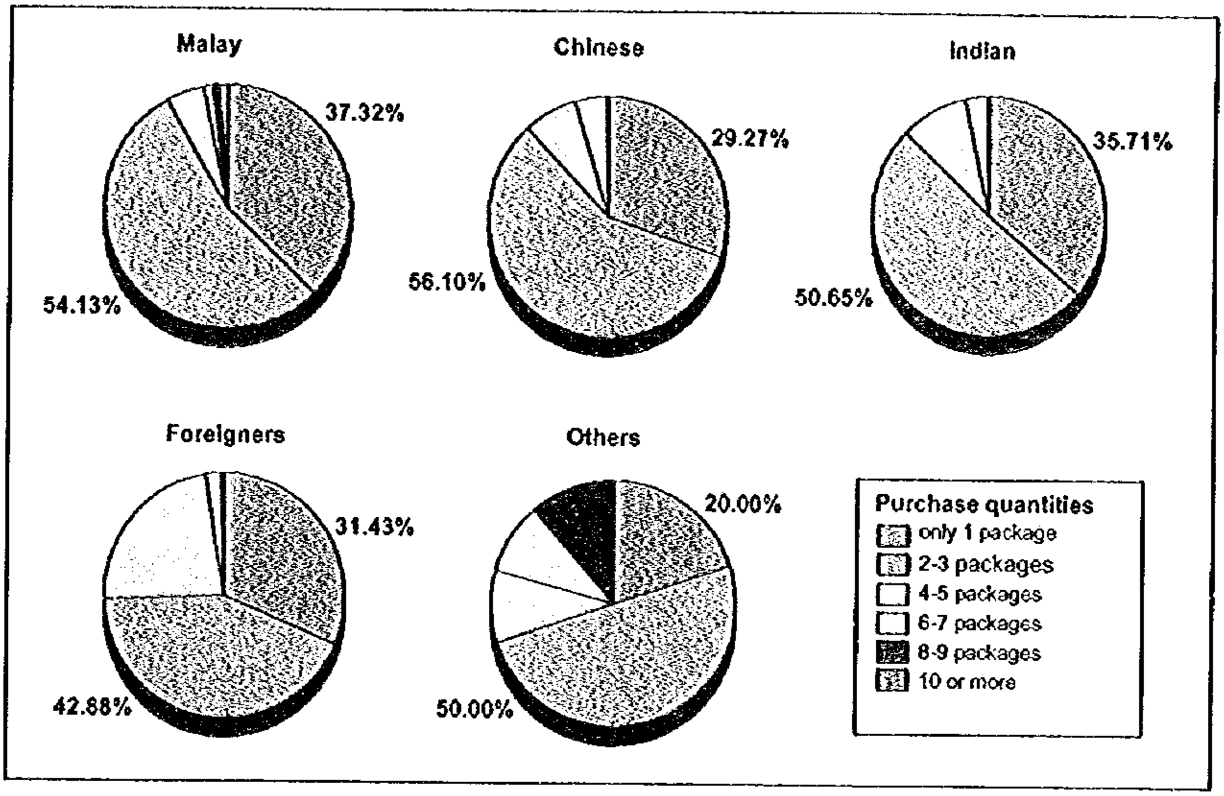
Chart 3.60 Types of Chilled and Frozen Meat and Seafood Products Consumed by Ethnic Group



(iv) Purchasing pattern by ethnic group

Respondents usually buy two to three packages of chilled and frozen food products per purchase. However, a small number of Chinese and Indians will buy six to seven packages per purchase. Malay respondents will never buy more than five packages per purchase (see Chart 3.61).

Chart 3.61 Purchase Quantities by Ethnic Group



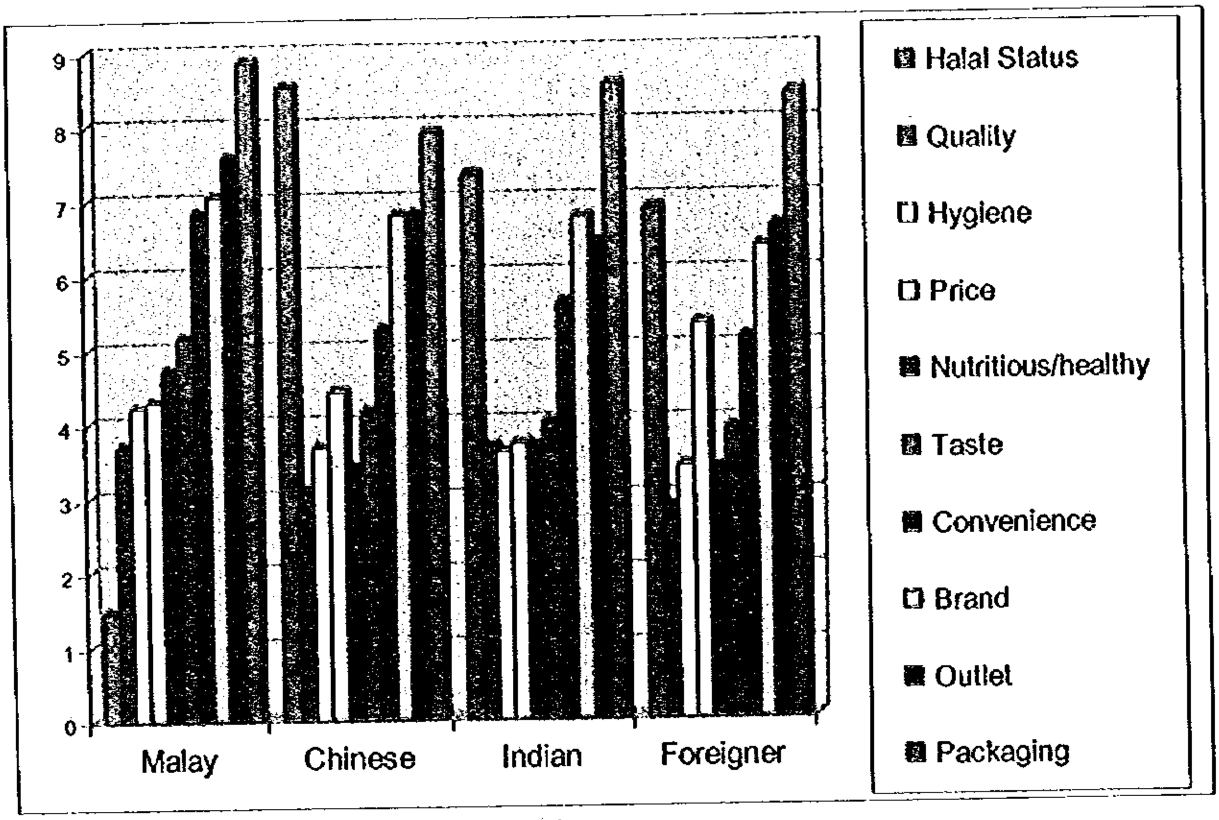
Malay respondents place the halal status as the most important factor in influencing their purchasing decision for chilled and frozen food. Other important criteria in descending order are quality, hygiene, price, nutritious / healthy, taste and convenience (See Chart 3.62).

Chinese respondents place quality as the most important factor in influencing their purchasing decision for chilled and frozen foods. Other important criterions in descending order are nutritious/healthy, hygiene, taste, price and convenience.

Indian respondents are of the opinion that quality, hygiene, price, nutritious/healthy and taste are equally important and then followed by convenience.

All the respondents rank brand, outlet and packaging as less important factors. Chinese and Indian respondents do not consider halal status as an influencing factor, however, they do agree that the Malaysian Government should standardise the halal logo.

Chart 3.62 Factors Influencing Purchasing of Chilled and Frozen Foods by Ethnic Group



Note: Factor with lower score means higher influential power

(v) Price perception and evaluation by ethnic group

In general, respondents consider the price of chilled and frozen food products as reasonable. 88.6 percent of the Chinese respondents agree that the prices are reasonable, followed by Malays (80.1 percent), and Indians (75.3 percent) (see Chart 3.63).

Based on monthly spending pattern of the respondents, Chinese respondents' monthly spending on chilled and frozen foods is slightly higher than Malays and Indians (see Chart 3.64). About 38.0 percent of the Chinese respondents spend between RM101-200 monthly on chilled and frozen foods, followed by Malay (26.6 percent), and Indian (19.5 percent). In addition, about 13.1 percent of the Chinese respondents spend between RM201-300 monthly on chilled and frozen foods, followed by Indian (9.1 percent) and Malays (6.3 percent). Comparatively, about 65.4 percent of Malays spend less than RM100 on chilled and frozen foods, followed by Indians (67.5 percent) and Chinese (44.5 percent).

Among various ethnic groups, Malay respondents contribute the most toward the total spending on chilled and frozen foods, because they are the largest consumer group, followed by Chinese and Indians (see Chart 3.64).

Chart 3.63 Evaluation of Price by Ethnic Group

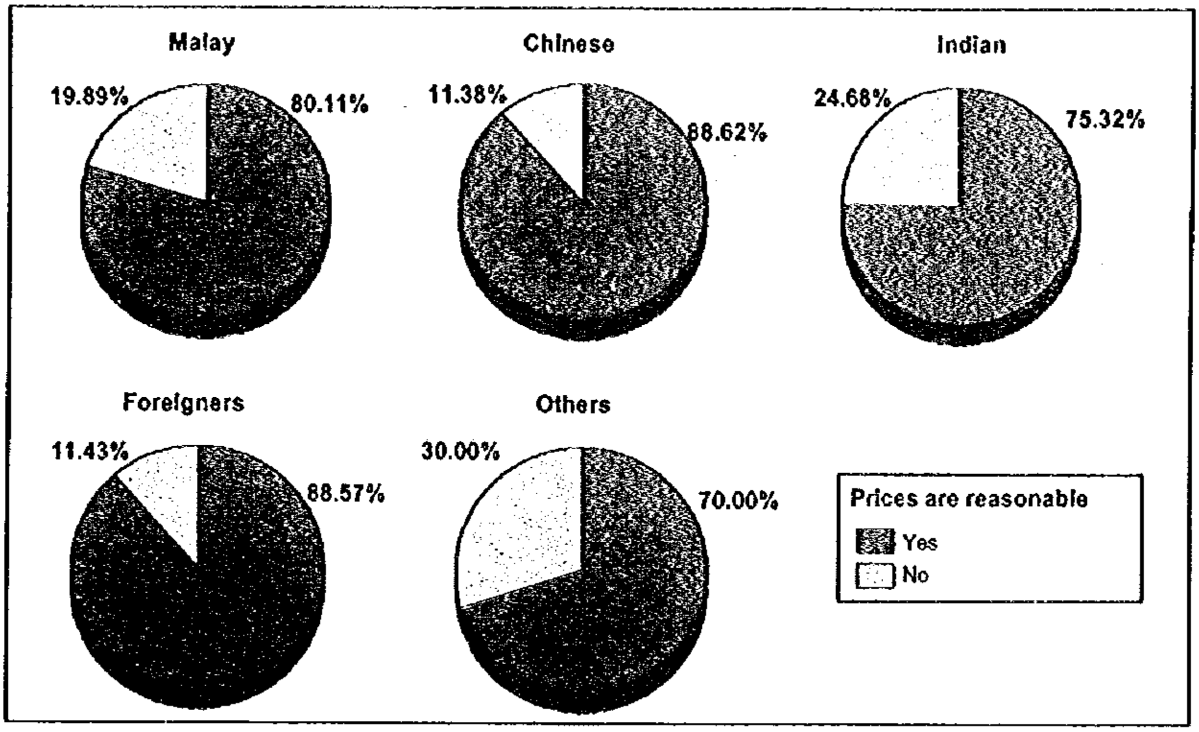
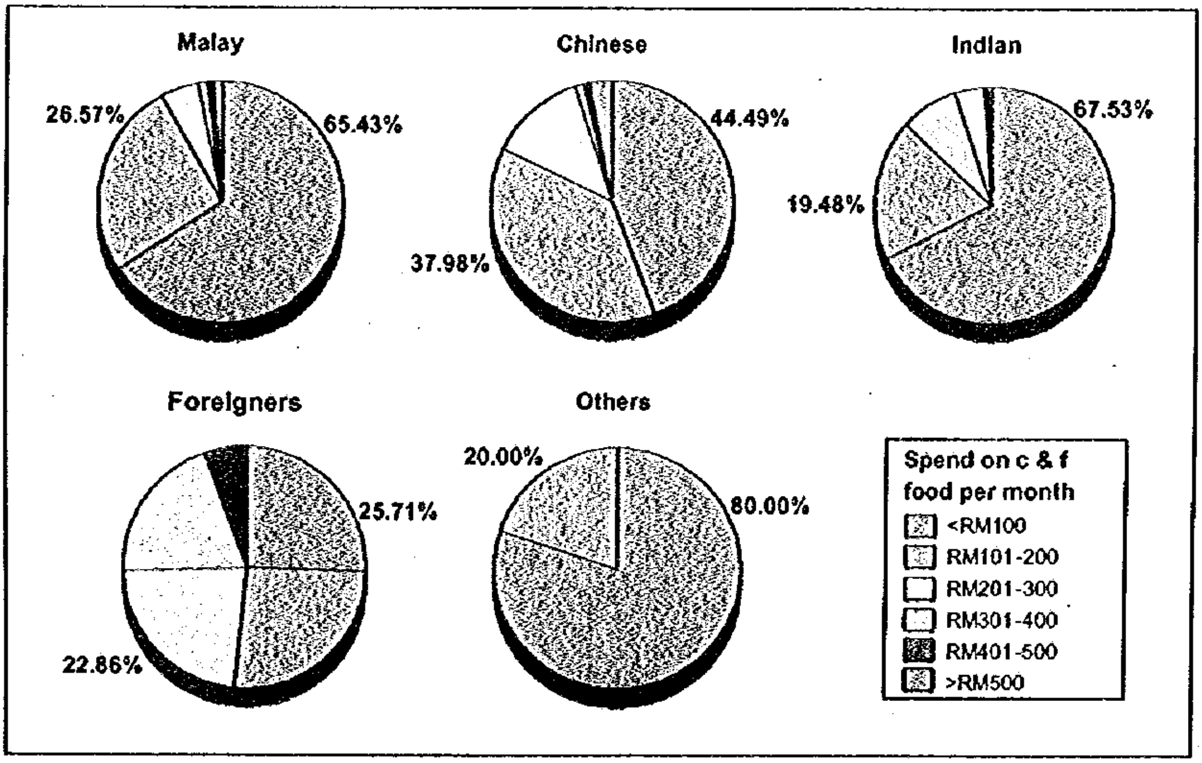
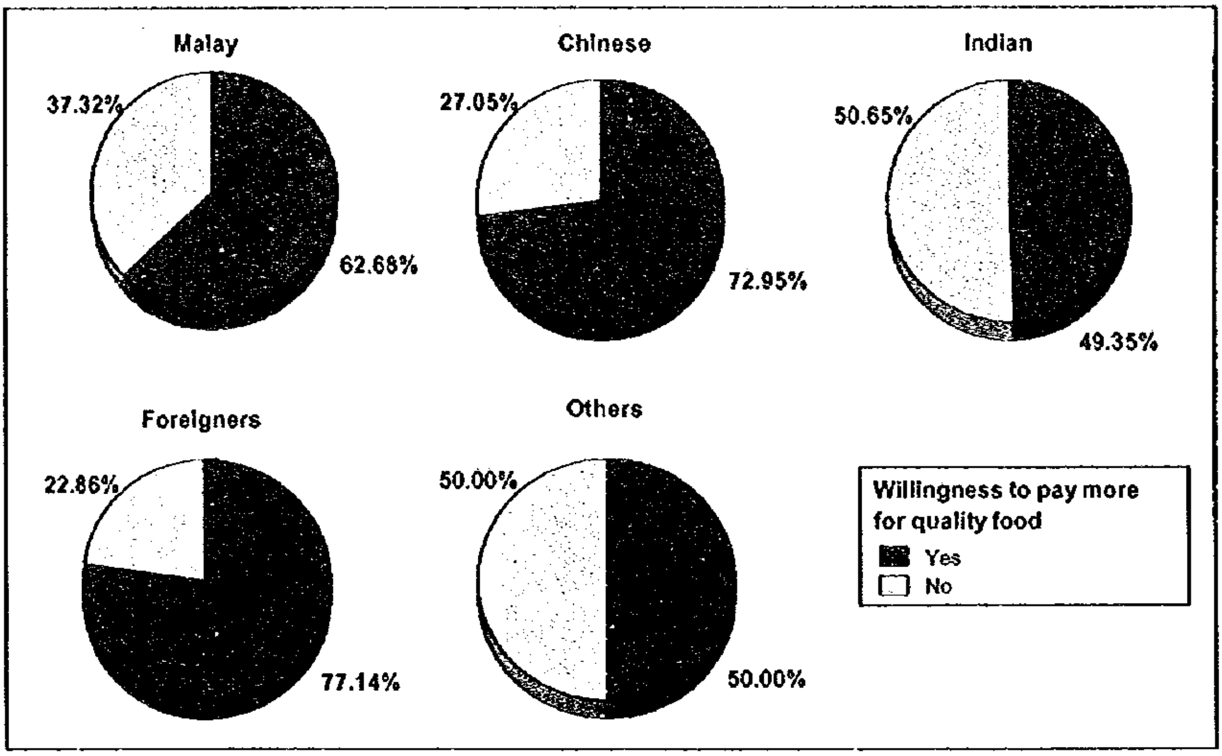


Chart 3.64 Monthly Spending on Chilled and Frozen Foods by Ethnic Group



As shown in Chart 3.65, Chinese respondents are willing to pay more for chilled and frozen food products that are properly handled, stored and displayed, followed by Malay respondents. Indian respondents are more skeptical in this matter.

Chart 3.65 Willingness to Pay More for Quality Foods by Ethnic Group

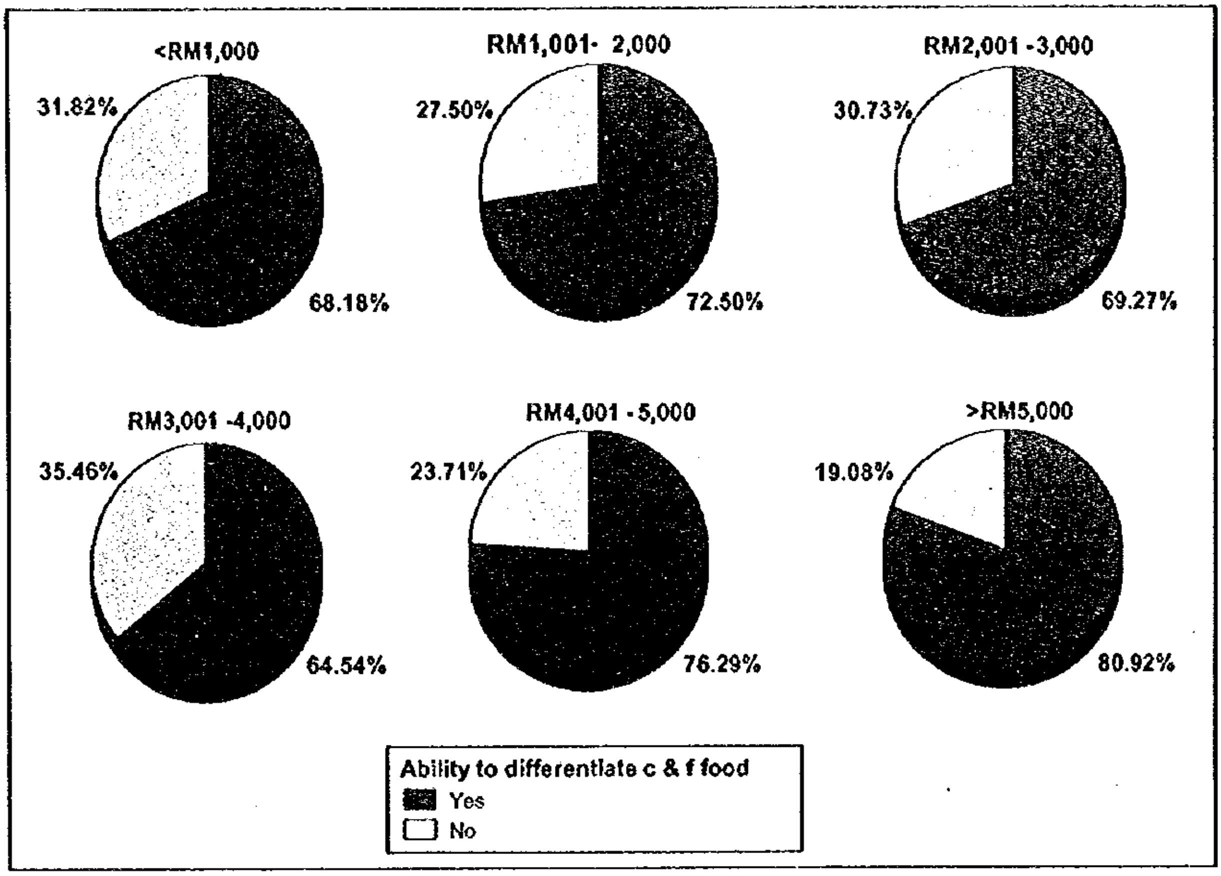


(2) Influence of Income Group

The results of cross tabulation shows that influence of income level is significant in most of the tested variables. The variables tested are ability to differentiate chilled and frozen food, perception of chilled and frozen foods purchasing frequency and quantity, future purchasing intention, monthly spending, and willingness to pay more for quality foods. The perception of price, however, is consistent over different income groups.

As shown in Chart 3.66, respondents from income group of RM3,001-4,000 per month has slightly lower awareness of the differences between chilled and frozen food. Majority of higher income group respondents (more than RM4,000 per month) are able to differentiate between chilled and frozen foods.

Chart 3.66 Ability to Differentiate Chilled and Frozen Foods by Income



(i) Perception of chilled and frozen foods by income

Overall, 70 percent to 80 percent of the respondents viewed chilled foods as healthy food (see Chart 3.67). However, about 35 percent of the respondents from middle-income group (RM1,000 to 3,000) have negative perception towards chilled food. On the other hand, more than half of the respondents from all income groups still hold a negative perception towards frozen food (see Chart 3.68). They believe that frozen food is unhealthy. However, the higher income group (more than RM 4,000) respondents tend to have more positive attitude towards frozen food. Thus, in summary, educating the public is important as many of the respondents are still obscure about the nutritional values of chilled and frozen food, especially frozen food.

Chart 3.67 Perception of Chilled Foods by Income

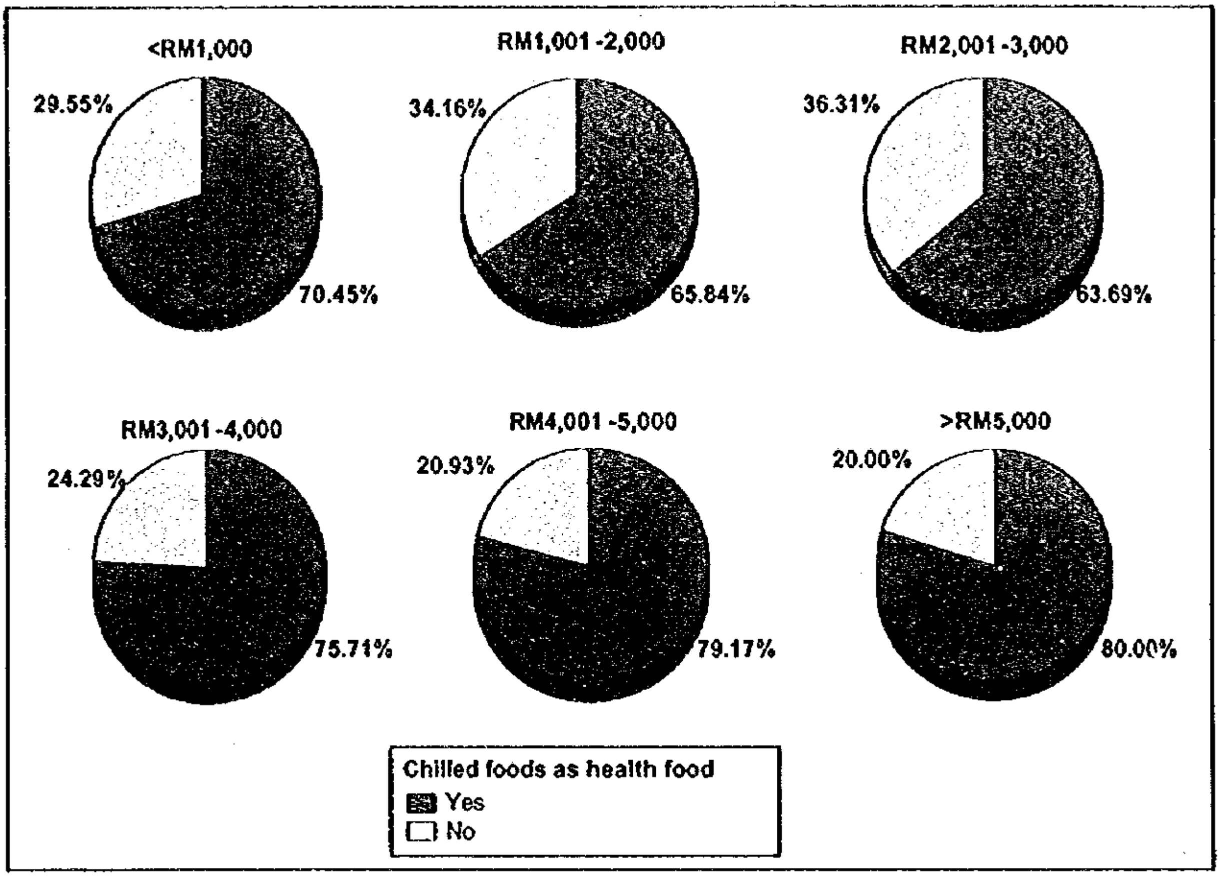
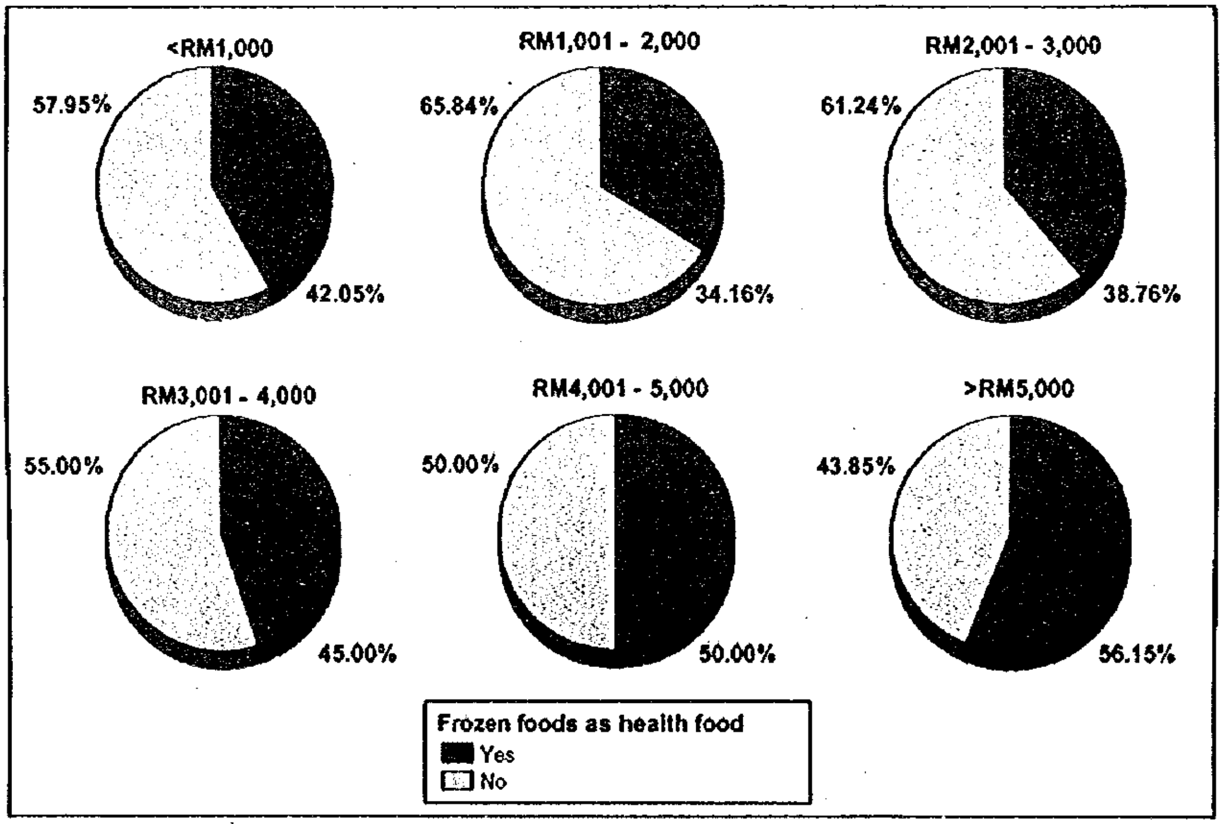


Chart 3.68 Perception of Frozen Foods by Income



(ii) Consumption pattern of lower income group (less than RM1,000 per month)

11 percent of the respondents fall within this group. The results show that lower income group respondents contribute about 9.5 percent to the total consumption of chilled and frozen food. Thus, they are not major consumers of chilled and frozen food (see Charts 3.69, 3.70 and 3.71).

(iii) Consumption pattern of middle/upper middle-income group (RM1,000 to 4,000 per month)

60.4 percent of the respondents fall within this group. They are the major consumers of chilled and frozen food, who contribute about 56 percent (on average) to the total consumption of chilled and frozen food. Most of them consume *roti canai*, pizzas, curry puffs, *pau*, spring rolls, *mantau* and *roti pratha*. The types of chilled and frozen food ingredients that are commonly consumed are chilled fruits and vegetables, tofu, noodles, frozen vegetables, coconut milk/grated, and *cendol/cincau*. They also consume a significant amount of chilled and frozen nuggets, burgers, chicken, sausages, seafood, meat cuts, and cold cuts (see Charts 3.69, 3.70 and 3.71).

(iv) Consumption pattern of higher income group (more than RM 4,000 per month)

28.6 percent of the respondents fall within this group. This group of respondents contributes about 34.5 percent to the total consumption of chilled and frozen food. Most of them consume chilled and frozen pizzas, *pau, roti canai*, curry puffs, and spring rolls. In addition, they consume a lot of chilled fruits and vegetables, frozen vegetables, noodles, tofu and coconut milk/grated. In terms of meat and seafood products, they consume chilled and frozen nuggets, sausages, chicken, burgers, seafood and meat cuts (see Charts 3.69, 3.70 and 3.71).

Chart 3.69 Types of Chilled and Frozen Meals and Snacks Consumed by Income

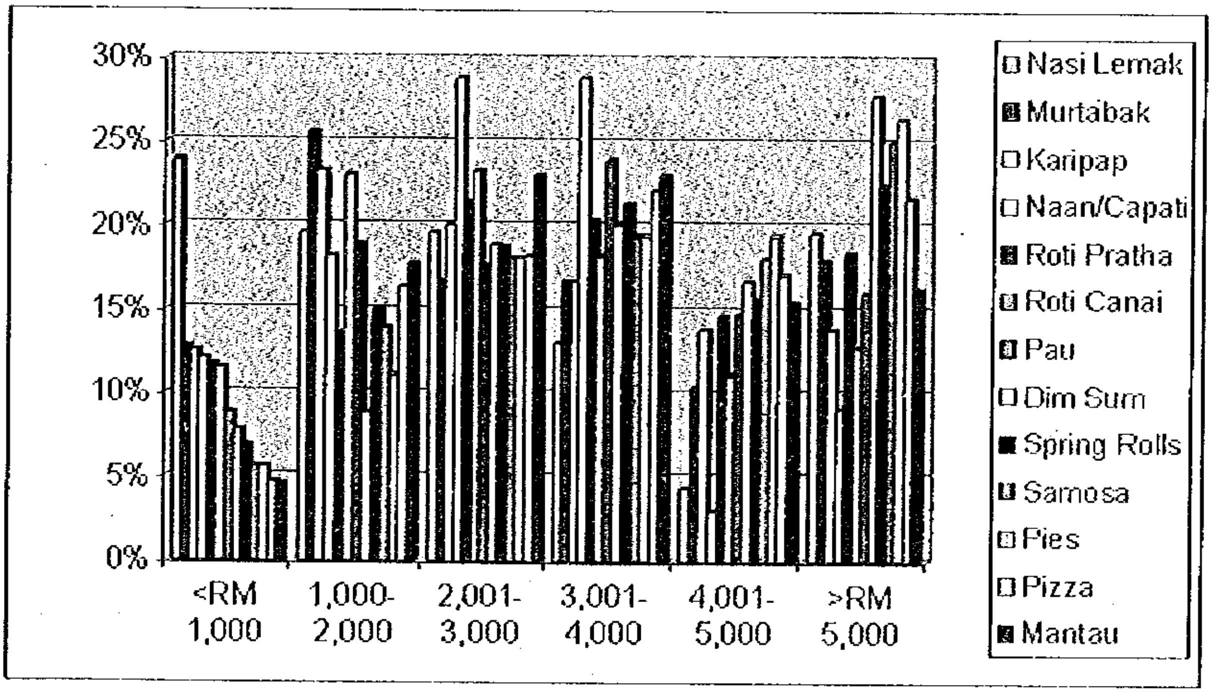


Chart 3.70 Types of Chilled and Frozen Food Ingredients Consumed by Income

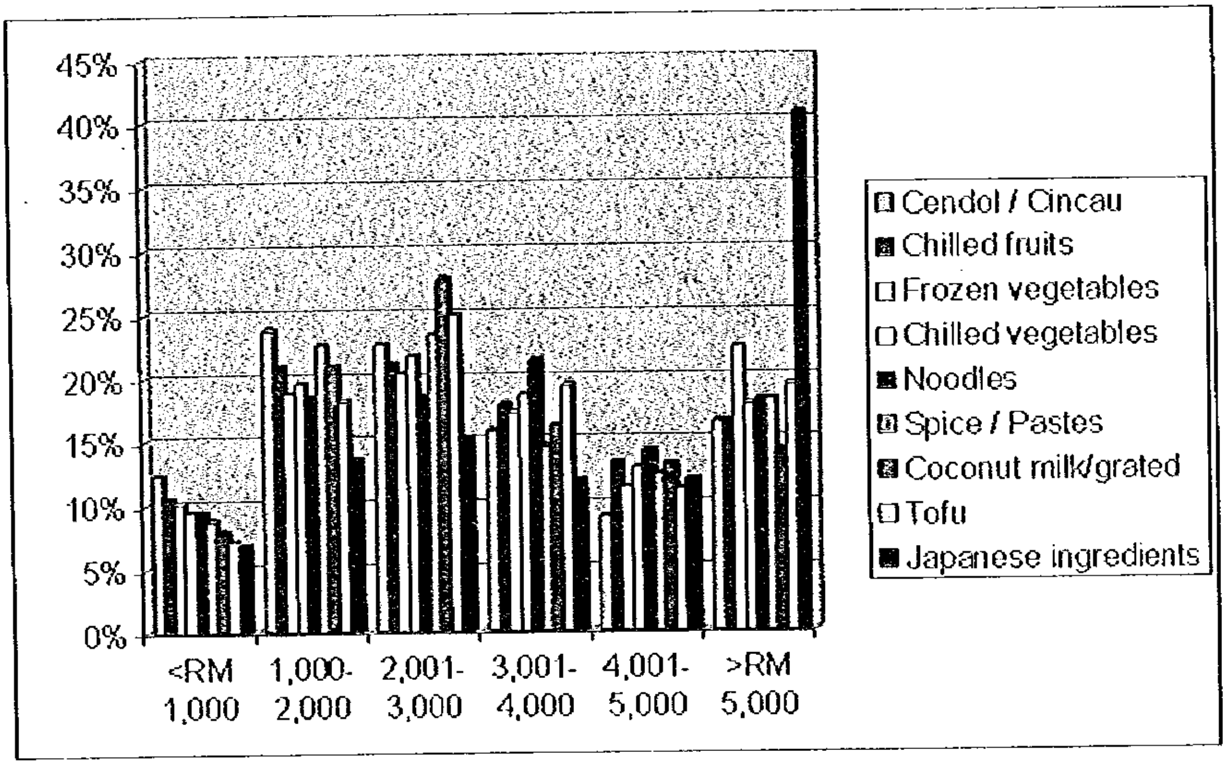
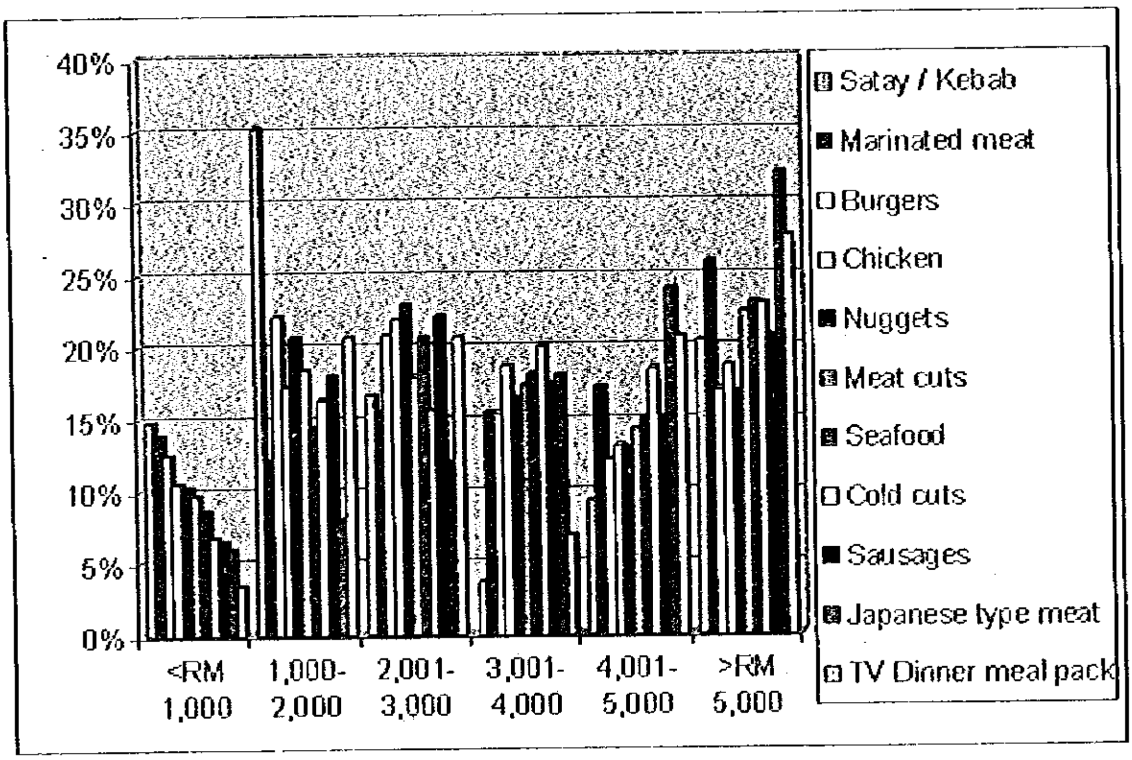


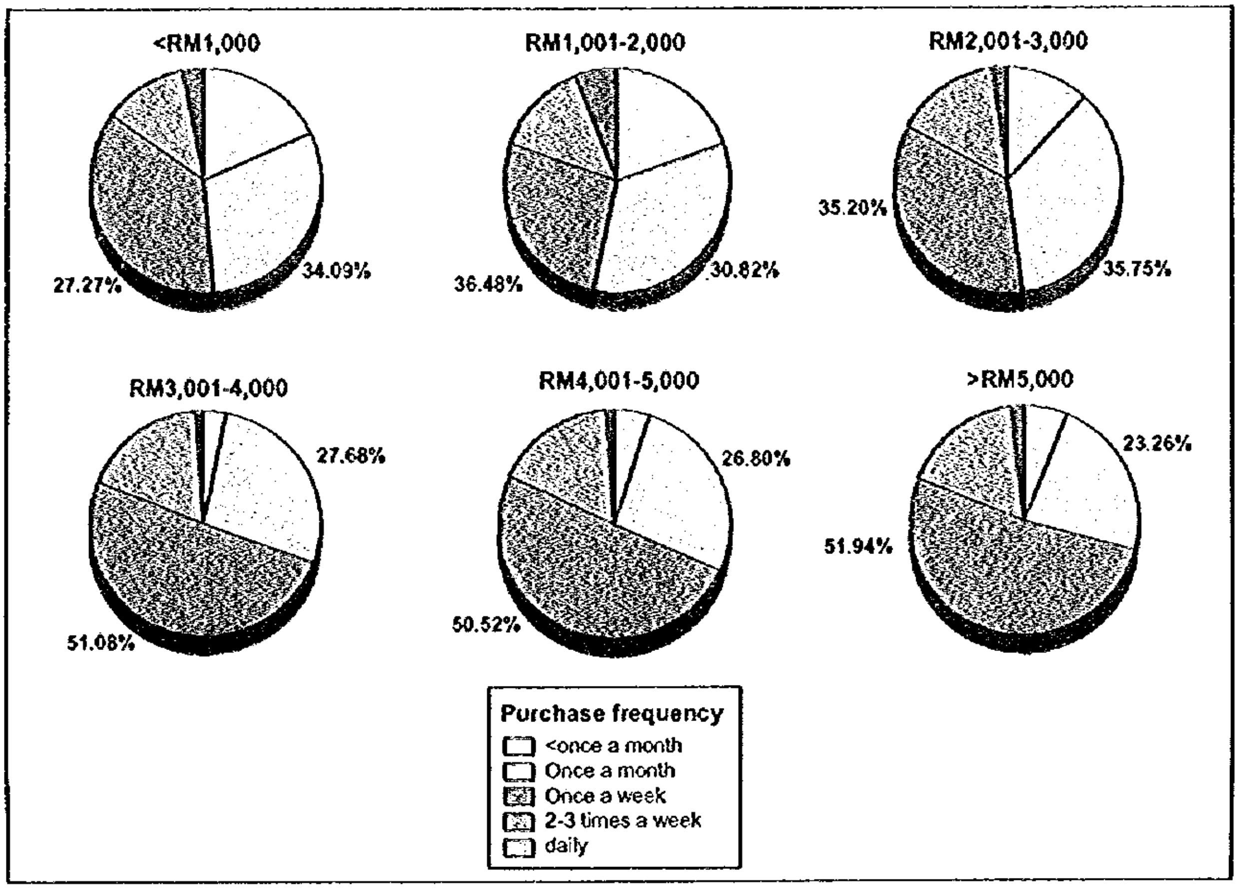
Chart 3.71 Types of Chilled and Frozen Meat and Seafood Products Consumed by Income



(v) Purchasing pattern by income

The respondents usually purchase chilled and frozen foods once a week or once a month. The findings show that as the household income increases, the proportion of respondents who purchase once a week also increases. As for lower income group, they tend to purchase more frequently in a week. Income level of RM 1,000 to 3,000 will either do the purchasing once a week or once a month. More than 50 percent of upper middle and higher income respondents (RM 3,000 to 5,000 or more) do their purchasing once a week (see Chart 3.72).

Chart 3.72 Purchasing Frequency by Income



Majority of the respondents buy two to three packages of chilled and frozen food products per purchase. As shown in Chart 3.73 the higher the household income the more quantities they purchased at one time, though they hardly bought more than seven packages per purchase.

Results also show that as the respondents' household income increased, factors such as quality, hygiene and nutritional value will become more important than price. Furthermore, convenience is considered more important in relation to outlet, brand and packaging among the middle, upper middle and higher income groups (see Chart 3.74). The findings also indicate that as the level of income increases, consumers will tend to continue purchasing chilled and frozen food (see Chart 3.75).

Chart 3.73 Purchase Quantities by Income

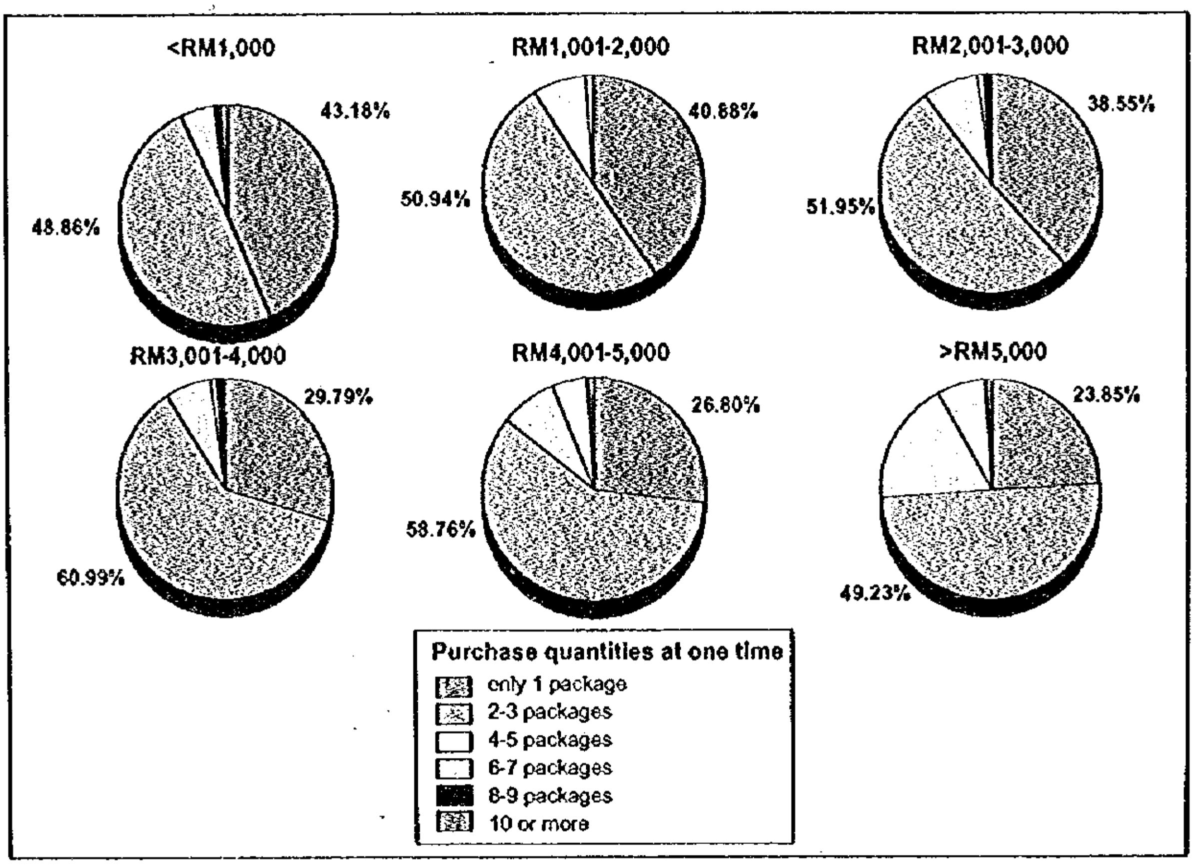
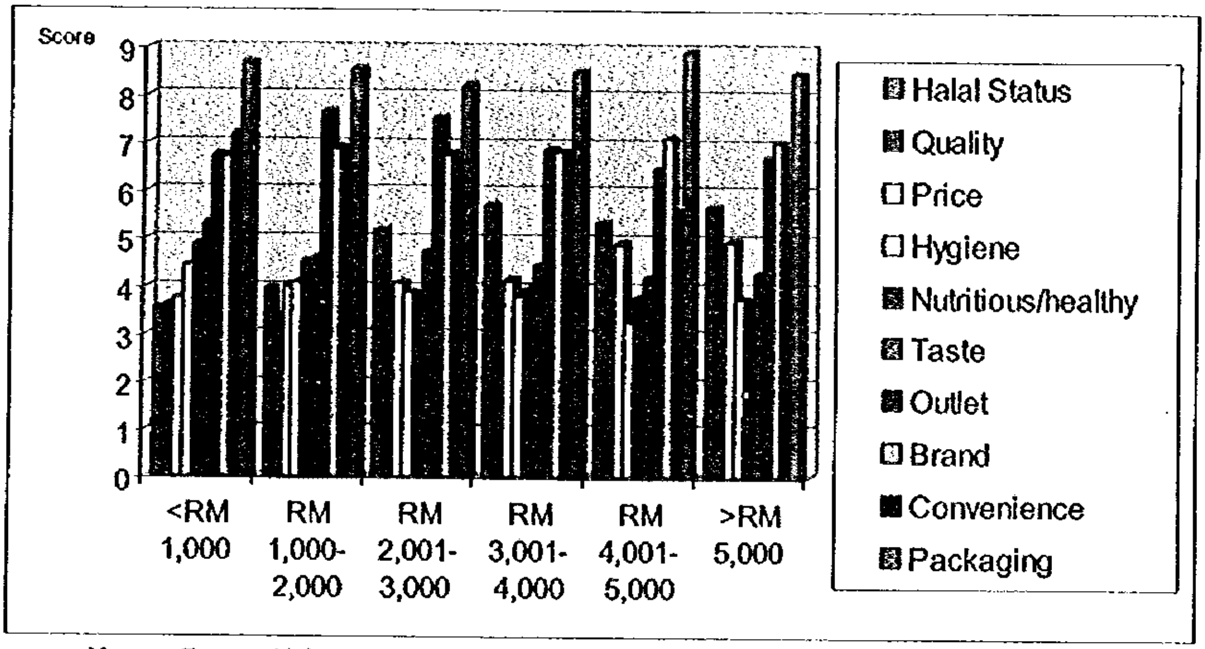
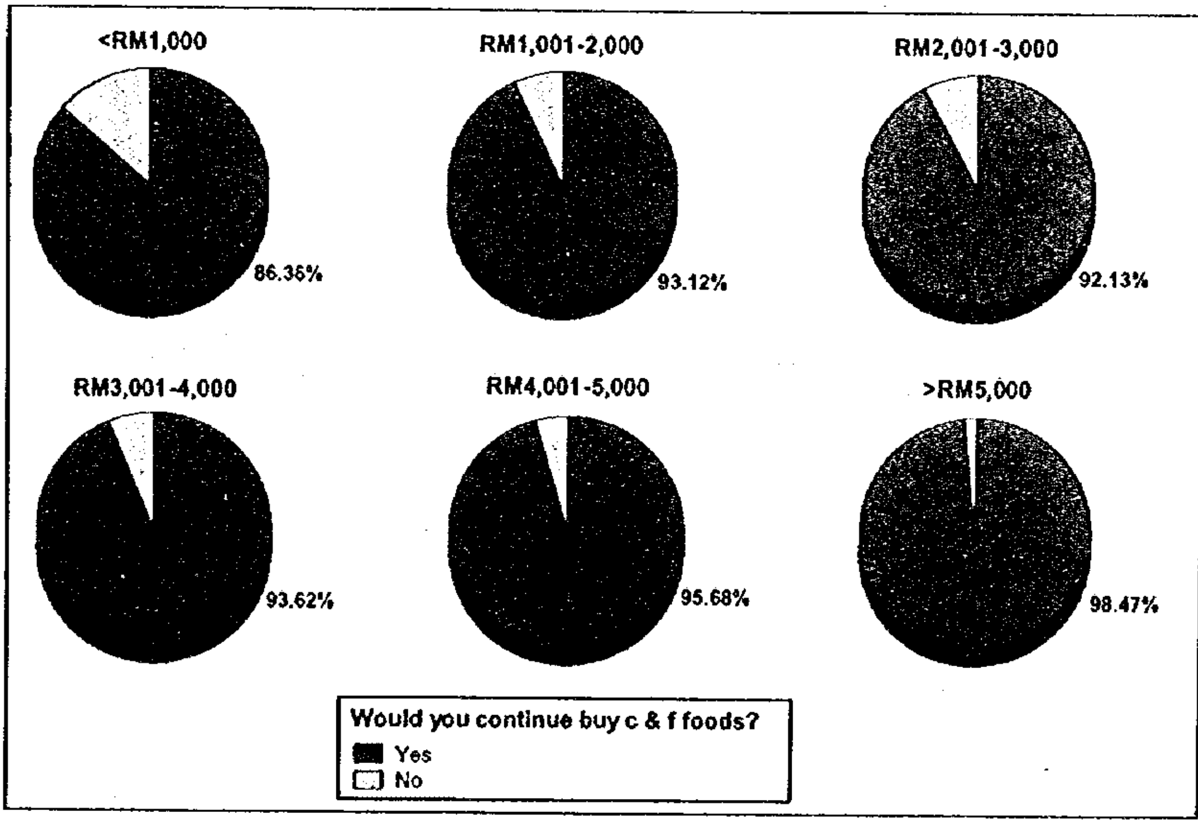


Chart 3.74 Factors Influencing Purchasing of Chilled and Frozen Foods by Income



Note: Factor with lower score means higher influential power

Chart 3.75 Potential of Future Buying by Income



(vi) Price evaluation by income

The survey shows that the higher the household income, the more they will spend on chilled and frozen food. They are also more willing to pay for better quality food (see Charts 3.76 and 3.77). Upper middle and higher income groups will spend about RM100 to RM300 per month on chilled and frozen food (see Chart 3.76), whereas, the lower and middle-income group earners will spend about RM100 to RM200 per month on the same.

Chart 3.76 Monthly Spending on Chilled and Frozen Food by Income

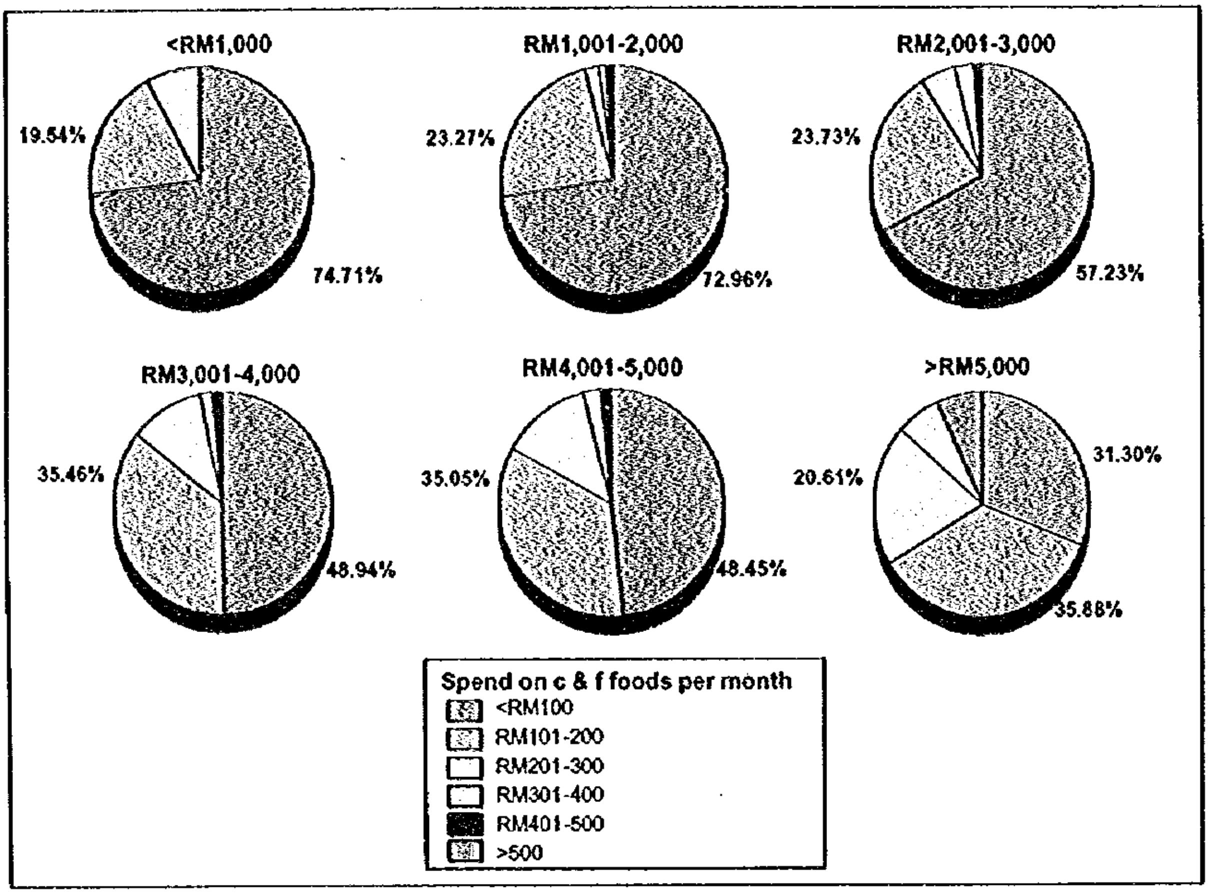
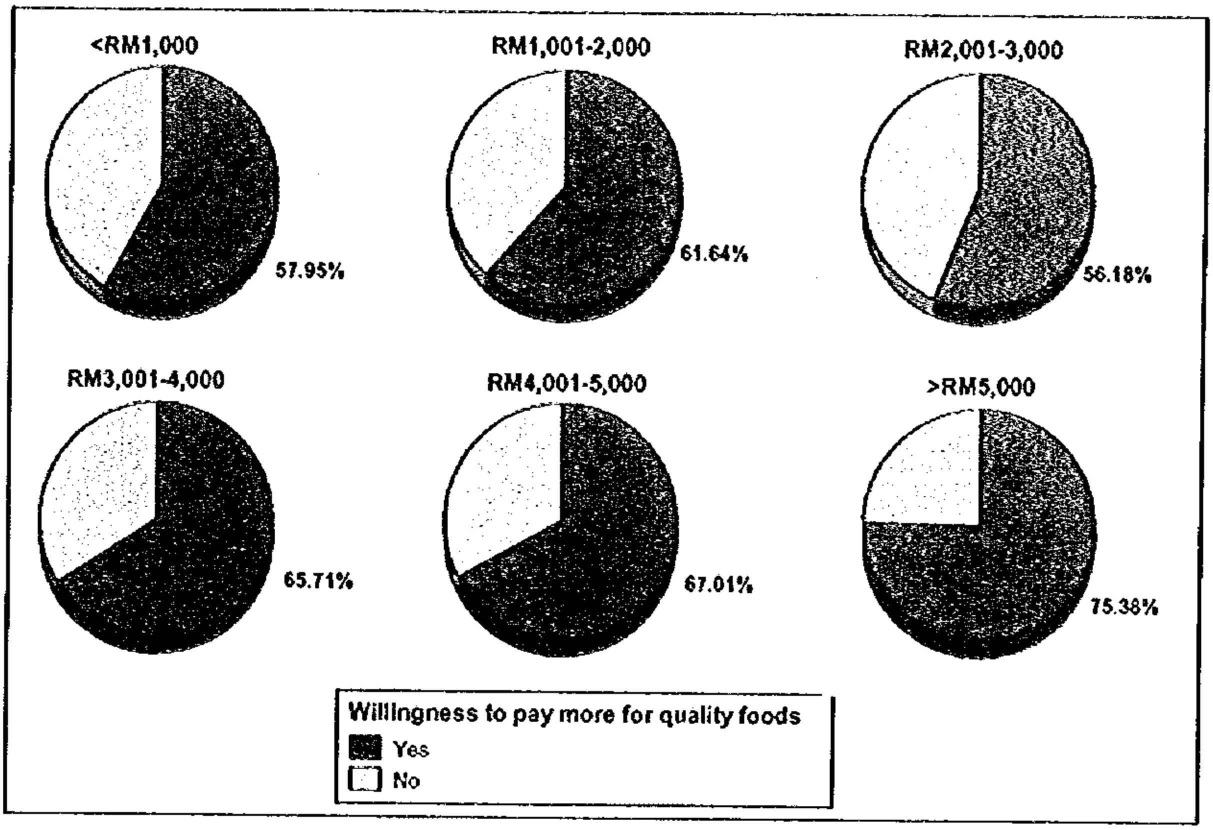


Chart 3.77 Willingness to Pay More for Quality Food by Income



(3) Influence of Education Background

The result of cross tabulation shows that education background does influence respondents in terms of their ability to differentiate chilled and frozen food, perception of chilled food, purchasing quantities, future purchasing intention, and willingness to pay more for quality foods. The education level of the respondents is clustered into primary (3.6 percent), secondary (33.3 percent), higher (33.8 percent) and tertiary (29.2 percent). Other variables such as perception of frozen food, purchasing frequency, perception of price, and monthly spending on chilled and frozen food is not significantly different among the different education groups.

As expected, the higher the education level, the better the ability to differentiate chilled and frozen foods (see Chart 3.78), though about 25 percent of highly educated respondents still do not perceive chilled foods as healthy food (see Chart 3.79).

Chart 3.78 Ability to Differentiate Chilled and Frozen Food by Education

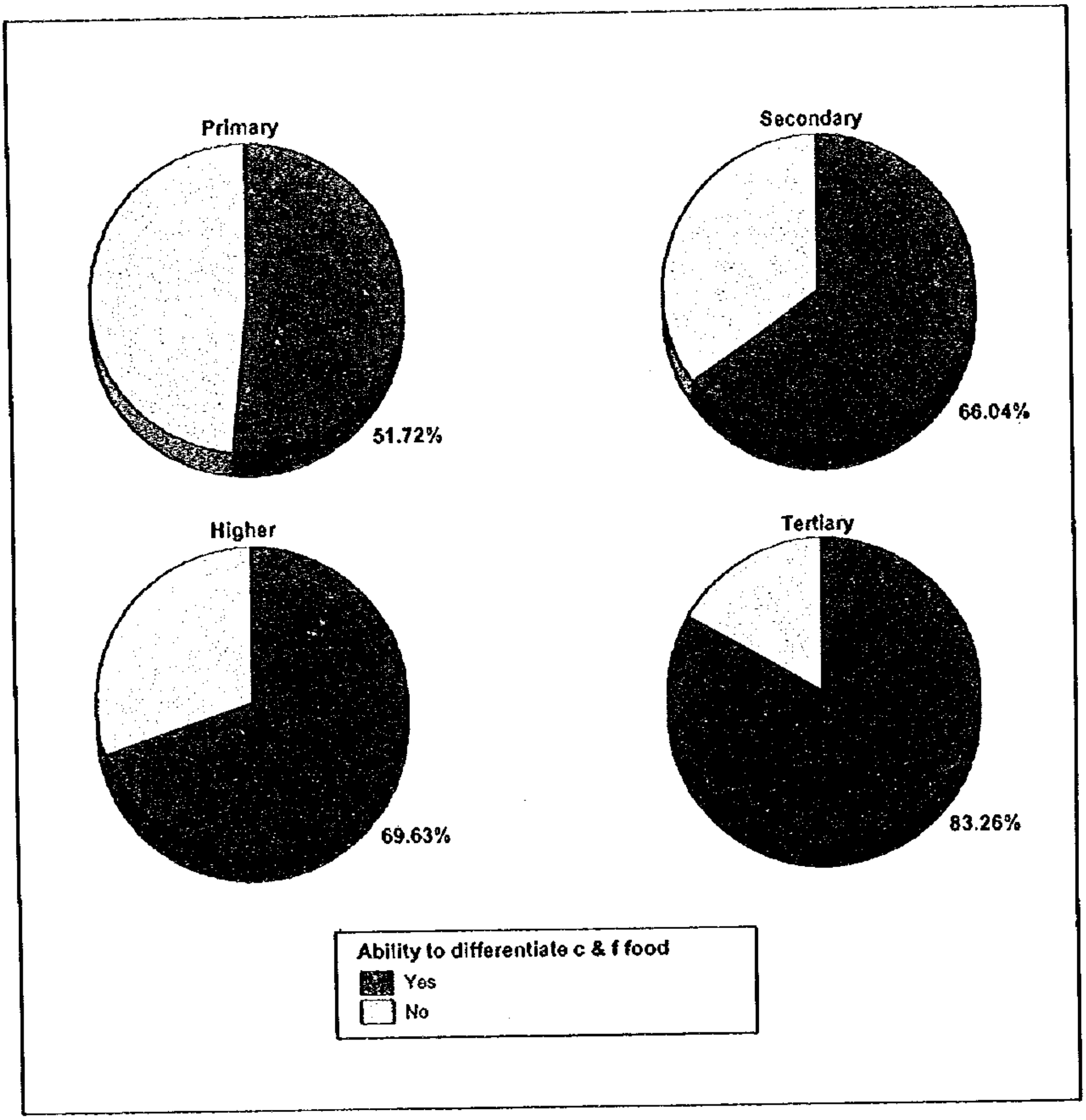
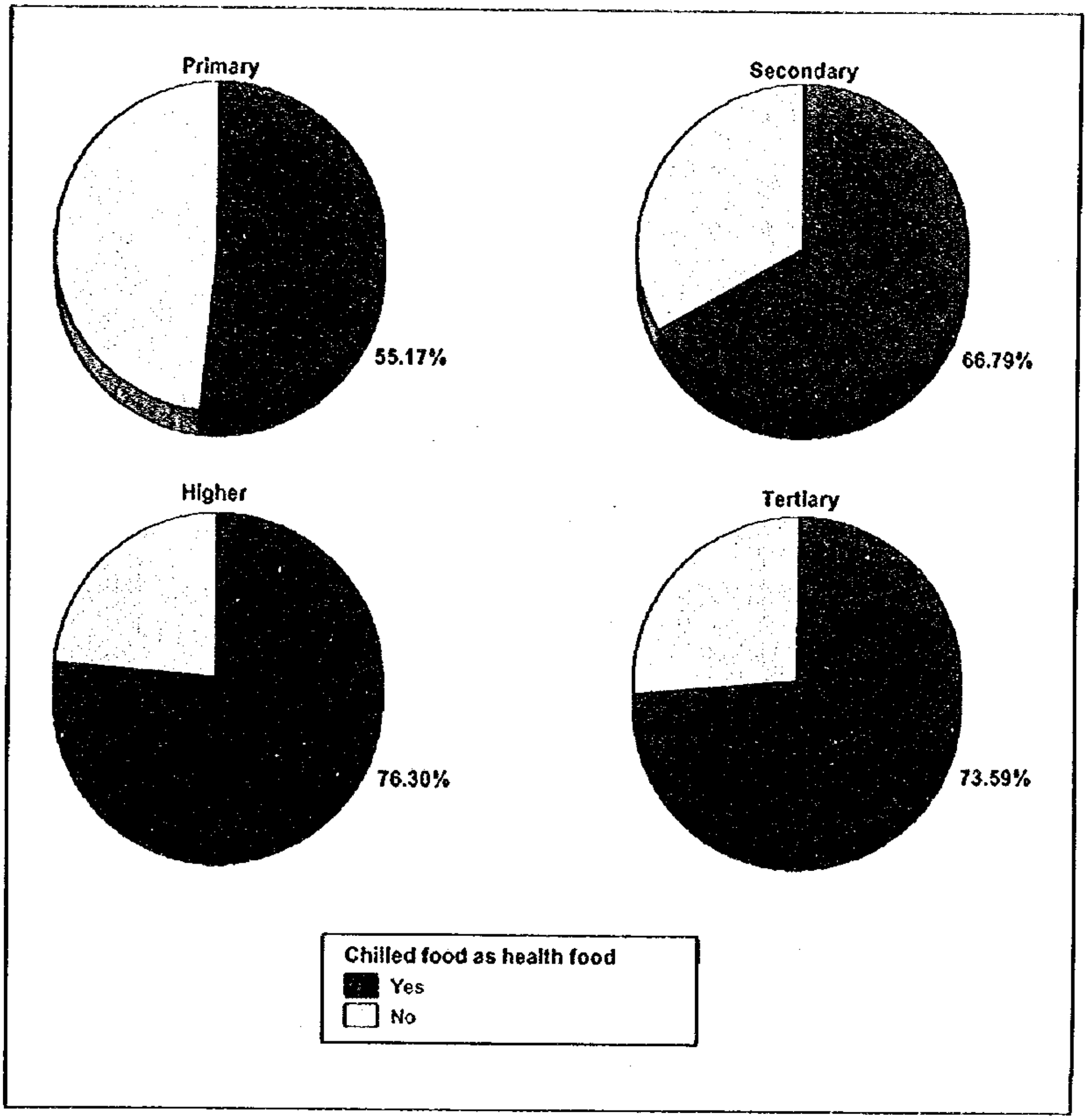


Chart 3.79 Perception of Chilled Food by Education



(i) Consumption pattern by education

With reference to Charts 3.80, 3.81 and 3.82, primary education group contributes about 2.67 percent to the total consumption of chilled and frozen food as compared to secondary education group (30.29 percent), higher education group (32.92 percent) and tertiary education group (34.12 percent). This shows that the ready market lies in the more educated groups. The higher the education level of population, the higher the market potential would be. Respondents who have secondary education background or higher seem to appreciate chilled and frozen food more.

Respondents from secondary education group consume a significant amount frozen naan/capati (45.5 percent), whereas tertiary education group consumes more of Japanese ingredients (63.3 percent), Japanese type meats (50 percent), TV dinner meal pack (48.3 percent), and marinated meats (43.1 percent). Others chilled and frozen food are about equally consumed among the middle and higher education groups (secondary level and above) (see Charts 3.80, 3.81, 3.82).

Chart 3.80 Types of Chilled and Frozen Meals and Snacks Consumed by Education

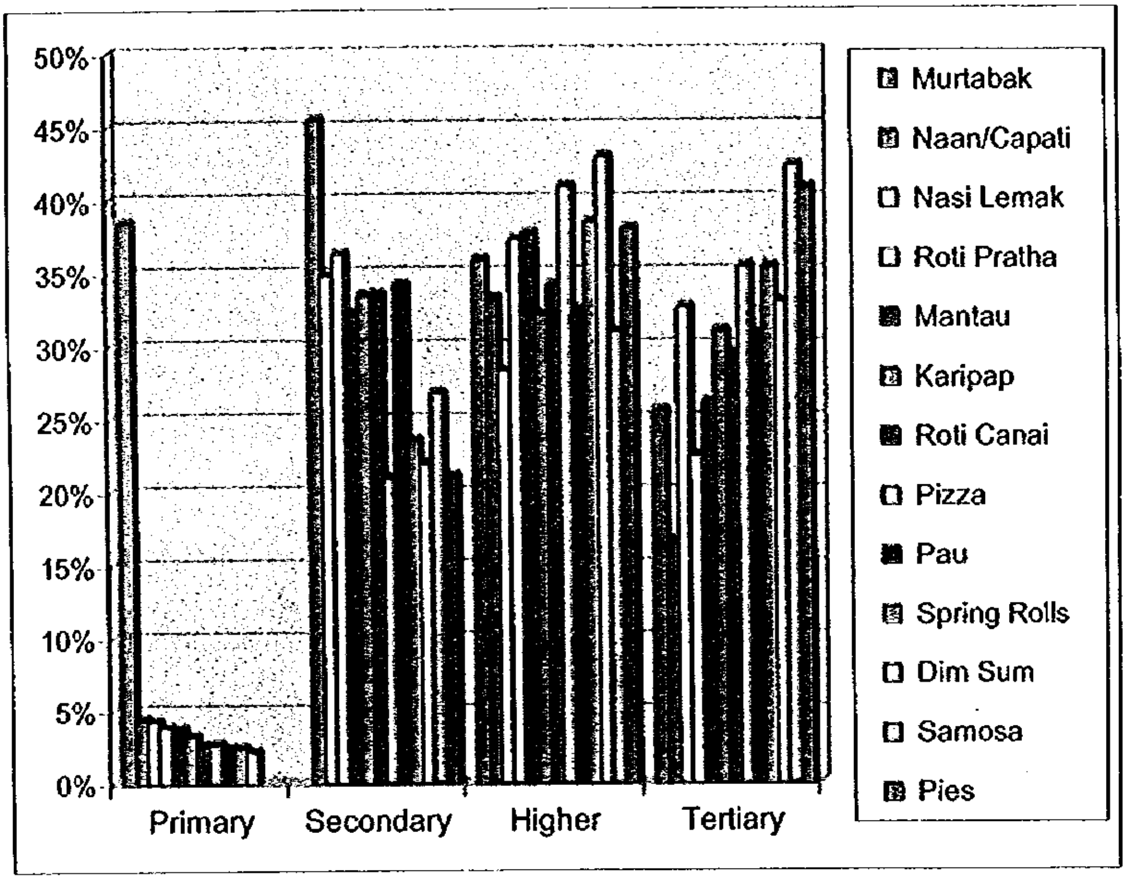


Chart 3.81 Types of Chilled and Frozen Food Ingredients Consumed by Education

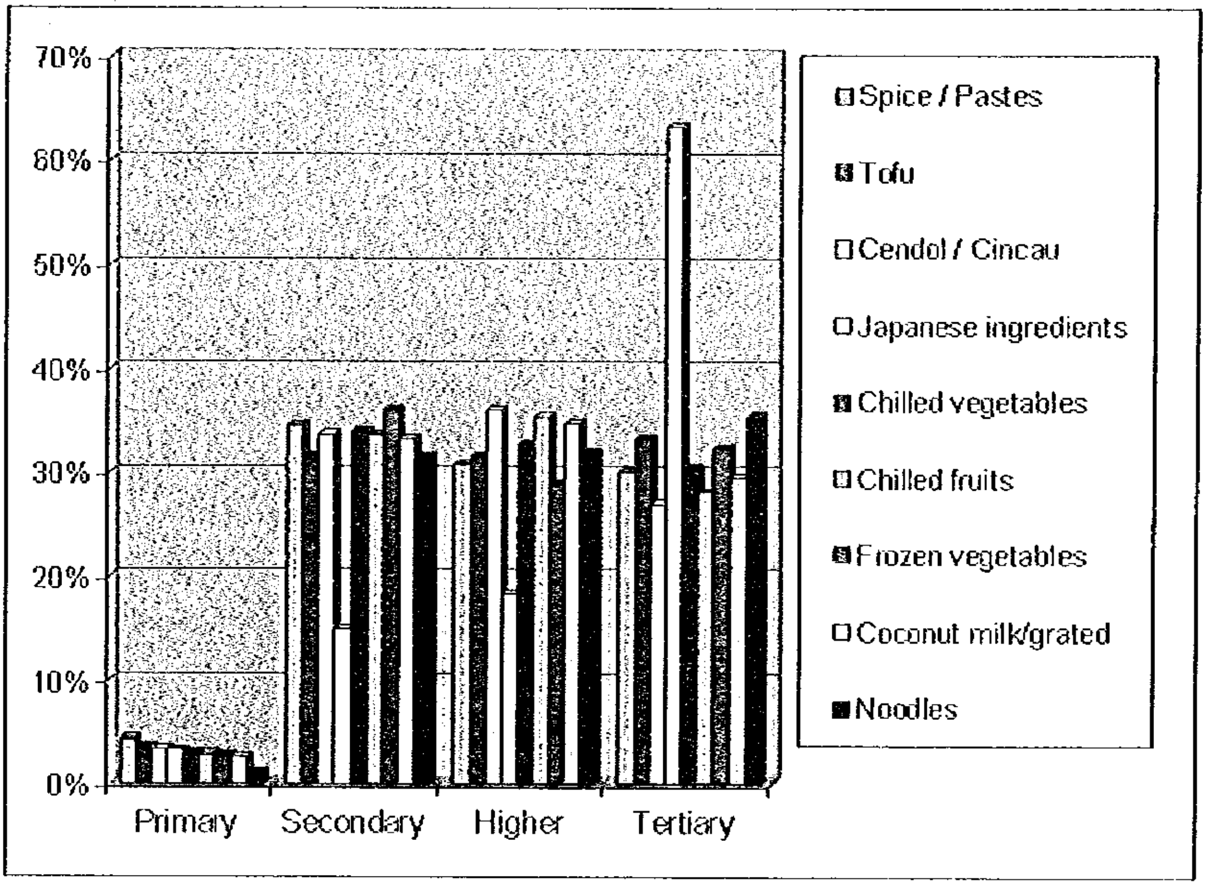
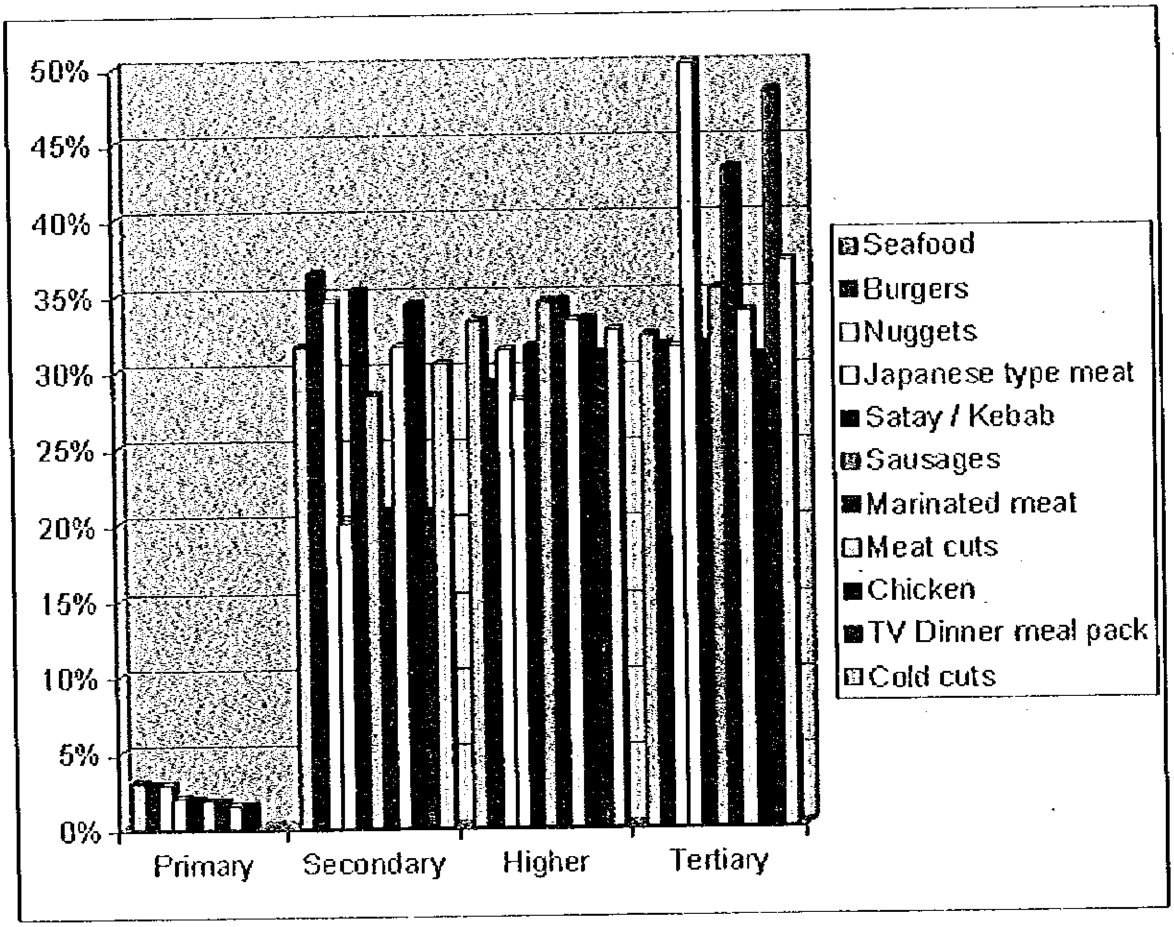


Chart 3.82 Types of Chilled and Frozen Meat and Seafood Products Consumed by Education



(ii) Purchasing pattern by education

The purchasing pattern is similar between the middle and higher educated groups. However, the purchasing pattern of lower educated group (primary education) is significantly different from these two groups. The lower educated group tends to purchase in smaller quantities (see Chart 3.83).

As expected, price is the most important factor influencing buying decision among the lower educated group. As the level of education increases, other factors such as quality, hygiene, nutritional value and taste take over (see Chart 3.84).

As shown in Chart 3.85 and 3.86, there is a positive correlation between education level and future consumption as well as appreciation of quality foods. This implies that the higher the education level of the respondents, the higher the intention of future consumption of chilled and frozen foods and the more they are willing to pay for quality foods.

Chart 3.83 Purchase Quantities by Education

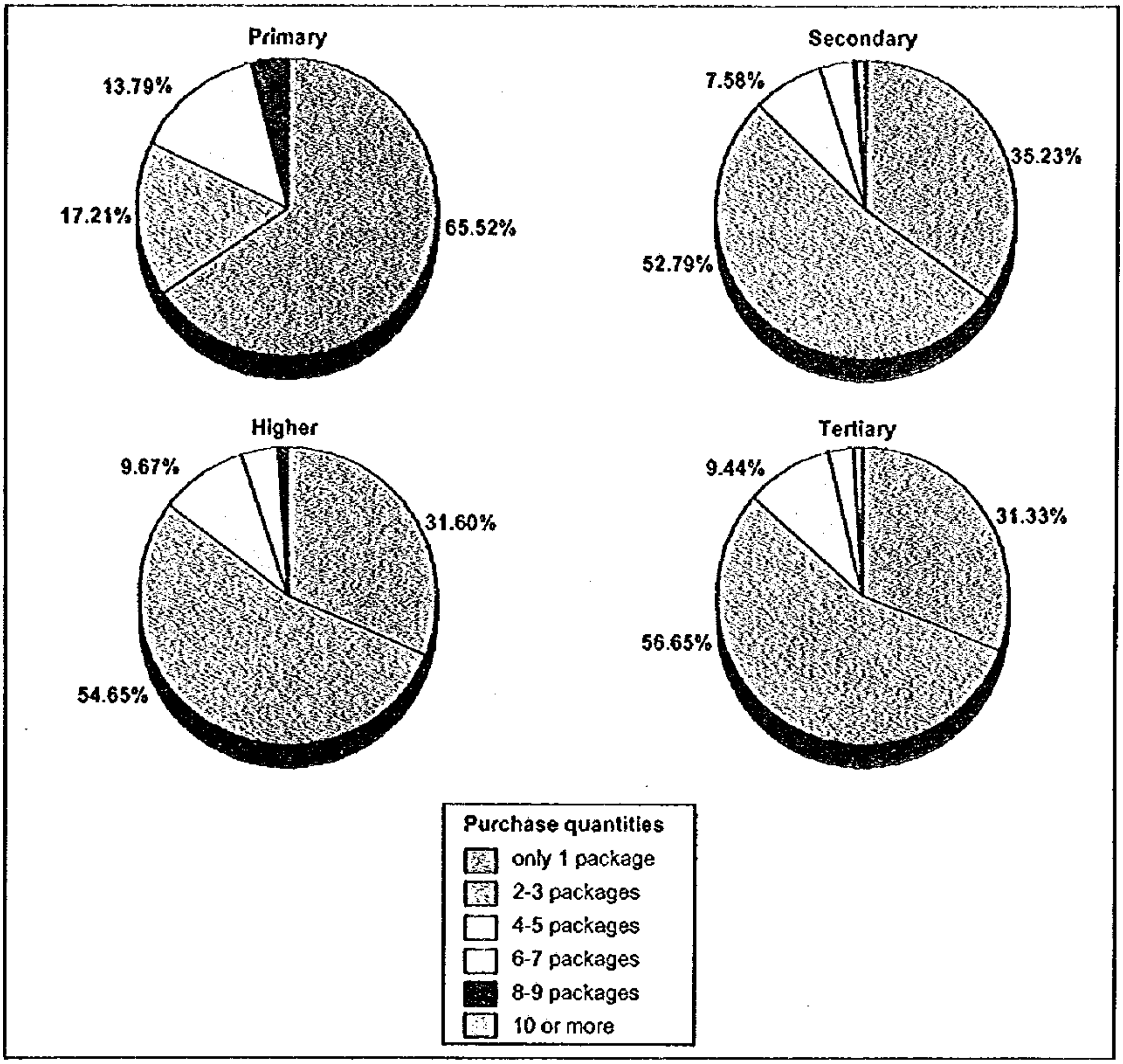
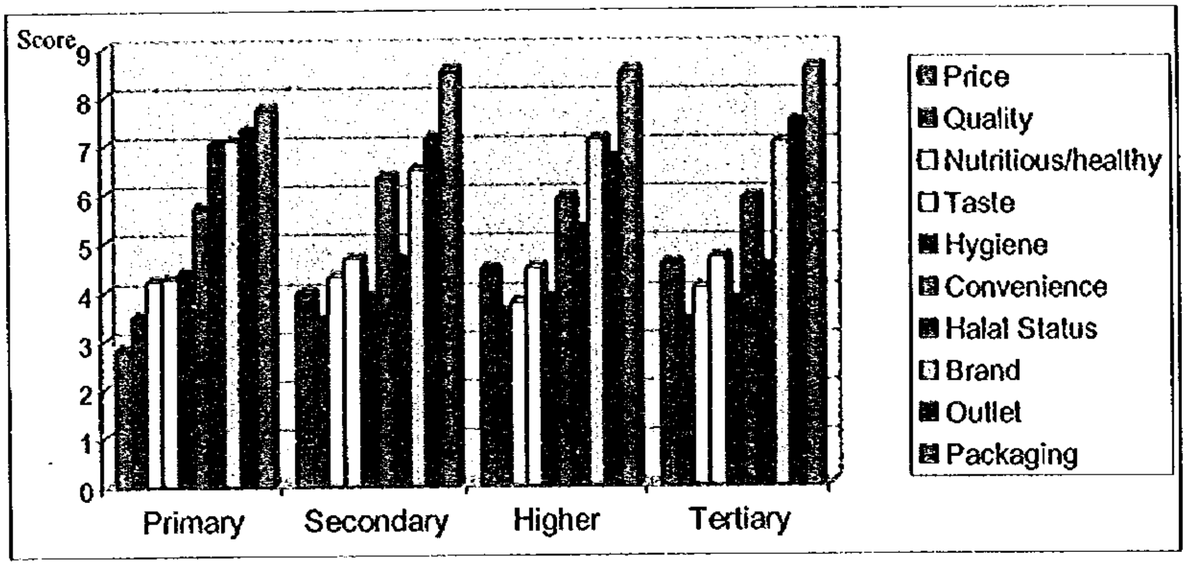


Chart 3.84 Factors Influencing Purchasing of Chilled and Frozen Foods by Education



Note: Factor with lower score means higher influential power

Chart 3.85 Potential of Future Buying by Education

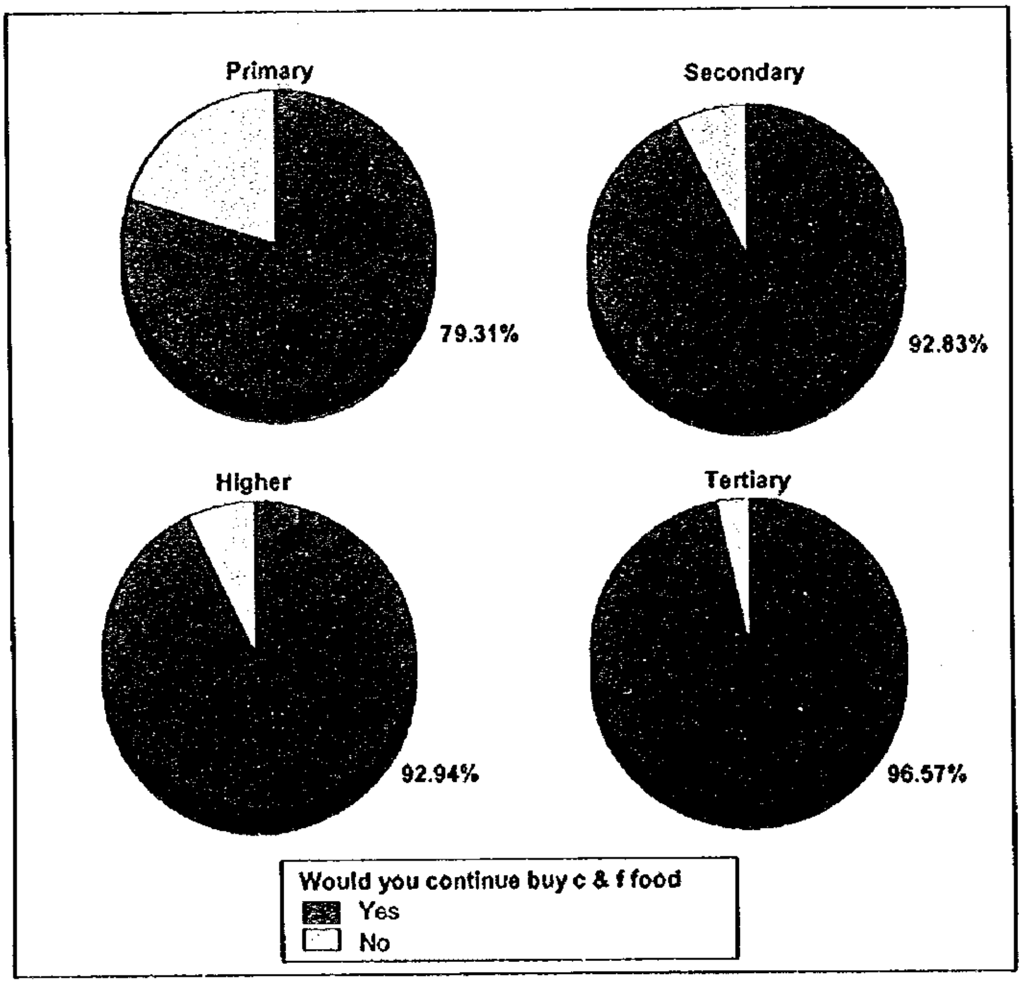
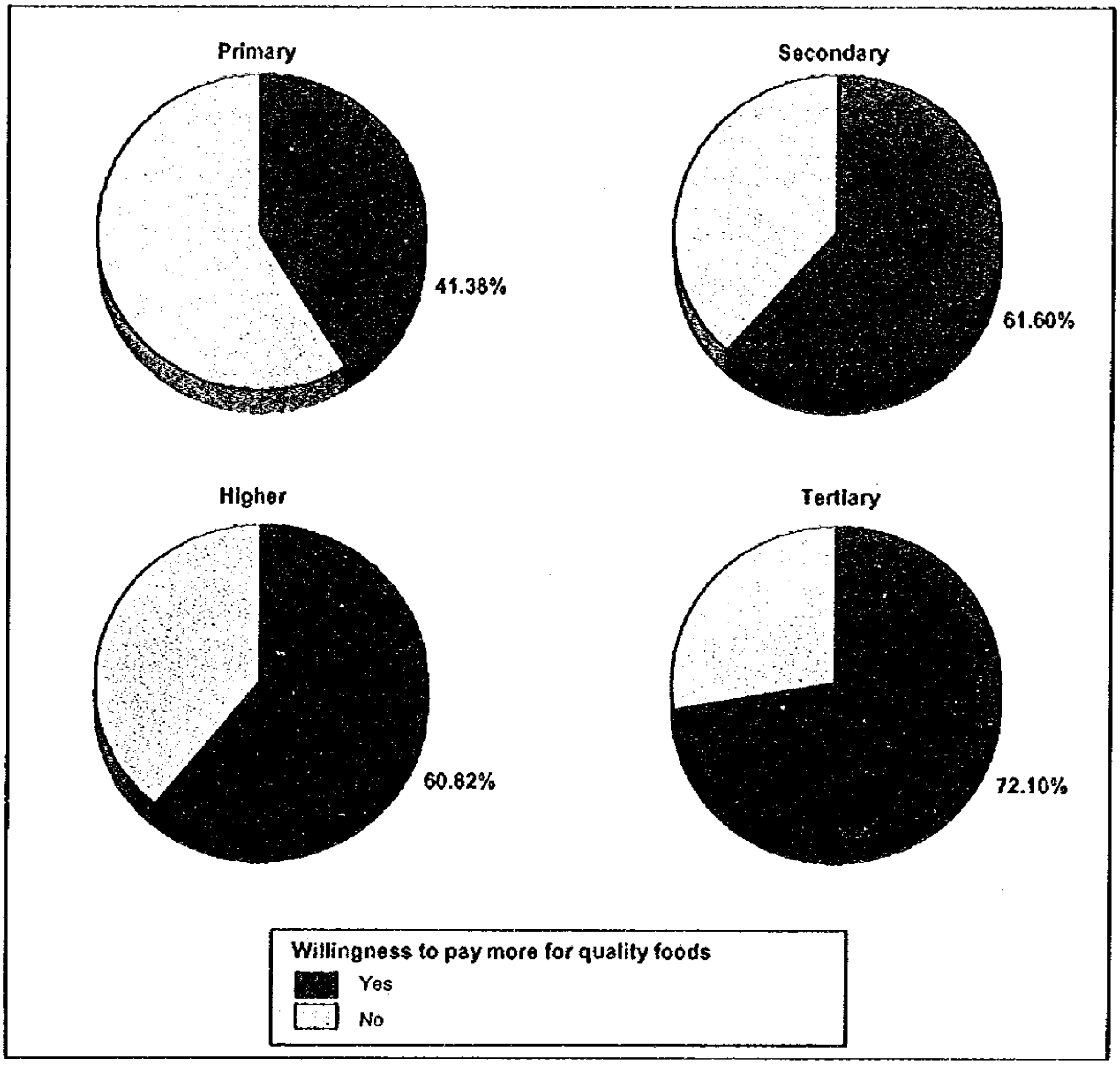


Chart 3.86 Willingness to Pay More for Quality Foods by Education



e) **Differences between Selected Areas**

Comparisons between areas have to take sample size into consideration. As stated in the research method, the respondents are mainly from Klang Valley (69.3 percent). Selected towns such as Penang (7.4 percent), Ipoh (7.6 percent), Seremban (7.5 percent), and Johor Bahru (8.3 percent) were included to provide some exploratory information about urban population in other town areas.

The findings prove that the ability to differentiate chilled and frozen food are better among respondents from Seremban, Klang Valley and Penang (see Chart 3.87). As for perception, respondents from Johor Bahru, Seremban, and Klang Valley tend to be more positive toward chilled and frozen food (see Charts 3.88 and 3.89). As far as purchasing frequency is concerned, more than 70 percent of consumers in Johor Bahru purchase food products once a week and indicated they may spend more on chilled and frozen food (see Chart 3.90 and Chart 3.92). In terms of price, most of the respondents from Ipoh, Penang and Klang Valley agree the prices are reasonable (see Chart 3.91). Respondents in Johor Bahru, Penang and Ipoh also seemed to be more willing to pay more for better quality food (see Chart 3.93).

Chart 3.87 Ability to Differentiate Chilled and Frozen Food by Areas

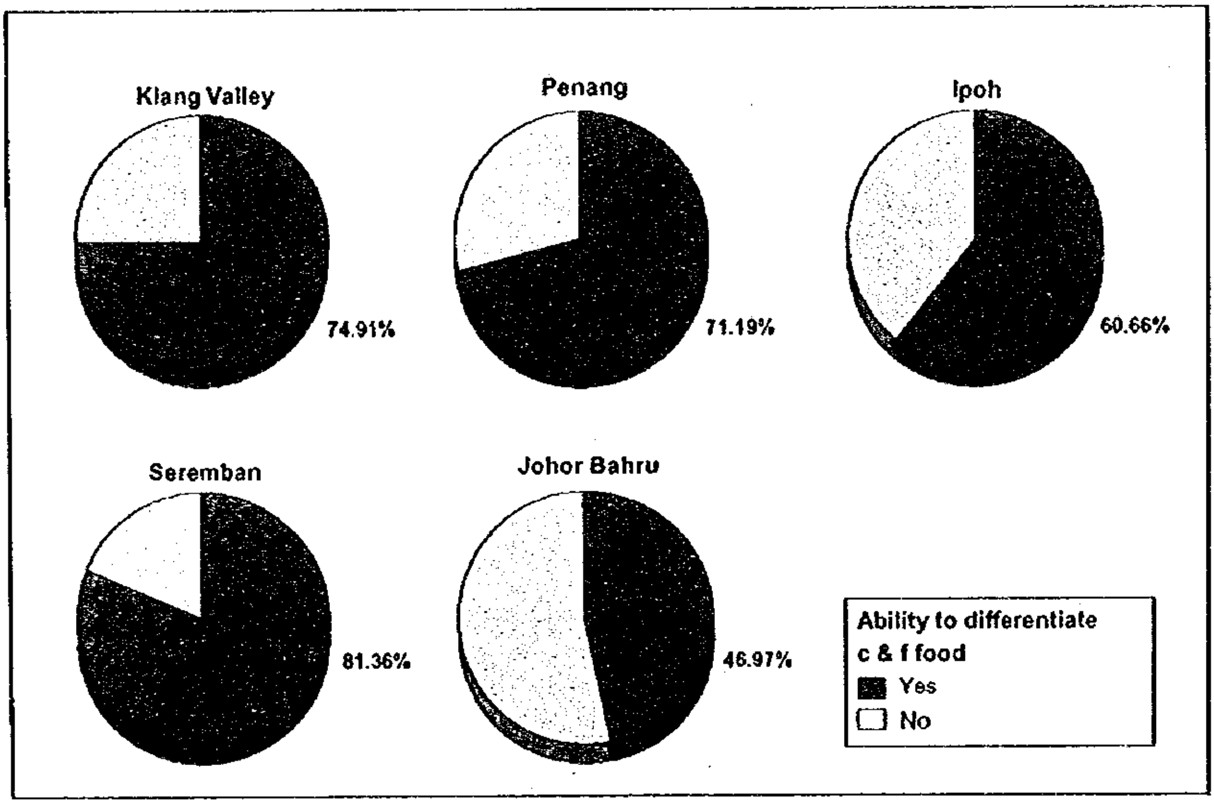


Chart 3.88 Perception of Chilled Food by Areas

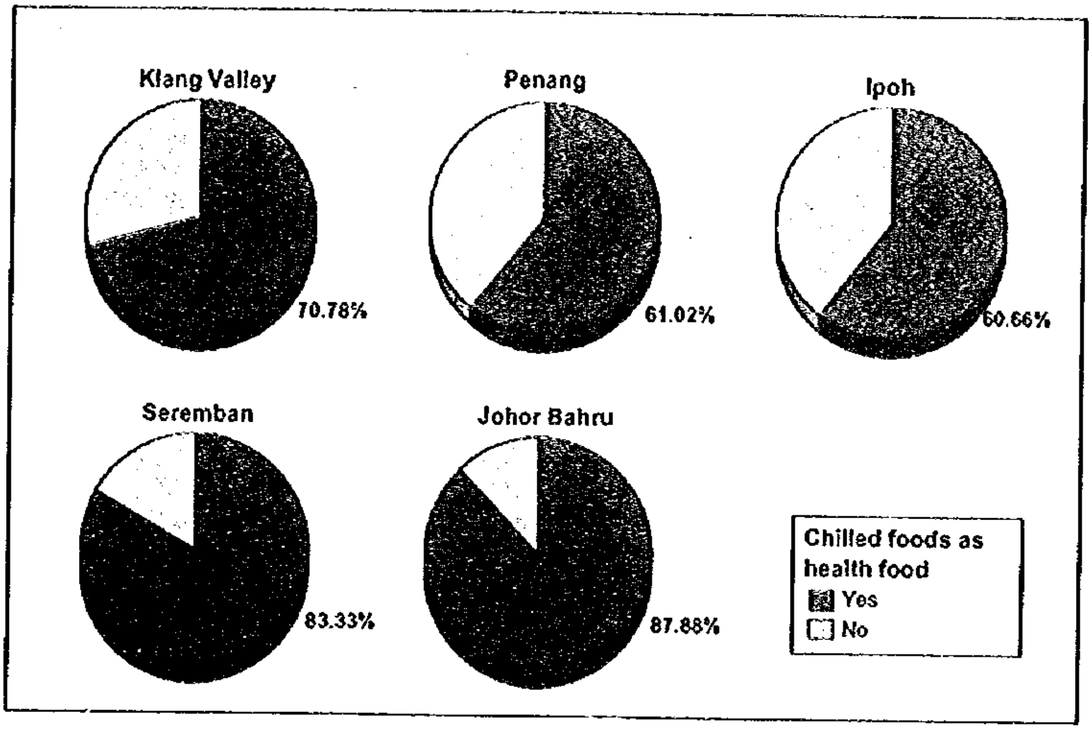


Chart 3.89 Perception of Frozen Food by Areas

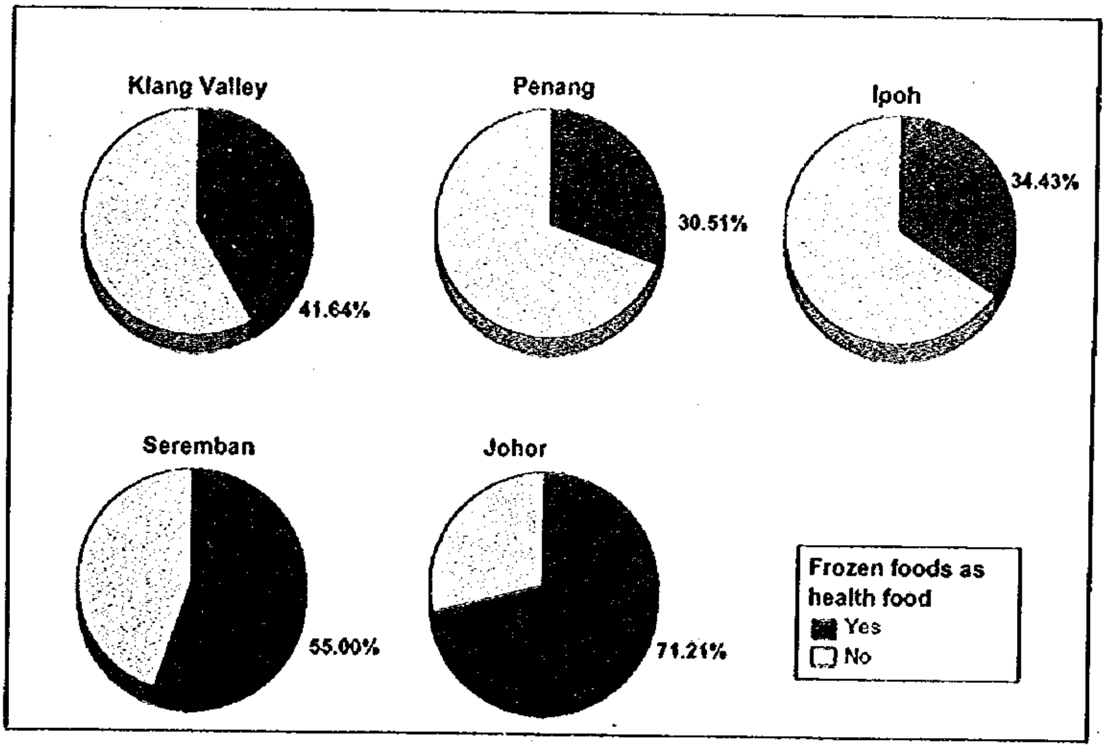


Chart 3.90 Purchase Frequency by Areas

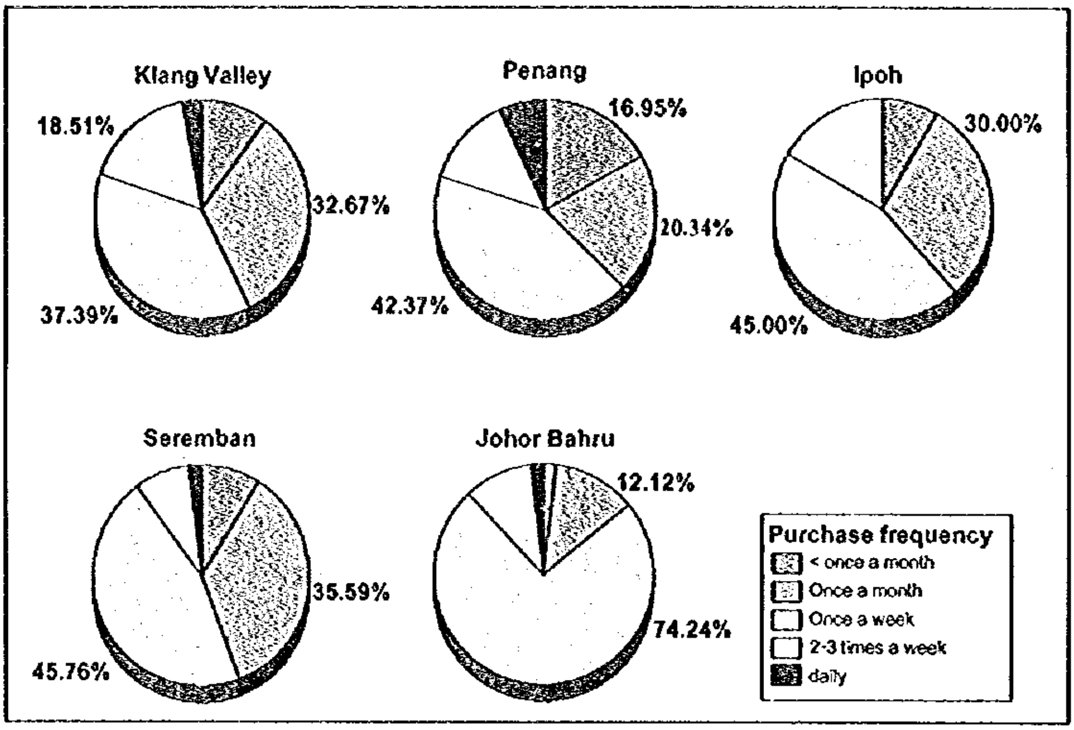


Chart 3.91 Evaluation of Price by Areas

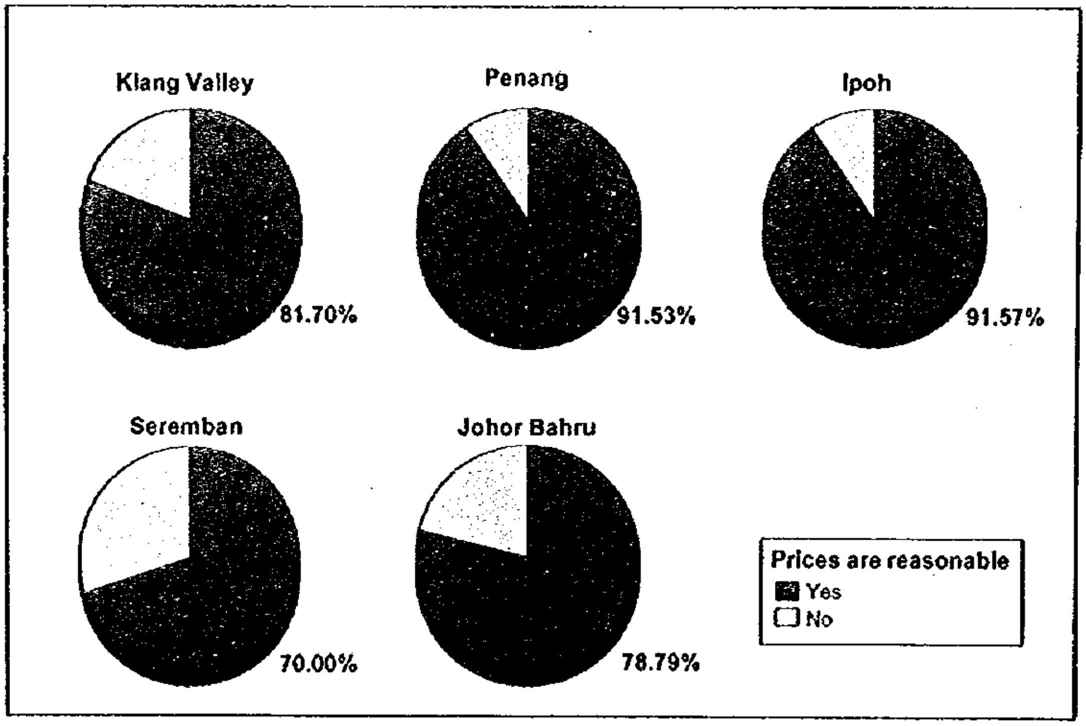


Chart 3.92 Monthly Spending on Chilled and Frozen Food by Areas

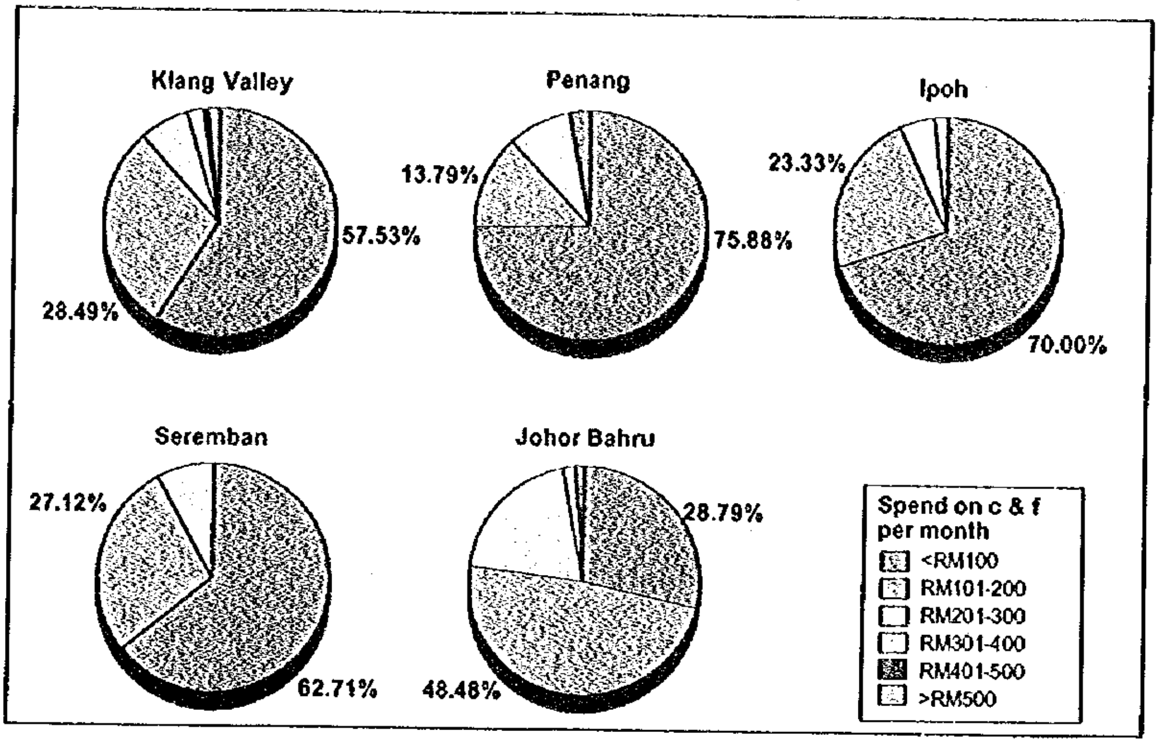
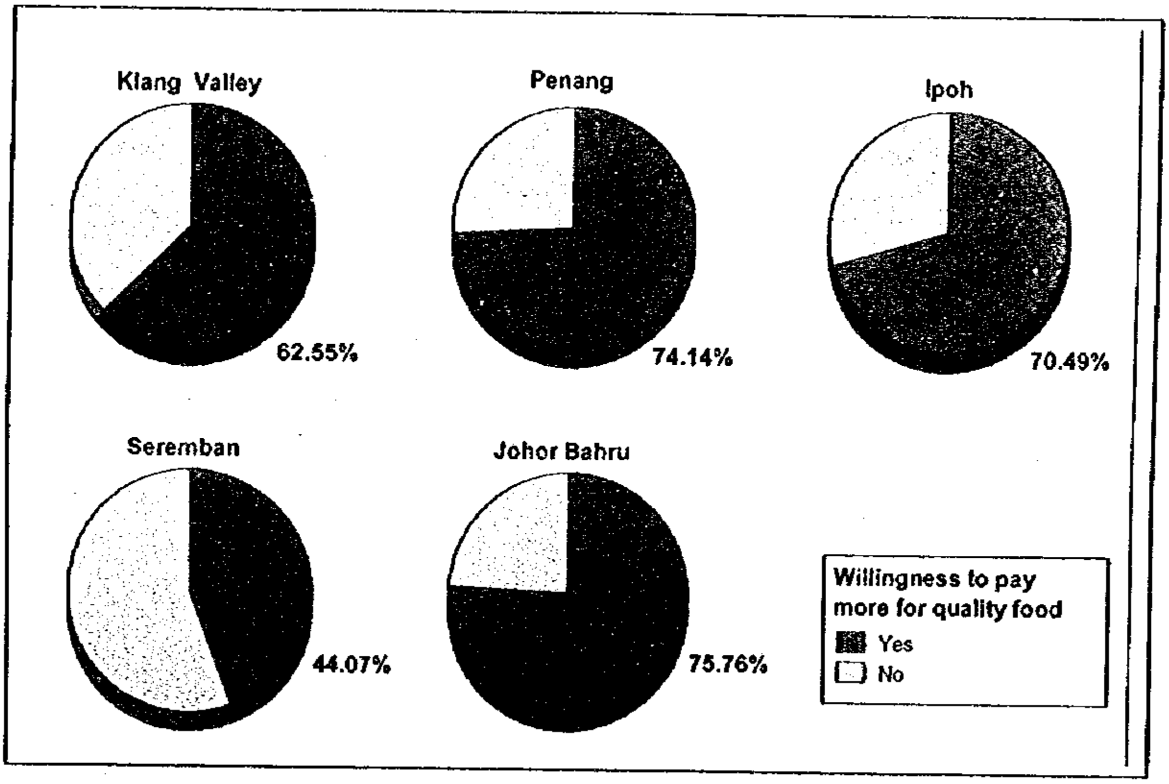


Chart 3.93 Willingness to Pay More for Quality Food by Areas



3.4.3 Conclusion

The following conclusions could be drawn from the consumer survey:

- The consumer survey indicates that respondents generally, are still obscure about the quality and nutritional value of chilled and frozen food. More than half of them perceived frozen food as unhealthy.

- The market size of chilled and frozen products such as *roti canai*, pizzas, curry puffs, *pau*, spring rolls, chilled fruits and vegetables, nuggets, burgers, chicken, sausages, and seafood are ready to expand their market size. Other food such as chilled *nasi lemak*, *naan/capati*, *samosa*, pies, *murtabak*, Japanese ingredients, TV dinner meal packs, Japanese type meats, *satay/kebab*, and marinated meats still require aggressive promotions to gain a more significant market acceptance.

- With the rapid growth of our economy, urbanisation and higher education level, consumers appear to be going for higher quality, tastier and better nutrition food. Price is not the most significant factor as compared to other criteria mentioned, such as quality. This will be a great opportunity for chilled and frozen food product to penetrate the local market. In fact, convenience food is much appreciated among consumers, as they prefer to spend less time for cooking.

- In order to promote the growth of chilled and frozen food, more effort should be made to educate consumers on the benefits and quality of chilled and frozen food.

- In the Asian market, the demand for different level of value-added products is consistently related to the different level of income groups. Products focused on the mass market, particularly are of low-added value and have the widest appeal. There will also be a demand for niche products from higher income consumers.

- In advanced countries, quality parameters such as nutrition, flavour, degree of freshness, and even product endorsements are important features.

- In the "value-added" or further processing food market, products that will clearly lead the way are products that allow people to get out of the kitchen and yet enjoy a healthy, natural, and quality lifestyle where food is not just about convenience but to be relished as well.