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# Behavioural Risk Factor Survey (April 2008)

## **Main Report**

Commissioned by



## Surveillance and Epidemiology Branch Centre for Health Protection Department of Health

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## **Executive Summary**

## Introduction

The Social Sciences Research Centre of the University of Hong Kong (SSRC) was commissioned by the Department of Health in April 2008 to conduct a survey on behavioural risk factors. This survey aimed to detect changes in health risk and behaviour as well as to collect further information on the health related behavioural issues among the Hong Kong population. This will provide information to facilitate the planning, implementation and evaluation of health promotion programmes on the prevention of diseases related to lifestyle and behaviour.

The survey covered the following 13 areas:

- Weight status and waist circumference
- Weight control
- Pattern of physical activity
- Pattern of leisure-time activities
- Prevalence of adequate / inadequate juice, fruit and vegetable consumption
- Pattern of alcohol consumption
- Smoking pattern
- Sleeping habits
- Cervical screening (for female respondents only)
- Use of antibiotics
- Sunburn
- General health status
- Demographic information: gender, age, education, marital status, occupation, monthly personal income, monthly household income, household size and type of living quarters.

## **Research Methodology**

This survey was conducted by using Computer Assisted Telephone Interview (CATI). The sample was drawn randomly from a list of telephone numbers, which included unlisted and new numbers. The target respondents were Cantonese, Putonghua or English speaking residents in Hong Kong (excluding domestic helpers) aged 18-64. A bilingual (Chinese and English) questionnaire with 78 questions was used to collect data. Fieldwork took place between the  $21^{st}$  April and  $31^{st}$  May 2008. A sample size of 2 100 successful interviews was achieved. The contact rate was 40.2% and the overall response rate was 64.8%. The width of a 95% confidence interval was at most +/- 2.1%. Weighting was applied based on age and gender in order to make our findings more representative, using the Hong Kong population data compiled by the Census and Statistics Department for end-2007 as reference.

Statistical tests were applied to investigate if there is any significant association between demographics and the response variables. Only the statistically significant findings at the 5% level (2-tailed) are presented in the report.

## Key Findings of the Survey

#### Weight status and control

Using the World Health Organization (WHO)'s standard Asian classification of weight status, slightly less than half of the respondents (48.9%) were classified as "normal", 23.2% of the respondents were classified as "obese" and 17.9% were regarded as "overweight", while the remaining (9.9%) were classified as "underweight".

Only 16.4% of respondents claimed that they had a weight difference of more than 10 pounds when compared with one year ago. Among these respondents, 64.6% claimed that they had a weight increase.

Regarding respondents' self perceived current weight status, close to half (49.4%) of the respondents perceived themselves as "just right". In addition, 42.4% considered themselves as "overweight" while 8.2% considered themselves as "underweight". Overall, 67.5% of the respondents perceived their weight status in a way consistent with the WHO's weight status classification for Asian, while 17.6% of the respondents overestimated and 14.9% of them underestimated their weight status. The older respondents (aged 35 years or above), those with secondary education level or below, the married or divorced/ separated/ widowed respondents, the managerial/ professional workers, clerks, and blue collar workers were more likely to view themselves as 'overweight'.

During the 12 months prior to the survey, more than three-tenths (31.6%) of the respondents had done something deliberately to control their weight, of which 55.5% of them aimed to lose weight. Among those respondents who had done something deliberately to control their weight, the most commonly used methods to control weight were "doing physical exercise" (84.0%) and "changing dietary habit" (78.3%).

## **Physical activities**

For people of all ages, sexes and bodily conditions, regular physical activity improves health. However, this survey revealed that most respondents engaged in limited physical activity. Over half of the respondents had not engaged in any moderate physical activity (55.4%) or vigorous physical activity (64.8%) for at least 10 minutes a day during the week prior to the survey. On the other hand, walking was the most common form of physical activity and 69.9% of the respondents had spent at least 10 minutes on walking everyday in the week prior to the survey. The survey also revealed that respondents had spent long hours sitting during the day, as shown by an average of 6.5 hours per day during weekdays (Monday to Friday) in the week prior to the survey.

Based on the categorical scoring of the International Physical Activity Questionnaire (IPAQ) analysis, most of the respondents' level of physical activity was classified as "moderate" (56.1%). The proportion of respondents having "high" level of physical

activity was 21.1%. Males, those with primary education or below, blue collar workers or service workers, those with household income of \$8,000 to \$13,999 and those living in public rental flats were more likely to have "high" level of physical activity than their respective counterparts.

#### Leisure-time activities

Less than two-fifths (38.7%) of the respondents reported that they exercised less than once a month in their leisure-time. On the other hand, 15.2% of respondents reported that they exercised 4 times or more a week and 33.9% exercised 1 to 3 times a week in their leisure-time. Females, divorced/ separated/ widowed respondents, blue collar workers and those with monthly household income of below \$20,000 were more likely to exercised less than once a month in leisure-time than their respective counterparts. Also, the lower the education level of the respondents, the more likely to report that they exercised less than once a month in leisure-time.

During weekdays, respondents spent 138.6 minutes per day on average on watching television, 78.1 minutes per day on surfing the internet or engaging in related activities and 84.9 minutes on other sedentary activities in their leisure-time.

During weekends, the average time spent on watching television per day was 153.2 minutes, surfing the internet or engaging in related activities was 80.7 minutes and other sedentary activities was 100.5 minutes in their leisure-time.

#### **Dietary habits**

Eating enough fruit and vegetables has many health benefits. Adequate consumption of fruit and vegetables as part of the daily diet could help prevent major non-communicable diseases (NCD) such as cardiovascular diseases and certain cancers. Eating a variety of vegetables and fruit could ensure an adequate intake of most micronutrients and dietary fibres.

Most respondents (82.0%) had eaten vegetables on a daily basis while more than half of the respondents (54.8%) had eaten fruit everyday. Regular fruit or vegetable juice consumption was found to be uncommon amongst respondents, as only 3.4% of the respondents drank fruit or vegetable juice daily.

Overall, the average daily intake of fruit and vegetables by the respondents was only 3.5 servings (excluding juice). Around one-fifth (21.2%) of the respondents had a daily average intake of 5 or more servings of fruit and vegetables per day. Females, those aged 45-64 and married or divorced/ separated/ widowed respondents were more likely to have consumed at least the recommended 5 servings of fruit and vegetables a day than their respective counterparts.

#### Pattern of alcohol consumption

More than one-third of the respondents (34.9%) were drinkers who had drunk at least one alcoholic drink during the month prior to the survey. On the whole, drinking during the month prior to the survey was more prevalent among males, aged 25–34, never married respondents, those with tertiary education level or above and managerial/ professional workers. Also, the higher the monthly household income of respondents, the more likely that they had consumed at least one alcoholic drink during the month prior to the survey.

Among the drinkers who had drunk alcohol during the month prior to the survey, 26.4% of them reported that they had engaged in binge drinking (drinking 5 or more glasses/cans of alcohol on one occasion) at least once in the month prior to the survey. Binge drinking was more common among male respondents, those aged 25-34, never married or divorced/ separated/ widowed respondents and clerks, blue collar workers or service workers.

#### **Smoking habits**

15.4% of the respondents were current smokers at the time of this survey. A relatively higher proportion of current smokers who reported smoking more than 20 cigarettes a day were found amongst male respondents, those aged 55-64, those with primary education level or below, never married respondents and blue collar workers.

#### **Sleeping habits**

Most respondents (88.8%) slept for at least six hours and close to two-fifths of the respondents (37.1%) reported that they did not get enough sleep for at least 10 days in the thirty days prior to the survey. A relatively higher proportion of those aged 45-64 and blue collar workers reported that they slept less than 6 hours per day on average. Similar proportion of respondents reported that they frequently (three or more times a week) had 'difficulty in falling asleep' (12.5%), 'intermittent awakenings or difficulty in maintaining sleep' during the night (12.0%) and 'early morning awakening and were unable to sleep again' (10.1%). In contrast, about three-tenths (29.9%) of the respondents did not experience any of these three sleeping problems during the thirty days prior to the survey.

Overall, about two-fifths of them (41.9%) considered they sleep "well" or "very well" while only 13.3% of respondents considered they sleep "poor" or "very poor". A relatively higher proportion of female respondents, those had not completed secondary education or below, divorced/ separated/ widowed respondents and those with monthly household income of below \$8,000 rated their sleeping quality as "poor / very poor".

## **Cervical screening**

Close to two-thirds (64.7%) of the female respondents reported that they had had a cervical smear before. Those aged 35-54, those with secondary education level or below, married or divorced/ separated/ widowed respondents, those with monthly household income of \$40,000 or above and those living in subsidized sale flats or private housing were more likely to have had a cervical smear than their counterparts.

Among those female respondents who had a cervical smear before, around half (50.3%) of them had their last cervical smear taken within 12 months prior to the survey and more than four-fifths (82.8%) of them reported having a cervical smear more than one time.

### Use of antibiotics

About three-tenths (31.3%) of the respondents had taken antibiotics during the 12 months prior to the survey. Among the respondents who had taken any antibiotics, the vast majority (96.1%) of them reported that the antibiotics they took last time were prescribed by doctors, while a small proportion of those respondents reported they purchased antibiotics by themselves (3.6%) or took the leftover of previously bought drugs (0.2%).

Among the respondents who took antibiotics last time prescribed by doctors, the vast majority of them followed the doctor's or pharmacist's instructions when they took antibiotics prescribed by doctors last time. Over 80% of them reported that they had been reminded by their doctors or pharmacists of the need to complete the whole course (88.9%) and the number of days of the treatment regimen (82.0%). However, less than one-third (32.5%) of the respondents reported that they had been reminded by their doctors or pharmacists of the increased risk of emergence of antibiotic resistant bacteria if they take antibiotics improperly.

#### Sunburn

About one-tenth (9.8%) of the respondents got sunburn in the 12 months prior to the survey, of which more than half (55.1%) of them reported that they got sunburn because they participated in land sports and other related activities, followed by participation in water sports and other related activities (48.6%) and outdoor work under the sun (26.4%).

#### **General health status**

More than two-fifths (44.2%) of the respondents rated their health status "good", "very good" or "excellent", while 6.6% considered their health status was "poor".

### Recommendations

Some recommendations based on the survey findings are suggested below:

- 1. The survey results showed 67.5% of the respondents perceived their weight status in a way consistent with the WHO's weight status classification for Asian, while 17.6% of the respondents overestimated and 14.9% of them underestimated their weight status. Furthermore, less than half of the respondents spent at least one day a week on vigorous (35.2%) or moderate (44.6%) physical activities. Also, only about one-fifth of respondents reported that they had a daily average intake of five or more servings of fruit and vegetables per week. Therefore, the importance of maintaining normal body weight, engaging in regular physical activity and healthy eating needs to be further emphasized. Health promotion programmes should focus on educating the community about:
  - i. proper assessment of body weight status, such as using the Body Mass Index (BMI);
  - ii. proper methods of maintaining normal body weight, such as increased physical activity and having healthy diets;
  - iii. the benefits of regular physical activity, such as reducing the risk of developing various chronic diseases; and
  - iv. the benefits of having at least 5 servings of fruit and vegetables a day.
- 2. From this survey, about one-tenth of respondents reported that they frequently had 'difficulty in falling asleep' (12.5%), 'intermittent awakenings or difficulty in maintaining sleep' during the night (12.0%) and 'early morning awakening and were unable to sleep again' (10.1%). As having good quality sleep is vital to mental and physical well-being, health care workers could educate the public some tips for a good night sleep.
- 3. Among the respondents who took antibiotics last time prescribed by doctors, about two-thirds of them reported that they had not been reminded by their doctors or pharmacists of the increased risk of emergence of antibiotic resistant bacteria if they take antibiotics improperly. While the Government could promote the proper use of antibiotics, doctors and pharmacists should remind patients taking the antibiotics exactly as prescribed including the risk of emergence of antibiotic resistant bacteria associated with improper use of antibiotics.
- 4. Health is not only related to personal characteristics such as gender, age, education level, marital status, occupation, income level and type of living quarters, but also determined by certain socio-economic and environmental factors. Therefore, such underlying factors should be taken into account when planning health promotion programmes to ensure overall health in the community.

## Chapter 1 Introduction

The Social Sciences Research Centre of the University of Hong Kong (SSRC) was commissioned by the Department of Health in April 2008 to conduct a survey on behavioural risk factors.

This survey aimed to detect changes in health risk and behaviour as well as to collect further information on the health related behavioural issues among the Hong Kong population. This will provide information to facilitate the planning, implementation and evaluation of health promotion programmes on the prevention of diseases related to lifestyle and behaviour.

The scope of this survey encompasses the following areas:

- Weight status and waist circumference
- Weight control
- Pattern of physical activity
- Pattern of leisure-time activities
- Prevalence of adequate/inadequate juice, fruit and vegetable consumption
- Pattern of alcohol consumption
- Smoking pattern
- Sleeping habits
- Cervical screening (for female respondents only)
- Use of antibiotics
- Sunburn
- General health status
- Demographic information: gender, age, education, marital status, occupation, monthly personal income, monthly household income, household size and type of living quarters

## Chapter 2 Research Methodology

#### 2.1 Sampling method

Telephone interview by using Computer Assisted Telephone Interview (CATI) was adopted. A random sample was drawn from 41 000 residential telephone numbers. These numbers were generated from the 2007 English residential telephone directory<sup>1</sup> by dropping the last digit, removing duplicates, adding all 10 possible final digits, randomizing order, and selecting as needed. This method provides an equal probability sample that covers unlisted and new numbers but excludes large businesses that used blocks of at least 10 numbers<sup>2</sup>.

Where more than one eligible person resided in a household and more than one was present at the time of the telephone contact, the "Next Birthday" rule was applied to each successful contacted residential unit, i.e., the household member who had his/her birthday the soonest was selected. This would reduce the over-representation of housewives in the sample.

#### 2.2 Target respondents

Eligible respondents were residents in different districts of Hong Kong aged between 18 and 64 who spoke Cantonese, Putonghua or English. Domestic helpers were excluded.

#### 2.3 Questionnaire design

A bilingual (Chinese and English) questionnaire with 52 pre-coded questions and 26 open-ended questions (with 11 demographic questions) was designed to cover all the areas as outlined in Chapter 1.

A copy of the questionnaire is enclosed in Annex A.

#### 2.4 Pilot study

A pilot study comprising 56 successfully completed interviews was conducted from 7<sup>th</sup> to 9<sup>th</sup> April 2008 to test the length, logic, wording and format of the questionnaire. The data collected from these pilot interviews were not counted as part of the survey report.

<sup>&</sup>lt;sup>1</sup> The Chinese residential telephone directory was not used because the total number of telephone contacts is less than the English residential telephone directory. This process has a lower response rate than pure directory sampling which does not cover unlisted and new numbers.

<sup>&</sup>lt;sup>2</sup> This selection process includes some business and fax numbers so that the contact rate is lower than a pure directory sample.

#### 2.5 Fieldwork

Fieldwork took place between 21<sup>st</sup> April and 31<sup>st</sup> May 2008. Because of the briefing, telephone calls were made between 9:00 p.m. and 10:30 p.m. on 21<sup>st</sup> April. From 22<sup>nd</sup> April to 25<sup>th</sup> April, 28<sup>th</sup> April to 1<sup>st</sup> May, 5<sup>th</sup> May to 9<sup>th</sup> May, 13<sup>th</sup> May to 16<sup>th</sup> May, 19<sup>th</sup> May to 23<sup>rd</sup> May and 26<sup>th</sup> May to 30<sup>th</sup> May, telephone calls were made between 4:30 p.m. and 10:30 p.m. For 10<sup>th</sup> May, 17<sup>th</sup> May, 24<sup>th</sup> May and 31<sup>st</sup> May, telephone calls were made between 2:00 p.m. and 6:00 p.m.

#### 2.6 Response rate

A total of 38 629 telephone numbers were attempted. The number of successful interviews was 2 100. Refusal and dropout cases amounted to 1 142. All "not available" (9 671), and "no answer" (8 557) cases were attempted three times before being classified as non-contact cases. The contact rate was  $40.2\%^3$  and the overall response rate was  $64.8\%^4$ . Table 2.6 details the breakdown of telephone contact status.

Туре	Final status of contacts <sup>5</sup>	Number of cases
1	Success	2 100
2	Drop-out	175
3	Refusal	967
4	Language problems	22
5	Not eligible	677
6	Business lines	1 898
7	Not available	9 671
8	Busy tone	871
9	No answer	8 557
10	Fax/data lines	1 392
11	Invalid	12 299
TOTA	L	38 629

Table 2.6: Final status of telephone numbers attempted

<sup>&</sup>lt;sup>3</sup> Contact rate = the number of answered telephone calls divided by the total number of calls attempted, i.e. from Table 2.6, Sum of (types 1 to 7) / Total =  $(2\ 100+175+967+22+677+1\ 898+9\ 671)/38\ 629 = 40.2\%$ .

<sup>&</sup>lt;sup>4</sup> Response rate = the number of successful interviews divided by the sum of the numbers of successful interviews, drop-out cases and refusal cases, i.e. from Table 2.6, (type 1) / (type 1 + type 2 + type 3) =  $2 \ 100/(2 \ 100+175+967)=64.8\%$ .

<sup>&</sup>lt;sup>5</sup> "Drop-out": eligible respondents who initially accepted the interview but failed to complete the interview due to some reasons. "Refusal": eligible respondents who refused the interview. "Language problems": eligible respondents who were not able to speak clearly in any of our 3 languages. "Not available": eligible respondents who were busy at the time of telephone contact. "Invalid": not a valid telephone line (because we used a random method to generate telephone numbers, see section 2.1).

#### 2.7 Sample size and sample error

A sample size of 2 100 successful interviews was achieved (the target sample size was 2 000). The width of a 95% confidence interval is at most  $\pm - 2.1\%^6$ . This means that we can have 95% confidence that the true population proportion falls within the sample proportion plus or minus 2.1%. For example, 16.5% of the respondents in the sample claimed that their weights differed by more than 10 pounds when compared with one year ago, and then the conservative 95% confidence interval for the true percentage of the population stating a weight difference for the above question falls between 16.5%  $\pm$  2.1%, i.e. 14.4% and 18.6%.

#### 2.8 Quality control

All SSRC interviewers were well trained in a standardized approach prior to the commencement of the survey. All interviews were conducted by experienced interviewers fluent in Cantonese, Putonghua and English.

The SSRC engaged in quality checks for each stage of the survey to ensure satisfactory standards of performance. At least 15% of the questionnaires completed by each interviewer were checked by the SSRC independently.

#### 2.9 Statistical analysis and weighting

This survey revealed some differences in gender and age proportions when compared with the Hong Kong population data compiled by the Census and Statistics Department (C&SD) for end-2007. The proportions of respondents among age groups 18-24, 50-54 and 60-64 were much higher than the population while the proportions of respondents aged 25-29 and 30-34 years old were much lower. The sample also contained a higher percentage of females when compared with the population. Table 2.9a shows the differences in terms of age and gender.

In view of the demographic differences between this sample and the population, weighting was applied by gender and age in order to make the results more representative of the general population. The weights are the ratio of the age and gender distribution of the population to that of this sample (Table 2.9b).

$$\pm 1.96 \times \sqrt{\frac{0.5 \times 0.5}{2\,100}} \times 100\% = 2.1\%$$

<sup>&</sup>lt;sup>6</sup> As the population proportion is unknown, 0.5 is put into the formula of the sampling error to produce the most conservative estimate of the sampling error. The confidence interval width is:

Age	This survey			Hong Kong population data – from the C&SD (end 2007)*		
Group	Male	Female	Total	Male	Female	Total
	% of Total	% of Total	% of Total	% of Total	% of Total	% of Total
18-24	8.06	8.30	16.36	6.32	6.74	13.06
25-29	2.64	3.45	6.09	4.65	5.97	10.61
30-34	3.36	4.32	7.68	4.77	6.37	11.14
35-39	3.55	6.91	10.46	4.96	6.84	11.79
40-44	4.41	9.12	13.53	5.84	7.20	13.04
45-49	4.41	9.50	13.92	6.57	7.03	13.60
50-54	4.51	8.59	13.10	5.79	5.90	11.68
55-59	3.17	6.53	9.69	4.62	4.57	9.20
60-64	3.65	5.52	9.17	3.02	2.85	5.87
Total	37.76	62.24	100.00	46.53	53.47	100.00

Table 2.9a: Distribution differences of age and gender between this survey and theHong Kong population data compiled by the C&SD for end-2007

\*Provisional figures obtained from the C&SD

Age	Male	Female
18-24	0.784065274	0.811968358
25-29	1.760320980	1.726864587
30-34	1.420113582	1.475384034
35-39	1.395569786	0.989349503
40-44	1.323303841	0.789604735
45-49	1.487159043	0.740329925
50-54	1.282951367	0.686538985
55-59	1.459856836	0.700966309
60-64	0.828604459	0.516582371
Age data missing	1.000000000	1.000000000

Table 2.9b: Weights by age and gender applied in the analyses

Statistical tests were applied to study the significant differences between sub-groups. Associations between selected demographic information and responses of selected questions were examined. Significance testing was conducted at the 5% level (2-tailed). The statistical software, SPSS for Windows version 12.0 was used to perform all statistical analyses.

## Chapter 3 Findings of the Survey

This chapter presents the findings of this survey after weighting for gender and age. Some percentages in the figures may not add up to the total or 100% because of rounding.

#### 3.1 Demographics

This section briefly describes the characteristics of respondents in this survey (Table 3.1).

#### **3.1.1** Gender and age

As weighting was applied to gender and age in this survey, the distribution of gender and age reported in this report matches the Hong Kong Population compiled by the C&SD for end 2007.

Overall, 53.6% of the respondents were females and 49.6% were aged between 30 and 49.

#### 3.1.2 Marital status

More than three-fifths (63.7%) of the respondents were married; 55.4% had children and 8.3% did not have a child. On the other hand, close to one-third (31.9%) of the respondents were never married and 3.4% were divorced/ separated/ widowed. Only 1.1% of respondents were widowed.

#### **3.1.3** Educational attainment

Most (70.9%) of the respondents were with secondary education or above - 26.8% had completed secondary (F.5), 9.0% had matriculation education and 35.1% attained tertiary education or above. The remaining 29.1% of the respondents had an education level of lower secondary or below.

#### 3.1.4 Occupation

More than one-third (35.9%) of the respondents were not working. This included 8.3% students; 17.1% homemakers; 4.2% unemployed and 6.3% retired persons or other non-working persons.

For working respondents, a relatively higher proportion of respondents were clerks (11.6%), followed by employers, managers or administrators (9.8%) and associate professionals (9.4%).

#### 3.1.5 Income

Close to two-thirds (65.1%) of the respondents had a monthly personal income of below \$20,000 - 35.6% had a monthly personal income of \$10,000-\$19,999 and

29.5% had a monthly personal income of below \$10,000.

Regarding the monthly household income, more than half (57.2%) of the respondents had a monthly household income of below \$30,000 - 20.1% had a monthly household income of \$20,000 - \$29,999, 25.2% had a monthly household income of \$10,000 - \$19,999 and 12.0% had a monthly household income of below \$10,000.

#### 3.1.6 Household size

Overall, 46.9% of respondents claimed that their household sizes were 2-3 persons and 48.1% had at least 4 persons in their household.

#### **3.1.7** Type of living quarters

About half (48.9%) of the respondents lived in private residential flats, followed by public rental flat (31.0%) and Housing Authority / Housing Society subsidized sale flats (14.0%).

Gender	Base =2 100	Occupation	Base = 2 052
Male	46.4%	Employer/ Manager/	9.8%
Female	53.6%	Administrator	2.070
		Professional	8.3%
		Associate professional	9.4%
		Clerk	11.6%
		Service worker	6.6%
Age	<b>Base = 2 084</b>	Shop sales worker	3.4%
18-24	13.1%	Skilled agricultural/	0.10/
25-29	10.6%	fishery worker	0.1%
30-34	11.1%	Craft and related worker	4.9%
35-39	11.8%	Plant and machine	3 10%
40-44	13.0%	operator and assembler	3.170
45-49	13.6%	Unskilled worker	7.0%
50-54	11.7%	Student	8.3%
55-59	9.2%	Home-maker	17.1%
60-64	5.9%	Unemployed person	4.2%
		Retired person or other	6 3%
		non-working person	0.370

Table 3.1: Demographic information  $(Q1, Q30-Q39)^7$ 

<sup>&</sup>lt;sup>7</sup> Refer to the question number in the survey questionnaire, see Annex A.

Marital Status	Base = 2 092	Monthly Personal Income	Base =1 260 <sup>8</sup>
Never married	31.9%	Below \$10,000	29.5%
Married and with	55.4%	\$10,000-\$19,999	35.6%
child(ren)		\$20,000-\$29,999	15.0%
Married and without	8.3%	\$30,000-\$49,999	12.9%
child		\$50,000 or above	7.0%
Divorced/ Separated	3.4%		
Widowed	1.1%		
Educational	Base =2 096	Monthly Household	Base =1 704
Attainment		Income	
Primary or below	11.3%	Below \$10,000	12.0%
Had not completed	17.8%	\$10,000-\$19,999	25.2%
secondary		\$20,000-\$29,999	20.1%
Completed secondary	26.8%	\$30,000-\$49,999	23.4%
(F.5)		\$50,000 or above	19.3%
Matriculation	9.0%		
Tertiary or above	35.1%		
Type of living	Base =2 061	Household Size	Base =2 076
quarters		(excluding domestic	
		helpers)	
Public rental flats	31.0%	1	5.0%
Housing Authority	12 7%	2	16.7%
subsidized sale flats	12.770	3	30.3%
Housing Society	1 3%	4	32.5%
subsidized sale flats	1.570	5	11.1%
Private residential flats	48.9%	6	3.2%
Villas/ Bungalows/ Modern village houses	2.9%	7 or above	1.3%
Simple stone			
structures/ traditional	1.5%		
village house			
Staff quarters	1.8%		

 $<sup>^{\</sup>rm 8}$  For non-working respondents, they didn't need to answer the question Q36 (monthly personal income).

#### **3.2** Weight status and control

Fourteen questions were asked in this section to ascertain the respondents' height, weight, waist circumference and their weight controlling methods. According to respondents' reported height and weight, their Body Mass Index (BMI) was derived and classified to assess their weight status according to the World Health Organization (WHO) classifications (both European and Asian Standards).

Those respondents with a body height out of the suggested range 100-190cm or body weight out of the suggested range 37-120kg were treated as outliers and excluded from height, weight and BMI analyses. In addition, respondents who were classified as outliers were also excluded from analyses in sections 3.2.1 to 3.2.8. A total of 14 cases including nine pregnant women were treated as outliers. Furthermore, 87 cases were excluded from the BMI analyses due to missing data for height or weight.

#### **3.2.1** Height (when not wearing shoes)

The reported height of respondents when not wearing shoes ranged from 121.9 to 190.0cm. About two-fifths (40.8%) of the respondents were within the range from 160.0 to less than 170.0cm, followed by 29.2% in the range from 150.0 to less than 160.0cm. The overall mean and median heights were 163.9cm and 163.0cm respectively (Table 3.2.1).

Height (cm)	Number	% of Total
Less than 150.0	45	2.2%
150.0 - <160.0	594	29.2%
160.0 - <170.0	831	40.8%
170.0 - <180.0	473	23.2%
180.0 or above	93	4.6%
Total	2 036*	100.0%
Other statistics	C	m
Mean	16	3.9
Median	16	3.0

Table 3.2.1: Height distribution of respondents (percentage, mean and median)(Q2a)

\*All respondents excluding outliers, "don't know" and refusal

#### **3.2.2** Weight (wearing light clothes)

The reported weight of respondents when wearing simple clothes ranged from 37.3 to 118.2kg. More than one-third (36.3%) of the respondents fell into the weight range from 50.0 to less than 60.0kg, followed by 26.3% of the respondents in the range from 60.0 to less than 70.0kg. The overall mean and median weights were 61.0kg and 59.1kg respectively (Table 3.2.2).

Weight (kg)	Number	% of Total		
Less than 40.0	11	0.6%		
40.0-<50.0	310	15.1%		
50.0-<60.0	745	36.3%		
60.0 - <70.0	539	26.3%		
70.0-<80.0	275	13.4%		
80.0 or above	174	8.5%		
Total	2 054*	100.0%		
Other statistics	ŀ	ĸg		
Mean	6	61.0		
Median	59	59.1		

Table 3.2.2: Weight distribution of respondents (percentage, mean and median)(Q2b)

\*All respondents excluding outliers, "don't know" and refusal

#### 3.2.3 Waist circumference

Those respondents with a waist circumference out of the suggested range 50-120cm were treated as outliers. A total of 10 cases including nine pregnant women were treated as outliers.

The reported waist circumference of the respondents ranged from 55.9 to 116.8cm. Around two-fifths (40.3%) of the respondents had their waist circumference in the range from 70.0 to less than 80.0 cm, followed by 26.2% in the range from 60.0 to less than 70.0cm. The overall mean and median waist circumferences were 75.8 and 76.2cm respectively (Table 3.2.3).

Waist circumference	Number	% of Total
(cm)		
Less than 60.0	25	1.3%
60.0 - <70.0	514	26.2%
70.0 - <80.0	793	40.3%
80.0 - <90.0	493	25.1%
90.0 or above	142	7.2%
Total	1 967*	100.0%
Other statistics		cm
Mean	75.8	
Median	7	76.2

Table 3.2.3: Waist circumference distribution of respondents (percentage, mean andmedian) (Q2c)

\*All respondents excluding outliers, "don't know" and refusal

#### 3.2.4 Body Mass Index (BMI)

BMI were derived from weight and height by the following formula:

 $BMI = body weight (kg) / [height (m)]^{2}$ 

#### 3.2.4.1 Weight status by WHO classification

According to WHO's European and Asian classification of weight status, respondents were classified into four categories of weight status (underweight, normal, overweight and obese) as in Table 3.2.4a and Table 3.2.4b respectively.

According to the European standard, about two-thirds of the respondents (66.9%) were classified as "normal", 20.1% of respondents were classified as "overweight" and 3.1% were classified as "obese". On the other hand, one-tenth (9.9%) of the respondents were regarded as "underweight" (Table 3.2.4a).

Table 3.2.4a: WHO classification for weight status (European standard) (Q2a, Q2b)

Weight status by WHO classifications	BMI	Number	% of Total
Underweight	BMI < 18.5	200	9.9%
Normal	BMI 18.5 – <25.0	1 344	66.9%
Overweight	BMI 25.0 – <30.0	404	20.1%
Obese	BMI ≥ 30.0	63	3.1%
	Total	2 011*	100.0%

\*All respondents excluding outliers and missing data for height or weight

Based on the Asian standard, slightly less than half of the respondents (48.9%) were classified as "normal", 23.2% of the respondents were classified as "obese" and 17.9% were regarded as "overweight", while the remaining (9.9%) were classified as "underweight" (Table 3.2.4b).

Weight status by WHO classifications	BMI	Number	% of Total
Underweight	BMI < 18.5	200	9.9%
Normal	BMI 18.5 – <23.0	984	48.9%
Overweight	BMI 23.0 – <25.0	360	17.9%
Obese	BMI ≥ 25.0	467	23.2%
	Total	2 011*	100.0%

Table 3.2.4b: WHO classification for weight status (Asian standard) (Q2a, Q2b)

\*All respondents excluding outliers and missing data for height or weight

#### 3.2.5 Weight difference from one year ago

When respondents were asked whether they had a weight difference of more than about 10 pounds when compared with one year ago, more than four-fifths (82.8%) of the respondents reported that they did not have such a difference and 16.4% had such a difference (Fig. 3.2.5a). Of those respondents who reported such a weight difference, 64.6% claimed that they had a weight increase while the rest (35.4%) reported that they had a weight reduction of more than 10 pounds (Fig. 3.2.5b).

Fig. 3.2.5a: Weight differed by more than 10 pounds when compared with one year ago (Q3a)



*Base: All respondents excluding outliers = 2 084* 





Base: Respondents who had a weight difference of more than 10 pounds when compared with one year ago = 341

#### **3.2.6** Perception of current weight status

When respondents were asked their self perceived current weight status, close to half (49.4%) of the respondents perceived it as "just right". However, 42.4% considered themselves as "overweight" while 8.2% considered themselves as "underweight" (Table 3.2.6a).

Perception of current weight	Number	% of Total
Overweight	882	42.4%
Just right	1 026	49.4%
Underweight	170	8.2%
Total	2 078*	100.0%

 Table 3.2.6a: Perception of current weight status (Q4)
 Perception

\* All respondents excluding outliers and "don't know"

Table 3.2.6b shows that the differences of weight status between the WHO (Asian standard) classification and the respondents' perception. Half (49.7%) of respondents considered their weight status as "just right", and close to half (48.9%) of respondents who were classified as "normal" under the WHO classification (Asian standard). On the other hand, 42.2% of respondents perceived themselves as "overweight", but in fact 41.2% were classified as "overweight" or "obese" according to the WHO criteria (Asian standard). Overall, 67.5% of the respondents perceived their weight status in a way consistent with the WHO criteria, while 17.6% of the respondents overestimated and 14.9% underestimated.

		Weight status by WHO classification						
Cross-tabulation		(Asian standard)						
		Underweight	Normal	Overweight	Obese	Total		
	Overweight	8	234	208	395	845		
	% of Total	0.4%	11.7%	10.4%	19.7%	42.2%		
<b>Respondents'</b>	Just right	111	669	147	68	996		
perception of	% of Total	5.5%	33.4%	7.3%	3.4%	49.7%		
current	Underweight	81	77	4	2	164		
weight	% of Total	4.0%	3.8%	0.2%	0.1%	8.2%		
<u>Total</u>		200	980	360	466	2005		
	% of Total	10.0%	48.9%	17.9%	23.2%	100.0%		

Table 3.2.6b: Comparison of weight status between WHO classification (Asianstandard) and respondents' perception of their current weight (Q2a, Q2b, Q4)

\*All respondents excluding refusal, outliers and missing responses either in the questions of perception about current weight or the weight status by WHO classification. The percentages of respondents' perception of current weight are slightly different from Table 3.2.6a since the bases are different

#### 3.2.7 Weight control

During the 12 months prior to the survey, more than three-tenths (31.6%) of the respondents had done something deliberately to control their weight (Fig. 3.2.7a). Among those respondents who had done something deliberately to control weight, more than half (55.5%) of them aimed to lose weight, 38.6% aimed to maintain weight and 5.9% reported that they tried to increase weight (Fig. 3.2.7b).

Fig. 3.2.7a: Controlling weight deliberately in 12 months prior to the survey (Q5a)



*Base: All respondents excluding outliers = 2 084* 



Fig. 3.2.7b: Purpose of controlling weight (Q5b)

*Base: Respondents who had deliberately done something to control their weight and excluding outliers = 659* 

#### 3.2.8 Methods adopted to control weight

Among those respondents who had done something deliberately to control their weight, most of them reported that the methods they used were "doing physical exercises" (84.0%) and "changing dietary habit" (78.3%). Other methods mentioned by respondents included "taking drugs or products" (13.0%), "consulting doctors or dieticians" (8.2%) and "going to weight control or beauty parlours" (3.6%) (Fig. 3.2.8).



Fig. 3.2.8: Methods used to control weight (Q6a-f)

*Base: Respondents who had deliberately done something to control their weight and excluding outliers=659 (multiple responses)* 

#### **3.3** Physical activities

The questions about physical activities covered in this survey (see Annex A, Q7 - Q13) were adapted from the International Physical Activity Questionnaire (IPAQ) short form. Seven questions were asked to understand the frequency and duration with which respondents engaged in physical activities<sup>9</sup>. All the reported physical activities lasted for at least 10 minutes and it was based on respondents' experiences during the seven days prior to the survey.

#### **3.3.1** Frequency of physical activities per week

On a weekly basis, walking was far more prevalent than vigorous and moderate physical activities. During the seven days prior to the survey, 69.9% of respondents spent at least 10 minutes walking every day. On the other hand, 35.2% and 44.6% of the respondents reported that they spent at least one day on vigorous and moderate physical activities in the seven days prior to the survey respectively (Fig. 3.3.1a).

Fig. 3.3.1a: Number of days per week spent on doing each type of physical activities in the seven days prior to the survey (Q7, 9 & 11)



Base: All respondents = 2 100

<sup>&</sup>lt;sup>9</sup> Respondents were informed of the definitions of vigorous physical activities, moderate physical activities and walking. Vigorous physical activities are defined as those that make people breathe much harder than normal, for example aerobics, football, swimming, heavy physical work and jogging. Moderate physical activities are defined as those that make people breathe somewhat harder than normal, for example cycling, washing cars or polishing, fast walking and cleaning windows. Walking includes walking to work or school, walking to travel from place to place and walking for leisure. All the questions about vigorous exercise, moderate exercise and walking only referred to those activities on which the respondents had spent at least 10 minutes at a time.

Fig.3.3.1b shows that respondents seldom spent time on vigorous and moderate physical activities. On average, respondents spent 1.0 day per week on vigorous physical activities and 1.5 days per week on moderate physical activities. In contrast, the average number of days spent on walking was much higher at 6.0 days per week (Fig. 3.3.1b).

Fig. 3.3.1b: Weekly average number of days spent on different types of physical activities with median and mode (Q7, 9 & 11)



Base: All respondents = 2 100

#### **3.3.2** Daily average time spent on physical activities<sup>10</sup>

On average, respondents spent 10.4 minutes per day on vigorous physical activities, 10.2 minutes on moderate physical activities and 59.2 minutes on walking. The median and mode average time spent per day were both zero minutes for vigorous and moderate physical activities and both median and mode were 30 minutes for walking (Fig. 3.3.2a).

Overall, less than one-tenth of the respondents spent a daily average of 31 minutes or more on vigorous physical activities (8.0%) and moderate physical activities (8.1%), while 41.5% of respondents spent a daily average of 31 minutes or more on walking (Table 3.3.2b).

Fig 3.3.2a: Daily average minutes spent on different types of physical activity and median and mode (Q7, 8, 9, 10, 11 and 12)



Base: All respondents excluding "don't know" (Vigorous exercise = 2 097; Moderate exercise = 2 099; Walking = 2 087)

<sup>&</sup>lt;sup>10</sup> The daily average minutes spent on each type of exercise was computed by multiplying the average number of days engaged in each type of exercise on a weekly basis and the average minutes of time spent on each type of exercise on those days they have done exercise and then dividing by 7 days. Vigorous exercise: (Q7xQ8)/7; Moderate exercise: (Q9xQ10)/7; Walking: (Q11xQ12)/7.

Minutes	Vigorous physical activity		Moderate physical activity		Walking	
	Number	% of Total	Number	% of Total	Number	% of Total
Below 10	1 634	77.9%	1 589	75.7%	231	11.1%
10-<16	99	4.7%	135	6.4%	237	11.4%
16-<31	195	9.3%	205	9.7%	753	36.1%
31-<61	104	4.9%	113	5.4%	447	21.4%
61 or above	65	3.1%	57	2.7%	419	20.1%
Total	2 097*	100.0%	2 099*	100.0%	2 087*	100.0%

Table 3.3.2b: Daily average time spent on doing different types of physical activity (Q7, 8, 9, 10, 11 and 12)

\*All respondents excluding "don't know"

#### 3.3.3 Sitting<sup>11</sup>

Respondents were asked how much time per day on average they spent on sitting during <u>weekdays (Monday to Friday) in the week prior to the survey</u>. Table 3.3.3 shows that more than half (54.6%) of the respondents reported that they sat for at least six hours per day during weekdays. The mean and median sitting hours were 6.5 and 6.0 respectively.

Table 3.3.3: Average time spent on sitting per day during weekdays in the week prior to the survey (percentage, mean and median) (Q13)

Sitting Hours	Number	% of Total			
Below 2	47	2.3%			
2-<4	389	18.9%			
4 - <6	497	24.2%			
6 - <8	331	16.1%			
8 - <10	322	15.7%			
10 or above	469	22.8%			
Total	2 055*	100.0%			
Other statistics	Hours				
Mean	6.5				
Median	6.0				

\*All respondents excluding "don't know" and outliers

<sup>&</sup>lt;sup>11</sup> Sitting includes time spent sitting at work, at home, visiting friends, reading, travelling on public transport and lying down to watch television.

#### **3.3.4** Analysis of the International Physical Activity Questionnaire

The analysis in this section is based on the guidelines for data processing and analysis of the International Physical Activity Questionnaire (IPAQ) – Short Form (revised November 2005)<sup>12</sup>. The age range of respondents of this survey (18-64) is within the age criteria of the IPAQ analysis, i.e., 15-69. The analysis of the IPAQ short form provides two indicators of physical activity, namely categorical and continuous indicators.

According to the IPAQ data processing and cleaning rules, 19 cases were excluded from this part of analyses for being classified as outliers and "don't know".

#### 3.3.4.1 Categorical scoring

The categorical score comprises three levels of physical activity, namely "low", "moderate" and "high"<sup>13</sup>. Table 3.3.4.1 details the criteria of classification.

Level of physical activity	Categorical scoring classification criteria					
Low	<ul> <li>No activity is reported OR</li> </ul>					
	<ul> <li>Some activity is reported but not enough to meet</li> </ul>					
	categories "Moderate" or "High"					
Moderate	Any one of the following 3 criteria					
	• 3 or more days of vigorous-intensity activity of at					
	least 20 minutes per day OR					
	• 5 or more days of moderate-intensity activity or					
	walking of at least 30 minutes per day OR					
	• 5 or more days of any combination of walking,					
	moderate-intensity or vigorous-intensity activities					
	achieving a minimum of at least 600 MET-					
	min/week					
High	Any one of the following 2 criteria					
	<ul> <li>Vigorous-intensity activity on at least 3 days and</li> </ul>					
	accumulating at least 1500 MET-minutes/week OR					
	<ul> <li>7 or more days of any combination of walking, moderate-intensity or vigorous-intensity activities achieving a minimum of at least 3000 MET-</li> </ul>					
	minutes/week					

 Table 3.3.4.1: Categorical scoring classification of physical activity

Note: MET = multiples of resting metabolic rate Source: Guidelines for data processing and analysis of the IPAQ – short form

 $<sup>^{12}</sup>$  This document for data processing and analysis of the IPAQ is available on the website: http://www.ipaq.ki.se.

<sup>&</sup>lt;sup>13</sup> The current categories of IPAQ classification are "Low", "Moderate" and "High". The previous categories were known as "Inactive", "Minimally active" and "HEPA active".

According to the classification criteria listed in Table 3.3.4.1, more than half (56.1%) of the respondents were classified as having "moderate" level of physical activity. In addition, the proportions of respondents having "high" and "low" level of physical activity were 21.1% and 22.8% respectively (Fig. 3.3.4.1).



Fig. 3.3.4.1: Classification of respondents' physical activity level (Q7-Q12)

Base: All respondents excluding "don't know" and outliers according to the data processing rules of the IPAQ analysis guidelines =  $2\ 0.084$ 

#### 3.3.4.2 Continuous scoring

Continuous scoring is another measurement of physical activity suggested in the IPAQ - short form guidelines. This is achieved by weighting each type of activity by its energy requirements defined in METs (METs are multiples of the resting metabolic rate) to yield a score in MET-minutes. A MET-minute score<sup>14</sup> is computed by multiplying the MET by the minutes performed. MET-minute scores are equivalent to kilocalories for a 60 kilogram person. Kilocalories can be computed from MET-minutes using the following equation: MET-minute x (weight in kilograms/60 kilograms). The selected MET values were derived from work undertaken during the IPAQ Reliability Study conducted in 2000-2001. This study yielded MET values for the three types of activity, namely "walking"= 3.3 METs, "moderate physical activity" = 4.0 METs and "vigorous physical activity" = 8.0 METs. These MET values are used for the continuous scoring analysis of IPAQ data in this part.

More specifically, the continuous score for each type of physical activity was computed according to the formula and examples in Table 3.3.4.2a.

<sup>&</sup>lt;sup>14</sup> Source of information: Guideline for data processing and analysis of the IPAQ

MET-min per week for each activity	= (MET level) x (min of activity) x (events per week)
Total MET-min per week	= (Walk METs x min x days) + (Moderate PA METs x min x days) + (Vigorous PA METs x min x days)
Example:	Given:
	MET-min/week for 30 min episodes, 5 times/week, MET levels for walking = 3.3METs, Moderate PA= 4.0METs and Vigorous PA= 8.0METs
MET-min/week for walking	= 3.3 x 30 x 5 = 495 MET-min/week
MET-min/week for Moderate PA	= 4.0 x 30 x 5 = 600 MET-min/week
MET-min/week for Vigorous PA	<u>= 8.0 x 30 x 5 = 1,200 MET-min/week</u>
Total MET-min/week	Total = 2 295 MET-min/week

Table 3.3.4.2a: Continuous score computation

*Note: PA = physical activity* 

Source: Guidelines for data processing and analysis of the IPAQ – short form

As suggested by the IPAQ – short form guidelines, the continuous indicator is presented as median minutes or median MET-minutes rather than mean minutes or mean MET-minutes given the non-normal distribution of energy expenditure in many populations. However, median scores (unlike mean scores) are not additive, so the median score is not the sum of the median scores for each type of physical activity.

Table 3.3.4.2b shows the medians of the continuous scores for each type of physical activities. The medians for vigorous physical activity and moderate activity were both 0 while the median for walking was 693 MET-minutes per week. The median score of these three activities combined was 1 386 MET-minutes per week.

 Table 3.3.4.2b: Medians of the IPAQ continuous score for each type of physical activity (Q7-Q12)

Charlin time	Continuous Score (MET-minutes/week)						
Statistics	Vigorous exercise	Moderate exercise	Walking	Total			
Median	0	0	693	1 386			

\*All respondents excluding "don't know" and outliers according to the data processing rules of the IPAQ analysis guideline (Vigorous exercise = 2 097; Moderate exercise = 2 099; Walking = 2 087)

#### 3.4 Leisure-time activities

Seven questions were asked in this section to understand the pattern of different leisure-time activities during weekdays and weekends.

#### 3.4.1 Frequency of having exercise in leisure-time<sup>15</sup>

Respondents were asked how often they would exercise in their leisure-time during the thirty days prior to the survey. Overall, less than two-fifths (38.7%) of the respondents reported that they exercised less than once a month in their leisure-time. On the other hand, 15.2% of respondents reported that they exercised 4 times or more a week and 33.9% exercised 1 to 3 times a week in their leisure-time (Fig. 3.4.1).

Fig. 3.4.1: Frequency of having exercise in leisure-time during the thirty days prior to the survey (Q14)



Base: All respondents excluding "don't know" = 2 092

<sup>&</sup>lt;sup>15</sup> Exercise is defined as activities that make people breathe somewhat harder than normal and sweat.

#### **3.4.2** Sedentary activities during weekdays

During weekdays, respondents spent on average 138.6 minutes per day on watching television<sup>16</sup> in their leisure-time. In addition, respondents also spent around 78.1 minutes per day on surfing the internet or engaging in related activities, and 84.9 minutes on other sedentary activities<sup>17</sup> in their weekday's leisure-time. The median time spent per day for watching television during weekdays was 120 minutes. The corresponding median time for surfing the internet or engaging in related activities and other sedentary activities were both 60 minutes (Fig. 3.4.2a).

Overall, around one-third (34.1%) of the respondents spent a daily average of 180 minutes or more on watching television in their weekday's leisure-time and more than one-tenth of the respondents spent a daily average of 180 minutes or more surfing the internet or engaging in related activities (16.0%) and other sedentary activities (11.8%) (Table 3.4.2b).

Fig 3.4.2a: Daily average minutes spent on doing different types of sedentary activities during weekdays and median and mode (Q15a, Q15b and Q15c)



Base: All respondents excluding "don't know" (Watching television = 2 092; Surfing the internet or engaging in related activities = 2 086; Other sedentary activities = 2 092)

<sup>&</sup>lt;sup>16</sup> Watching television includes watching videos, VCDs and DVDs.

<sup>&</sup>lt;sup>17</sup> Sedentary activities includes reading books, newspapers and magazines, playing video or computer games (excluding motion games, i.e. Wii), drawing, listening to music or playing music instruments.

Minutes	Wa Tele	Vatching Elevision Surfing the internation or engaging in related activities		he internet aging in activities	Other s acti	edentary vities
	Number	% of Total	Number	% of Total	Number	% of Total
Less than 30	111	5.3%	759	36.4%	310	14.8%
30-<60	149	7.1%	246	11.8%	420	20.1%
60 - <120	504	24.1%	432	20.7%	768	36.7%
120 - <180	615	29.4%	316	15.1%	348	16.6%
180 or above	713	34.1%	333	16.0%	246	11.8%
Total	2 092*	100.0%	2 086*	100.0%	2 092*	100.0%

Table 3.4.2b: Daily average time spent on doing different types of sedentaryactivities during weekdays (Q15a, Q15b and Q15c)

\*All respondents excluding "don't know"

#### 3.4.3 Sedentary activities during weekends and public holidays

On average, respondents spent 153.2 minutes per day on watching television in their leisure-time during weekends and public holidays. In addition, the average time spent on surfing the internet or engaging in related activities and other sedentary activities per day were 80.7 and 100.5 minutes respectively. The median time spent per day on watching television during weekends and public holidays was 120 minutes. The corresponding median time for surfing the internet or engaging in related activities and other sedentary activities and other sedentary activities were both 60 minutes (Fig. 3.4.3a).

During weekends and public holidays, around two-fifths (40.1%) of the respondents spent a daily average of 180 minutes or more on watching television in their leisuretime. For surfing the internet or engaging in related activities and other sedentary activities, the proportions of respondents spent a daily average of 180 minutes or more for these two activities were 18.2% and 18.0% respectively (Table 3.4.3b).

Fig 3.4.3a: Daily average minutes spent on doing different types of sedentary activities during weekends and public holidays and median and mode (Q16a, Q16b and Q16c)



Base: All respondents excluding "don't know" and refusal (Watching television =  $2\ 087$ ; Surfing the internet or engaging in related activities =  $2\ 090$ ; Other sedentary activities =  $2\ 088$ )

Minutes	Watching Television		Surfing the internet or engaging in related activities		Other s acti	edentary vities
	Number	% of Total	Number	% of Total	Number	% of Total
Less than 30	187	8.9%	872	41.7%	315	15.1%
30-<60	96	4.6%	155	7.4%	251	12.0%
60 - <120	381	18.3%	364	17.4%	663	31.7%
120 - <180	586	28.1%	318	15.2%	484	23.2%
180 or above	836	40.1%	380	18.2%	375	18.0%
Total	2 087*	100%	2 090*	100.0%	2 088*	100.0%

 Table 3.4.3b: Daily average time spent on doing different types of sedentary activities during weekends and public holidays (Q16a, Q16b and Q16c)

\*All respondents excluding "don't know" and refusal
# 3.5 Dietary habits

Five questions were asked in this section to gauge respondents' dietary habits.

#### 3.5.1 Frequency of consuming fruit or vegetable juice per week<sup>18</sup>

Overall, 3.4% of the respondents drank fruit or vegetable juice on a daily basis. The average number of days per week in which the respondents drank fruit or vegetable juice was 0.6 days (Fig 3.5.1).

Fig. 3.5.1: Number of days in the week when respondents drank fruit/vegetable juice (Q17c)



Base: All respondents excluding "don't know" = 2 093

# **3.5.2** Frequency of consuming fruit and vegetables per week

On a daily basis, respondents consumed vegetables more frequently than fruit. Fig. 3.5.2 shows that more than four-fifths (82.0%) of the respondents had consumed vegetables every day while more than half of the respondents (54.8%) had eaten fruit on a daily basis. On average, the number of days per week that respondents consumed vegetables (6.4 days per week) was higher than the number of days per week for consuming fruit (5.2 days per week) (Fig. 3.5.2).

<sup>&</sup>lt;sup>18</sup> Fruit/vegetable juice refers to freshly squeezed juice or those labelled 100% or pure fruit/vegetable juice.

Fig. 3.5.2: Number of days in the week when respondents ate fruit and vegetables (Q17ai, Q17bi)



Base: All respondents excluding "don't know" (Eating fruit = 2 094, Eating vegetables = 2 100)

#### 3.5.3 Amount of fruit and vegetables eaten per day<sup>19</sup>

On average, 41.6% and 28.3% of respondents consumed less than one fruit daily and one bowl of vegetables daily respectively. In addition, more than half (53.5%) of the respondents consumed 1 - 2 fruit on a daily basis and about two-thirds (66.2%) of the respondents ate 1 - 2 bowls of vegetables everyday on average. Overall, the daily average amount consumed was just 1.1 fruit and 1.2 bowls of vegetables (Table 3.5.3).

Average no. of	No. of respondents					
fruit/bowl of	Fruit		Vegetables			
per day	Number	% of Total	Number	% of Total		
Less than 1	870	41.6%	589	28.3%		
1 – 2	1 118	53.5%	1 381	66.2%		
More than 2	103	4.9%	116	5.6%		
Total	2 091*	100.0%	2 086*	100.0%		
Mean	1.1	fruit	1.2 bowls of vegetables			

Table 3.5.3: Daily average amount of fruit and vegetables eaten (Q17ai, Q17aii,<br/>Q17bi and Q17bii)

\*Base: All respondents excluding "don't know"

<sup>&</sup>lt;sup>19</sup> Respondents were informed that one fruit was a medium sized apple or orange, one banana, two apricots or plums, or one bowl of small fruit like grapes or strawberries. For vegetables, it is calculated in terms of bowl where one bowl refers to the size of a rice bowl. The average number of fruit eaten per day is calculated by: (the average number of days eating fruit per week x the average number of fruit eaten on those days)/ 7. Similarly, the average number of bowls of vegetables eaten per day is calculated by: (the average number of days eating vegetables per week x the average number of bowls of vegetables eaten per day is calculated by: (the average number of days eating vegetables per week x the average number of bowls of vegetable eaten on those days) / 7.

#### 3.5.4 The total number of servings of fruit and vegetables consumed per day

The WHO recommends that adults should eat at least five servings of fruit and vegetables per day or a daily intake of at least 400 grams of fruit and vegetables<sup>20</sup>.

#### Total servings excluding fruit or vegetable juice

The number of servings of fruit and vegetables consumed per day was defined in this section as the sum of the average number of fruit eaten per day and twice the average number of bowls of vegetables eaten per day (i.e. one fruit was equated to 1 serving and one bowl of cooked vegetables<sup>21</sup> was equated to 2 servings).

Overall, about one-fifth (21.2%) of the respondents consumed 5 or more servings of fruit and vegetables per day. The mean and median numbers of servings were 3.5 and 3.0 respectively (Table 3.5.4a).

Table 3.5.4a: Number of servings of fruit and vegetables consumed per day (percentage, mean and median) (Q17ai, Q17aii, Q17bi and Q17bii)

No. of servings	No. of respondents				
(excluding juice)	Number	% of Total			
Less than 3	856 (0  serving = 7) $41.2% (0  serving = 0.3%)$				
3 - <5	782 37.6%				
5 or above	441	21.2%			
Total	2 079* 100.0%				
	No. of servings of fruit and vegetables eaten per day				
Mean	3.5 servings				
Median	3.0 se	rvings			

\*All respondents excluding "don't know" for questions Q17ai, Q17aii, Q17bi and *Q17bii* 

#### Total servings including fruit or vegetable juice

The total number of servings of fruit and vegetables consumed per day was defined in this section as the sum of the average number of fruit eaten per day and twice the average number of bowls of vegetables eaten per day (i.e. One fruit was equated to 1 serving and 1 bowl of cooked vegetables was equated to 2 servings) and the average number of days per week having drunk one cup or more of fruit or vegetable juice (fruit/vegetable juice only counted as 1 serving, regardless of how many cups of juice were drunk in one day; less than 1 cup a day did not count)<sup>22</sup>.

<sup>&</sup>lt;sup>20</sup> Fruit, vegetables and NCD disease prevention. Geneva: World Health Organization; 2003. (http://www.who.int/dietphysicalactivity/media/en/gsfs\_fv.pdf)

<sup>1</sup> bowl of uncooked vegetable was coded as 0.5 bowl of cooked vegetable.

<sup>&</sup>lt;sup>22</sup> Juice (fruit and vegetable) only counted as 1 serving a day, regardless of how much is drunk because it has very little fibre. It is also likely to lose some vitamins once juiced (particularly vitamin C, which is easily destroyed by light and air).

Overall, 22.2% of the respondents consumed 5 or more servings of fruit and vegetables per day if fruit or vegetable juice was included in calculating the total servings per day. The mean and median numbers of servings were 3.6 and 3.0 respectively (Table 3.5.4b).

Table 3.5.4b: Number of servings of fruit and vegetables consumed per day(percentage, mean and median) (Q17ai, Q17aii, Q17bi, Q17bi, and Q17c)

No. of servings	No. of respondents				
(including juice)	Number	% of Total			
Less than 3	812 (0 serving = 5) 39.2% (0 serving =0.2				
3 - <5	801 38.6%				
5 or above	459	22.2%			
Total	2 072* 100.0%				
	No. of servings of fruit and vegetables eaten per day				
Mean	3.6 servings				
Median	3.0 s	ervings			

\*All respondents excluding "don't know" for questions Q17ai, Q17aii, Q17bi, Q17bii and Q17c

# **3.6** Pattern of alcohol consumption

Five questions were asked in order to understand respondents' alcohol drinking patterns.

Overall, more than one-third (34.9%) of the respondents reported that they had consumed at least one alcoholic drink during the month prior to the survey. On the other hand, around two-fifths (41.1%) of the respondents reported that they never drank alcohol (Fig. 3.6).



Fig. 3.6: Ever had at least one alcoholic drink (Q18a)

Base: All respondents = 2 100

#### **3.6.1** Frequency of alcohol consumption

Among those respondents who had at least one alcoholic drink during the month prior to the survey, about one-tenth (9.9%) of the drinkers reported that they are daily drinkers. On the other hand, nearly half (47.8%) of the drinkers reported that they drank less than 1 day per week (Fig. 3.6.1).

Fig. 3.6.1: Frequency of drinkers consuming at least one alcoholic drink during the month prior to the survey (Q18b)



*Base: Respondents who had at least one alcoholic drink during the month prior to the survey excluding "don't know" = 729* 

#### 3.6.2 Amount of alcoholic drinks consumed

Among those who drank at least one alcoholic drink during the month prior to the survey, they were further asked the number of standard drinks<sup>23</sup> consumed on each drinking day. More than two-thirds of them (69.0%) consumed less than 3 standard drinks on each drinking day while about one-tenth (10.9%) consumed 5 or more standard drinks. On average, they consumed 2.5 standard drinks on each drinking day and the median was 1.5 standard drinks (Table 3.6.2).

<sup>&</sup>lt;sup>23</sup> The amount of drinks consumed was measured using the following standard units: one can or small bottle of beer is equated to 1.5 standard drinks, or one dining glass of wine, or one spirit nip of brandy/whisky, or one small glass of Chinese wine such as rice wine is equated to one standard drink.

No. of stored and defender	No. of drinkers				
No. of standard drinks	Number	% of Total			
Less than 3	501	69.0%			
3-<5	146	20.1%			
5 or above	79	10.9%			
Total	726*	100.0%			
Mean	2.5 standard drinks				
Median	1.5 standard drinks				

Table 3.6.2: Average number of standard drinks consumed on the days they drank alcohol (percentage, mean and median) (Q18c)

\* Respondents who had at least one alcoholic drink during the month prior to the survey excluding "don't know" and refusal

#### **3.6.3** Drinking at least 5 glasses/cans of alcohol on one occasion (Binge drinking)

Among those respondents who had at least one alcoholic drink during the month prior to the survey, about one quarter (26.4%) had consumed at least 5 glasses/cans of alcohol on one single occasion<sup>24</sup> in the month prior to the survey (Fig. 3.6.3a). Among these respondents, about one-third (34.6%) of the respondents had engaged in binge drinking three times or more, 25.7% had this experience twice and about two-fifths (39.7%) had this heavy consumption once (Fig. 3.6.3b).

Fig. 3.6.3a: Consumption of at least 5 glasses/cans of alcohol by drinkers on one single occasion during the month prior to the survey (Q18d)



Base: Respondents who had at least one alcoholic drink during the month prior to the survey = 734

<sup>&</sup>lt;sup>24</sup> Refer to total number of glasses/cans of any types of alcohol. One single occasion means a period of a few hours.

Fig. 3.6.3b: Frequency of consuming at least 5 glasses/cans of alcohol on one single occasion by heavy drinkers during the month prior to the survey (Q18e)



Base: Drinkers who drank at least 5 glasses or cans of alcohol on at least one occasion excluding "don't know" = 193

#### **3.7** Smoking habits

Three questions were asked to understand respondents' smoking habits in this section.

Close to three-quarters of the respondents (72.0%) reported that they had never smoked, 12.6% smoked in the past but now abstained and 15.4% of the respondents were current smokers (Fig. 3.7).



Fig. 3.7: Breakdown of smoking habits amongst respondents (Q19a)

Base: All respondents = 2 100

# 3.7.1 Abstaining from smoking

Among those who smoked before but now abstained from smoking, most of them (88.5%) reported that they had abstained for more than one year and close to one-tenth (9.0%) had given up smoking for one month to one year. Only 2.5% of them reported that they had given up smoking for less than one month (Fig 3.7.1).



Fig. 3.7.1: Length of time abstained from smoking (Q19b)

*Base: All past smokers* = 265

# 3.7.2 Cigarette consumption

Among the current smokers, the vast majority (93.8%) of them were daily smokers. More than two fifths (44.9%) of the current smokers reported that they smoked 1- 10 cigarettes per day and close to half (48.9%) of the current smokers reported that they smoked at least 11 cigarettes a day (Fig. 3.7.2).

Fig. 3.7.2: Number of cigarettes smoked on average per day by current smokers (Q19c)



Base: All current smokers =323

# **3.8** Sleeping habits

Six questions were asked to understand respondents' sleeping habits in this section.

#### **3.8.1** Hours of sleeping

Respondents were asked how many hours on average that they slept per day. Overall, 88.8% of the respondents slept for at least six hours on average per day. The overall mean and median sleeping hours were 6.9 hours and 7.0 hours respectively (Table 3.8.1).

Table 3.8.1: Average number of hours that respondents slept per day (percentage, mean and median) (Q20a)

No. of house	No. of respondents				
No. of nours	Number	% of Total			
Less than 6 hours	234	11.2%			
6-8 hours	1701 81.1%				
More than 8 hours	162	7.7%			
Total	2 096*	100.0%			
Mean	6.9 hours				
Median	7.0 hours				

\*All respondents excluding "don't know" and refusal

#### **3.8.2** Sleeping problems

During the thirty days prior to the survey, 12.5% of the respondents reported that they frequently (three or more times a week) had 'difficulty in falling asleep'<sup>25</sup>, 12.0% frequently had 'intermittent awakenings or difficulty in maintaining sleep' during the night and 10.1% frequently had 'early morning awakening and unable to sleep again'. In contrast, 51.7% of the respondents did not have 'difficulty in falling asleep'; 47.9% did not have 'intermittent awakenings or difficulty in maintaining sleep' during the night and 55.7% did not have 'early morning awakening and unable to sleep again'. Overall, about three-tenths (29.9%) of the respondents reported that they did not experience any of the three sleeping problems (Fig. 3.8.2).

Respondents were further asked how many days that they did not get enough sleep during the thirty days prior to the survey, close to two-fifths (37.1%) of the respondents reported that they did not get enough sleep for at least 10 days. The overall mean and median days that respondents did not get enough sleep were 9.8 days and 4.0 days respectively (Table 3.8.2).

<sup>&</sup>lt;sup>25</sup> Difficulty in falling asleep is defined as 'cannot get to sleep within 30 minutes'.

Fig. 3.8.2: Frequency of having different types of sleeping problems during the thirty days prior to the survey (Q20b-Q20d)



Base: All respondents excluding "don't know"

Table 3.8.2: Number of days that respondents didn't get enough sleep during the thirty days prior to the survey (percentage, mean and median) (Q20e)

No. of Joon	No. of respondents				
INO. OI days	Number	% of Total			
0 day	577	27.6%			
1 - <10 days	739	35.3%			
10 - <20 days	241	11.5%			
20 days or more	535	25.6%			
Total	2 092*	100.0%			
Mean	9.8 days				
Median	4.0 days				

\*All respondents excluding "don't know"

### 3.8.3 Sleeping quality

Overall, about two-fifths (41.9%) of the respondents considered that they sleep "well" or "very well". On the other hand, 13.3% of respondents considered they sleep "poor" or "very poor" (Fig. 3.8.3).



Fig. 3.8.3: Perception about sleeping quality (Q20f)

*Base: All respondents excluding refusal = 2 099* 

# **3.9** Cervical screening (for female respondents only)

Four questions (including one screening question) were asked to understand female respondents' behaviour regarding cervical screening.

Overall, close to two-thirds (64.7%) of the female respondents reported that they had a cervical smear before (Fig. 3.9).



Fig. 3.9: Being screened for cervical smear before (Q21a)

Base: All female respondents excluding "not sure" = 1 119

# 3.9.1 Last cervical smear

Of those female respondents who had a cervical smear before, around half (50.3%) of them had their last cervical smear taken within 12 months prior to the survey. Close to two-fifths (38.0%) of them had the examination within 13-36 months, while 11.7% of them had their last cervical smear 37 months or more ago (Fig. 3.9.1).



Fig. 3.9.1: Period of time since last cervical smear if ever had a smear (Q21b)

Base: Female respondents who ever had a cervical smear before, excluding "can't remember" and refusal = 714

#### **3.9.2** Whether the last cervical smear was the first visit

Among those female respondents who had a cervical smear before, more than fourfifths (82.8%) of them reported having a cervical smear more than one time. On the other hand, the remaining 17.2% claimed that the last visit was their first cervical smear (Fig. 3.9.2).

Fig. 3.9.2: Whether the last cervical smear was respondents' first smear (Q21c)



Base: Female respondents who ever had a cervical smear before, excluding "not sure" and refusal = 722

#### **3.9.3** Whether had a total hysterectomy before

Among female respondents, 3.2% of them had a total hysterectomy (surgical removal of the entire uterus) before (Fig. 3.9.3).



Fig. 3.9.3: Whether had a total hysterectomy before (Q21d)

Base: All female respondents excluding "don't know" and refusal = 1 124

# **3.10** Use of antibiotics

Eight questions were asked to understand the usage of antibiotics by respondents.

Overall, about three-tenths (31.3%) of the respondents had taken antibiotics during the 12 months prior to the survey (Fig. 3.10).

Fig. 3.10: Whether had taken any antibiotics during the 12 months prior to the survey (Q22)



Base: All respondents excluding "don't know / can't remember" = 2.025

#### 3.10.1 Where respondents obtained the antibiotics that they took last time

Among those respondents who had taken any antibiotics during the 12 months prior to the survey, the vast majority (96.1%) of them reported that the antibiotics they took last time was prescribed by doctors<sup>26</sup>. On the other hand, a small proportion of those respondents purchased antibiotics by themselves<sup>27</sup> (3.6%) and took the leftover of previously bought drugs (0.2%) (Fig. 3.10.1).

<sup>&</sup>lt;sup>26</sup> Prescription by doctors includes those with doctor's prescription but purchase from dispensary.

<sup>&</sup>lt;sup>27</sup> Self purchase includes those without doctor's prescription but purchase from dispensary.



Fig. 3.10.1: Where respondents obtained the antibiotics that they took last time (Q23)

Base: Respondents who had taken any antibiotics during the 12 months prior to the survey excluding "don't know / can't remember" = 634

# **3.10.2** Whether following the doctor's or pharmacist's instructions when they took antibiotics prescribed by doctors last time

Among those respondents who took antibiotics last time that had been prescribed by doctors, they were further asked whether they followed the doctor's or pharmacist's instructions when they took antibiotics last time. From the survey results, the vast majority of respondents followed the doctor's or pharmacist's instructions when they took antibiotics prescribed by doctors last time. 97.3% of respondents reported that they followed the instruction of "the dose to be taken every time", 96.2% followed the instruction of "the frequency taking the drugs every day" and 92.4% followed the instruction of "completing the numbers of days of the treatment regimen according to doctor's or pharmacist's instruction" (Fig. 3.10.2).

Fig. 3.10.2: Whether following doctor's or pharmacist's instructions when they took antibiotics prescribed by doctors last time (Q24a-Q24c)



Base: Respondents who took antibiotics last time was prescribed by doctors excluding "don't know / can't remember"

# **3.10.3** Whether the doctor or the pharmacist reminded respondents when they took antibiotics prescribed by doctors last time

Among those respondents who took antibiotics last time that had been prescribed by doctors, more than four-fifths of the respondents reported that they had been reminded by their doctors or pharmacists of the need to complete the whole course (88.9%) and the number of days of the treatment regimen (82.0%). However, less than one-third (32.5%) of the respondents had been reminded by their doctors or pharmacists of the increased risk of emergence of antibiotic resistant bacteria if they take antibiotics improperly (Fig. 3.10.3).

Fig. 3.10.3: Whether the doctor or the pharmacist reminded respondents when they took antibiotics prescribed by doctors last time (Q25a-Q25c)



Base: Respondents who took antibiotics last time was prescribed by doctors excluding "don't know / can't remember"

### 3.11 Sunburn

Seven questions were asked to understand whether respondents got sunburn<sup>28</sup> during the 12 months prior to survey and the reasons for the sunburn.

Overall, about one-tenth (9.8%) of the respondents got sunburn in the 12 months prior to the survey (Fig. 3.11).

Fig. 3.11: Whether respondents got sunburn during the 12 months prior to the survey (Q26)



Base: All respondents = 2 100

Total

Mean

Median

# 3.11.1 Frequency of getting sunburn

Among those respondents who got sunburn during the 12 months prior to the survey, about half (49.6%) of the respondents reported that they got sunburn 2 or more times. The mean and median times of sunburn got by respondents were 2.5 times and 1.0 time respectively (Table 3.11.1).

survey (percentage, mean and median) (Q27)No. of timesNo. of respondentsNumber% of Total1 time10250.4%2 or more times10049.6%

203\*

Table 3.11.1: Frequency of getting sunburn during the 12 months prior to the survey (percentage, mean and median) (Q27)

\*Respondents who got sunburn during the 12 months prior to the survey excluding "don't know / can't remember"

100.0%

2.5 times

1.0 time

<sup>&</sup>lt;sup>28</sup> Sunburn is defined as any time that even a small part of skin was red or sore for more than 12 hours.

#### **3.11.2** Reasons for the sunburn(s)

Among those respondents who got sunburn during the 12 months prior to the survey, more than half (55.1%) of the respondents reported that they got sunburn from participation in land sports and other related activities, followed by participation in water sports and other related activities (48.6%) and due to outdoor work under the sun (26.4%) (Fig. 3.11.2).





*Base: Respondents who got sunburn during the 12 months prior to the survey = 205 (multiple responses)* 

### **3.12** General health status

When respondents were asked to self-assess their general health status, more than two-fifths (44.2%) of the respondents rated their health status "good", "very good" or "excellent", while 6.6% considered their health status was "poor" (Fig. 3.12).



Fig. 3.12: Perception about general health status (Q29)

Base: All respondents excluding "don't know" = 2 099

# Chapter 4 Sub-group Analysis by Demographic Information and Related Questions

# 4.1 **Re-grouping of variables**

In this chapter, sub-group analyses are performed based on the breakdown of respondents' demographic information including gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters to see if there are any significant associations between these demographic factors and the areas being investigated. Additional cross tabulations are also done for special areas of interest. For example, Body Mass Index (BMI) is analyzed by perceptions about current weight.

Some of the responses have been re-grouped into smaller number of categories in order to make the sub-group analyses more robust. Table 4.1a shows how the demographic variables have been re-grouped while Table 4.1b illustrates how the responses of some questions were combined. The response of "don't know", "can't remember", "not sure", "not applicable", "refuse to answer" and "outliers" have been excluded from all the sub-group analyses in this chapter.

Demographic variable	Original level	Re-grouped level	Sample size (weighted)	
<b>a</b> 1	Male	Male	975	
Gender	Female	Female	1 125	
		18 - 24	272	
		25 - 34	453	
Age group	No grouping	35 - 44	518	
		45 - 54	527	
		55 - 64	314	
	Primary or below	Primary or below	237	
	Had not completed secondary	Had not completed secondary	373	
Educational	Completed secondary (F.5)	Completed secondary (F.5)	561	
attainment	Matriculation	Matriculation	189	
	Tertiary (non-degree)/degree or above	Tertiary or above	735	
	Never married	Never married	667	
Marital status	Married with child(ren)		1 222	
	Married without child(ren)	Married	1 332	
	Divorced / Separated	Divorced / Separated /	0.4	
	Widowed	Widowed	94	

Table 4.1a: Re-grouping the responses of demographic information (Q1, Q30 – Q39)

	Employer / Managers /			
	Administrator	Managerial / Professional	562	
	Professional	worker		
	Associate professional		227	
	Clerk	Clerk	237	
	Service worker	Service worker	206	
	Shop sales worker			
	Skilled agricultural / Fishery			
Occupation	worker	_		
	Craft and related worker	Blue collar worker	310	
	assembler			
	Unskilled worker			
	Student			
	Home-maker			
	Unemployed person	Not working persons	736	
	Retired person			
	Other not-worker person			
	Less than \$2,000			
	\$2,000 - \$3,999		10.5	
	\$4,000 - \$5,999	Below \$8,000	136	
	\$6,000 - \$7,999			
	\$8,000 - \$9,999			
	\$10,000 - \$11,999	\$8,000 - \$13,999	263	
	\$12,000 - \$13,999			
	\$14,000 - \$15,999			
Monthly	\$16,000 - \$17,999	\$14,000 - \$19,999	234	
household	\$18,000 - \$19,999			
income	\$20,000 - \$24,999			
	\$25,000 - \$29,999			
	\$30,000 - \$34,999	\$20,000 - \$39,999	597	
	\$35,000 - \$39,999			
	\$40,000 - \$44,999			
	\$45,000 - \$49,999			
	\$50,000 - \$54,999	\$40,000 or above	473	
	\$55,000 - \$59,999		.,,5	
	\$60,000 or above	1		

	Public rental flats	Public rental flats	638	
	Housing Authority subsidized sale flats Housing Society subsidized sale	Subsidized sale flats	288	
Type of	flats			
living	Private residential flats			
quarters	Villas/ Bungalows/ Modern village houses		1.105	
	Simple stone structures/ Traditional village houses	Private housing	1 135	
	Staff quarters			

 Table 4.1b: Re-grouping the responses of questions

Question No.	Question content	Original level	Re-grouped level	
Q7, Q9, Q11,	Average days per week spent	0 day		
	on vigorous/moderate physical activities and	1 day	0 – 1 day	
	walking	2 days		
		3 days	2-3 days	
017ai, 017bi,	Average days per week that	4 days		
Q17c	respondents drink fruit	5 days	4 – 5 days	
	/vegetable juice, eat fruit/vegetable	6 days	( 7 days	
		7 days	6 – 7 days	
Q14	Frequency of doing exercise	Once or more a day	At least 4 times per	
		4-6 times per week	week	
		2-3 times per week	1.3 times per week	
		Once a week	1-3 times per week	
		2-3 times a month	1.2 times per month	
		Once a month	1-3 times per month	
		Less than once a month	Less than once a month	
Q15a, Q15b, Q15c,	Average minutes per day		Less than 30 minutes	
Q10a, Q10b, Q10c	activities during weekdays		30-<60 minutes	
	and weekends	No grouping	60-<120 minutes	
			120-<180 minutes	
			180 minutes or above	

Q16b	Weekly frequency of	Daily	6 days or more per	
	alcoholic drink last month	6 days per week	week	
		5 days per week		
		4 days per week	4 – 5 days per week	
		3 days per week		
		2 days per week	2 – 3 days per week	
		1 day per week	1 days on land managements	
		Less than 1 day per week	I day or less per week	
Q20a	Average hours per day of		Less than 6 hours	
	steeping	No grouping	6-8 hours	
			More than 8 hours	
Q20e	Number of days didn't get		0 days	
	enough sleep	N	1-<10 days	
		No grouping	10-<20 days	
			20 days or more	
Q20f	Sleep quality	Very well	XX 11 (XXX 11	
		Well	very well / well	
		Fair	Fair	
		Poor	Door / Voru poor	
		Very Poor		
Q21b	Period of time since last	1 - 12 months	1 - 12 months	
	cervical shiear	13 – 24 months	12.24	
		25 – 36 months	13-36 months	
		37 – 48 months		
		49 – 60 months	37 or more months	
		61 months or above		
Q27	Frequency of getting		1 time	
	sunburn	No grouping	2 times or more	
Q29	General health status	Excellent		
		Very good	Excellent/ Very good/ Good	
		Good		
		Fair	Fair	
		Poor	Poor	

Three types of statistical tests<sup>29</sup> are used for sub-group analysis in this report, namely Pearson chi-square test, Kruskal-Wallis test and Spearman's rank correlation. When both variables are nominal, the chi-square test is used. When one variable is nominal and the other one is ordinal, the Kruskal-Wallis test is adopted. Spearman's rank correlation is performed when both variables are ordinal. Only statistically significant results at the 5% level are presented in this chapter. As for the Pearson chi-square test, only those tables where no more than 20% of the cells had expected values of less than 5 are included.

Only the Pearson chi-square test uses weighted data; the Kruskal-Wallis test and Spearman's rank correlation are carried out without weighting as SPSS is unable to handle non-integer weights for these two tests. However, all percentages are reported after weighting.

$$\lambda^2 = \sum_{i} \sum_{j} \frac{(Oij - eij)^2}{eij}$$

where  $O_{ij}$  is the observed value corresponding to the ith column and the jth row,  $e_{ij}$  is the expected value corresponding to the ith column and the jth row. The calculation of  $e_{ij}$  is as follows: expected value = (ith column total x jth row total) / Overall total **Kruskal-Wallis test:** 

$$H = \frac{12}{N(N+1)} \sum_{i=1}^{k} \frac{R_i^2}{n_i} - 3(N+1)$$

where N is the total number of observations,  $R_i$  is the sum of the ranks of the values of the i<sup>th</sup> sample and  $n_i$  is the number of observations of the i<sup>th</sup> sample. Spearman's rank correlation coefficient:

$$r = \sum_{i=1}^{N} \frac{(X_i - \overline{X})(Y_i - \overline{Y})}{(N-1)SxSy}$$

where N is the sample size and Sx and Sy are the standard deviations of the rank of the two variables and Xi and Yi are the ith rank of X and Y respectively and  $\overline{X}$  and  $\overline{Y}$  are the mean rank of X and Y respectively. The rank order of each data value is used in the above formula (adjustments are made if there are ties). Pairwise method is used to handle missing data.

<sup>&</sup>lt;sup>29</sup> These statistical tests used SPSS. Formulae for the three tests are included for reference. **Pearson chi-square statistics:** 

# 4.2 Weight status and control

#### 4.2.1 Weight status

In this section, respondents are classified as "underweight", "normal", "overweight" and "obese" based on their BMI and the WHO classification for the Asian standard. "Underweight" is defined as having a BMI below 18.5; "normal" refers to having a BMI between 18.5 and less than 23.0; "overweight" is having a BMI between 23.0 and less than 25.0; and "obese" is defined as having a BMI greater than or equal to 25.0.

Using the Asian standard of WHO classification, weight status is associated significantly with five demographic variables including gender, age, educational attainment, marital status and occupation (Table 4.2.1).

More male respondents (33.3%) were classified as "obese" while more female respondents (13.9%) were classified as "underweight". In terms of age, respondents aged 34 or below (ranged from 14.9% to 25.3%) were more likely to be "underweight" while those aged 35 or above were more likely to be classified as "overweight" (ranged from 19.1% to 23.8%) or "obese" (ranged from 24.9% to 31.5%).

A relatively higher proportion of respondents with primary education level or below (37.1%) were classified as "obese".

The never married respondents (17.9%) were more likely to be "underweight" than the married respondents and the divorced/ separated/ widowed respondents (both were 6.0%). A relatively higher proportion of married respondents (27.9%) and divorced/ separated/ widowed respondents (30.0%) were classified as "obese".

Regarding the respondents' occupation, a relatively higher proportion of blue collar workers (36.1%) was classified as "obese".

							<b>P-value</b>		
Variable	Level	Base	Under- weight	Normal	Over- weight	Obese	Chi- square test	Kruskal- Wallis test	Rank correlation
C l	Male	943	5.4%	38.7%	22.6%	33.3%		0.000	
Gender	Female	1 068	13.9%	58.0%	13.8%	14.3%			
Age	18-24	260	25.3%	60.6%	8.5%	5.5%			
	25-34	436	14.9%	55.2%	12.4%	17.5%			
	35-44	499	7.0%	49.0%	19.1%	24.9%			0.000
	45-54	510	3.3%	41.4%	23.8%	31.5%			
	55-64	293	5.0%	43.3%	21.9%	29.8%			

 Table 4.2.1: Weight status based on BMI and the classification of WHO (Asian standard)

	Primary or below	218	4.4%	35.7%	22.8%	37.1%			
Educational attainment	Had not completed secondary	354	9.0%	46.1%	21.2%	23.7%			
	Completed secondary (F.5)	542	8.5%	48.7%	17.0%	25.8%			0.000
	Matriculation	182	17.3%	55.2%	17.3%	10.2%			
	Tertiary or above	711	11.3%	53.1%	15.4%	20.2%			
	Never married	648	17.9%	56.7%	12.0%	13.4%		0.000	
Marital	Married	1 274	6.0%	45.2%	20.9%	27.9%			
status	Divorced/ Separated/ Widowed	84	6.0%	45.6%	18.4%	30.0%			
	Managerial/ Professional worker	547	8.1%	46.1%	18.1%	27.6%			
	Clerk	228	13.8%	56.2%	11.8%	18.1%			
Occupation	Service worker	200	11.8%	50.4%	21.6%	16.1%		0.000	
	Blue collar worker	297	2.8%	35.5%	25.6%	36.1%			
	Not working	695	13.1%	54.4%	14.9%	17.6%			

# 4.2.2 Perception about current weight status

Perception about current weight status is associated significantly with respondents' gender, age, educational attainment, marital status and occupation (Table 4.2.2a).

A relatively higher proportion of male respondents (10.3%) considered themselves as "underweight". Respondents aged 35 or above (ranged from 42.7% to 51.3%) were more likely to consider themselves as "overweight" than younger age groups (ranged from 22.4% to 37.6%).

Regarding the respondents' education level, a relatively higher proportion of respondents with secondary education level or below (ranged from 45.3% to 47.0%) considered themselves as "overweight". In terms of marital status, married respondents (48.3%) and divorced/ separated/ widowed respondents (52.7%) were more likely to have perceived themselves as "overweight".

Regarding to the respondents' occupation, a relatively higher proportion of managerial/ professional workers (48.5%), clerks (46.4%) and blue collar workers (43.4%) considered themselves as "overweight".

							P-value	!
Variable	Level	Base	Under- weight	Just right	Over- weight	Chi- square test	Kruskal- Wallis test	Rank correlation
C l	Male	970	10.3%	48.1%	41.5%		0.001	
Gender	Female	1 108	6.3%	50.5%	43.2%		0.001	
	18-24	271	11.4%	66.2%	22.4%			
	25-34	444	10.2%	52.2%	37.6%			
Age	35-44	512	5.8%	46.5%	47.6%			0.000
	45-54	525	6.6%	42.1%	51.3%			
	55-64	310	9.2%	48.1%	42.7%			
	Primary or below	234	6.8%	46.2%	47.0%			
Educational	Had not completed secondary	371	10.4%	44.4%	45.3%			
attainment	Completed secondary (F.5)	556	7.3%	47.3%	45.5%			0.007
	Matriculation	187	12.2%	59.0%	28.9%			
	Tertiary or above	726	7.3%	52.2%	40.5%			
	Never married	666	12.3%	58.2%	29.5%			
Marital	Married	1 313	6.3%	45.4%	48.3%		0.000	
status	Divorced/ Separated/ Widowed	92	5.5%	41.8%	52.7%		0.000	
	Managerial/ Professional worker	558	6.8%	44.7%	48.5%			
	Clerk	235	8.7%	44.9%	46.4%			
Occupation	Service worker	205	8.6%	54.0%	37.4%		0.002	
	Blue collar worker	309	9.0%	47.6%	43.4%			
	Not working	725	8.9%	54.1%	37.0%			

 Table 4.2.2a: Perception about current weight status (Q4)

Analyses of respondents' perception about their current weight by their weight status based on the Asian standard of WHO classification was carried out. There are significant associations between these two types of variables (Table 4.2.2b).

For those respondents who were classified as "underweight", about three-fifths of them considered themselves as "just right" (55.5%) or "overweight" (4.0%).

Among those respondents who were classified as "overweight", 40.9% of them considered themselves as "just right". Also, 14.7% of "obese" respondents perceived themselves as "just right".

			Percep	otion of c weight	urrent	P-value		
Variable	Level	Base	Under -weight	Just right	Over- weight	Chi-square test	Kruskal- Wallis test	Rank correlation
WHO	Underweight	200	40.5%	55.5%	4.0%			
classification	Normal	980	7.8%	68.3%	23.9%			0.000
(Asian standard)	Overweight	360	1.2%	40.9%	57.9%			0.000
stanuaru)	Obese	466	0.5%	14.7%	84.8%			

Table 4.2.2b: Perception about current weight status analysed by weight statusbased on WHO classification (Asian standard)

# 4.2.3 Weight control

Statistically significant associations exist between respondents' behaviour in controlling weight deliberately over the 12 months prior to the survey and their gender, educational attainment, occupation, monthly household income and type of living quarters.

Comparatively speaking, female respondents (34.0%), those with matriculation education or above (ranged from 34.9% to 37.6%), managerial/ professional workers (39.5%), those had monthly household income of \$40,000 or above (37.2%) and those living in private housing (34.5%) were more likely than their respective counterparts to control their weight deliberately during the 12 months prior to the survey (Table 4.2.3a).

					P-value				
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation		
Gender	Male	972	28.9%	71.1%	0.011				
	Female	1 112	34.0%	66.0%	0.011				
	Primary or below	236	25.8%	74.2%					
	Had not completed secondary	373	29.0%	71.0%					
Educational attainment	Completed secondary (F.5)	556	27.2%	72.8%		0.000			
	Matriculation	187	34.9%	65.1%					
	Tertiary or above	728	37.6%	62.4%					

Table 4.2.3a: Controlling weight deliberately in the 12 months prior to the survey (Q5a)

	Managerial/ Professional worker	559	39.5%	60.5%			
	Clerk	235	30.4%	69.6%			
Occupation	Service worker	205	28.7%	71.3%	0.000		
	Blue collar worker	309	24.2%	75.8%			
	Not working	728	29.9%	70.1%			
	Below \$8,000	135	26.6%	73.4%			
Monthly	\$8,000 - \$13,999	262	33.2%	66.8%			
household	\$14,000 - \$19,999	234	31.5%	68.5%		0.035	
income	\$20,000 - \$39,999	594	29.5%	70.5%			
	\$40,000 or above	465	37.2%	62.8%			
Type of living quarters	Public rental flats	634	28.0%	72.0%			
	Subsidized sale flats	287	29.1%	70.9%	0.012		
	Private housing	1 124	34.5%	65.5%			

Respondents' behaviour in controlling weight is associated significantly with the weight status by the Asian standard of WHO classification.

Respondents who were classified as "overweight" (35.5%) or "obese" (41.4%) were more likely to have reported that they had controlled their weight in the 12 months prior to the survey than other respondents (Table 4.2.3b).

 Table 4.2.3b: Controlling weight deliberately in 12 months (Q5a) analysed by weight status

					P-value			
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation	
	Underweight	200	16.9%	83.1%		0.000		
Weight status by	Normal	984	29.0%	71.0%				
(Asian standard)	Overweight	360	35.5%	64.5%				
	Obese	467	41.4%	58.6%				

# 4.2.4 Methods adopted to control weight

### 4.2.4.1 Taking drugs or products

The weight control method of taking drugs or products is associated significantly with gender and occupation.

A relatively higher proportion of female respondents (17.4%) and clerks (27.0%) reported that they had taken drugs or products to control weight (Table 4.2.4.1).

14000 1121		<u> </u>			1200			
					P-value			
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation	
Gender	Male	280	7.0%	93.0%	0.000			
	Female	379	17.4%	82.6%	0.000			
	Managerial/ Professional worker	221	10.0%	90.0%				
	Clerk	72	27.0%	73.0%				
Occupation	Service worker	59	15.6%	84.4%	0.003			
	Blue collar worker	75	8.7%	91.3%				
	Not working	218	12.0%	88.0%				

 Table 4.2.4.1: Taking drugs or products to control weight (Q6a)

# 4.2.4.2 Consulting doctors or dieticians

The weight control method of consulting doctors or dieticians is associated significantly with occupation.

Clerks (16.9%) were more likely to control their weight by consulting doctors or dieticians (Table 4.2.4.2).

					<b>P-value</b>			
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation	
	Managerial/ Professional worker	221	7.8%	92.2%				
	Clerk	72	16.9%	83.1%				
Occupation	Service worker	59	3.8%	96.2%	0.044			
	Blue collar worker	75	5.3%	94.7%				
	Not working	218	7.7%	92.3%				

 Table 4.2.4.2: Consulting doctors or dieticians (Q6b)

#### 4.2.4.3 Going to weight control or beauty parlours

The weight control method of going to weight control or beauty parlours is associated significantly with gender.

Female respondents (5.6%) were more likely to control their weight by going to weight control or beauty parlours (Table 4.2.4.3).

					P-value			
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation	
Gender	Male	280	1.0%	99.0%	0.002			
	Female	379	5.6%	94.4%	0.002			

Table 4.2.4.3: Going to weight control or beauty parlours (Q6c)

#### 4.2.4.4 Changing dietary habit

The weight control method of changing dietary habit is associated significantly with occupation.

Clerks (85.1%), managerial/ professional workers (82.2%) and service workers (81.1%) were more likely to control their weight by changing dietary habit (Table 4.2.4.4).

					P-value			
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation	
	Managerial/ Professional worker	221	82.2%	17.8%				
	Clerk	72	85.1%	14.9%				
Occupation	Service worker	59	81.1%	18.9%	0.027			
	Blue collar worker	75	66.3%	33.7%				
	Not working	218	76.7%	23.3%				

*Table 4.2.4.4: Changing dietary habit (Q6e)* 

# 4.3 **Physical activities**

#### 4.3.1 Vigorous physical activities

The number of days spent on doing vigorous physical activities for at least 10 minutes in the week prior to the survey is associated significantly with respondents' demographic characteristics including gender, age, marital status and occupation.

Female respondents (81.6%), those aged 45-64 (ranged from 79.0% to 79.2%), divorced/ separated/ widowed respondents (86.1%) and clerks (84.9%) or managerial/ professional workers (80.4%) were more likely than their respective counterparts to have engaged in vigorous physical activities for at least 10 minutes on one day or less in the week before interview (Table 4.3.1).

								P-value	
Variable	Level	Base	0 – 1 day	2 – 3 days	4 – 5 days	6 – 7 days	Chi-square test	Kruskal- Wallis test	Rank correlation
a i	Male	975	71.1%	16.5%	5.3%	7.2%		0.000	
Gender	Female	1 125	81.6%	11.6%	3.6%	3.3%		0.000	
	18-24	272	69.9%	22.8%	5.2%	2.0%			
	25-34	453	77.3%	14.8%	3.7%	4.1%			
Age	35-44	518	75.7%	15.3%	4.6%	4.5%			0.002
	45-54	527	79.2%	9.7%	4.6%	6.5%			
	55-64	314	79.0%	9.7%	4.2%	7.2%			
	Never married	667	74.6%	18.5%	3.8%	3.1%			
Marital	Married	1 332	77.2%	12.3%	4.4%	6.1%			
status	Divorced/ Separated/ Widowed	94	86.1%	3.4%	6.6%	3.8%		0.018	
	Managerial/ Professional worker	562	80.4%	13.0%	2.8%	3.8%			
	Clerk	237	84.9%	12.1%	1.0%	2.0%			
Occupation	Service worker	206	70.6%	20.9%	5.2%	3.4%		0.000	
	Blue collar worker	310	66.9%	12.6%	6.4%	14.1%			
	Not working	736	77.1%	13.7%	5.5%	3.6%			

Table 4.3.1: Number of days spent on doing vigorous physical activities for at least 10 minutes in the week prior to the survey (Q7)
### 4.3.2 Moderate physical activities

The number of days spent on doing moderate physical activities for at least 10 minutes in the week prior to the survey is associated significantly with respondents' educational attainment, marital status, occupation and monthly household income.

Respondents who had not completed secondary education (15.3%) or had an educational attainment of primary or below (14.6%), married or divorced/ separated / widowed respondents (ranged from 12.1% to 13.8%), blue collar workers (17.8%) and those with monthly household income of below \$14,000 (ranged from 15.1% to 15.8%) were more likely to have spent 6-7 days on moderate physical activites for at least 10 minutes than their respective counterparts in the week prior to the survey (Table 4.3.2).

 Table 4.3.2: Number of days spent on doing moderate physical activities for at least 10 minutes in the week prior to the survey (Q9)

								P-value	
Variable	Level	Base	0 – 1 day	2 – 3 days	4 – 5 days	6 – 7 days	Chi-square test	Kruskal- Wallis test	Rank correlation
	Primary or below	237	70.2%	11.5%	3.8%	14.6%			
	Had not completed secondary	373	65.3%	11.7%	7.7%	15.3%			
Educational attainment	Completed secondary (F.5)	561	62.2%	20.2%	7.0%	10.6%			0.049
	Matriculation	189	68.7%	18.6%	3.7%	9.0%			
	Tertiary or above	735	69.3%	17.5%	6.1%	7.1%			
	Never married	667	70.4%	17.6%	5.2%	6.7%			
Marital	Married	1 332	65.0%	16.4%	6.5%	12.1%			
status	Divorced/ Separated/ Widowed	94	66.8%	11.8%	7.6%	13.8%		0.043	
	Managerial/ Professional worker	562	70.3%	16.3%	5.5%	7.9%			
	Clerk	237	72.4%	18.6%	4.4%	4.6%			
Occupation	Service worker	206	60.3%	21.9%	7.1%	10.7%		0.001	
	Blue collar worker	310	60.7%	12.9%	8.6%	17.8%			
	Not working	736	66.3%	16.4%	5.9%	11.3%			

	Below \$8,000	136	60.6%	14.5%	9.1%	15.8%		
	\$8,000 - \$13,999	263	66.3%	13.3%	5.3%	15.1%		
Monthly household	\$14,000 - \$19,999	234	63.7%	18.2%	5.9%	12.2%		0.037
income	\$20,000 - \$39,999	597	67.4%	17.0%	6.7%	8.9%		
	\$40,000 or above	473	69.0%	19.5%	4.6%	6.9%		

### 4.3.3 Walking

Significant associations exist between the number of days spent on walking for at least 10 minutes in the week prior to the survey and respondents' age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of respondents who had not completed secondary education (79.3%) or had an educational attainment of primary or below (82.1%), married respondents (76.3%), blue collar workers (86.6%), those who had monthly household of \$14,000 to \$19,999 (83.6%) and those living in public rental flats (80.1%) reported that they walked for at least 10 minutes on 6-7 days within the week prior to the survey. Also, the older the respondents, the more likely they were to report that they walked for at least 10 minutes on 6-7 days within the week prior to the survey (Table 4.3.3).

					4 - 5	5 6-7		p-value	
Variable	Level	Base	0 – 1 day	2 – 3 days	4 – 5 days	6 – 7 days	Chi-square test	Kruskal- Wallis test	Rank correlation
	18-24	272	4.7%	9.4%	20.0%	65.9%			
	25-34	453	4.1%	9.3%	13.8%	72.8%			
Age	35-44	518	5.1%	7.6%	11.5%	75.8%			0.000
	45-54	527	3.9%	7.2%	12.7%	76.1%			
	55-64	314	5.0%	7.7%	6.7%	80.5%			
	Primary or below	237	3.7%	5.4%	8.8%	82.1%			
	Had not completed secondary	373	3.7%	6.6%	10.3%	79.3%			
Educational attainment	Completed secondary (F.5)	561	5.9%	7.7%	9.5%	76.9%			0.000
	Matriculation	189	2.7%	8.7%	21.6%	67.1%			
	Tertiary or above	735	4.9%	9.8%	15.2%	70.0%			

 Table 4.3.3: Number of days spent on walking for at least 10 minutes in the week

 prior to the survey (Q11)

	Never married	667	3.9%	9.1%	15.0%	72.1%		
Marital	Married	1 332	4.8%	7.4%	11.4%	76.3%		
status	Divorced/ Separated/ Widowed	94	6.3%	10.3%	14.6%	68.8%	0.019	
	Managerial/ Professional worker	562	5.2%	8.8%	14.0%	72.0%		
<b>a</b>	Clerk	237	4.3%	6.3%	10.3%	79.1%	0.000	
Occupation	Service worker	206	3.4%	7.1%	9.1%	80.4%	0.000	
	Blue collar worker	310	3.2%	4.1%	6.1%	86.6%		
	Not working	736	4.5%	10.0%	16.0%	69.4%		
	Below \$8,000	136	4.1%	7.9%	12.2%	75.8%		
	\$8,000 - \$13,999	263	6.0%	8.3%	11.2%	74.5%		
Monthly household	\$14,000 - \$19,999	234	2.6%	5.6%	8.3%	83.6%		0.030
income	\$20,000 - \$39,999	597	4.2%	6.8%	12.5%	76.6%		
	\$40,000 or above	473	4.8%	11.3%	15.6%	68.3%		
Turne of	Public rental flats	638	3.0%	6.0%	10.8%	80.1%		
living	Subsidized sale flats	288	6.5%	8.0%	12.1%	73.4%	0.009	
quarters	Private housing	1 135	5.1%	9.5%	13.8%	71.7%		

## 4.3.4 Physical activity level based on the analysis of IPAQ

The physical activity level based on the IPAQ analysis is associated significantly with respondents' gender, educational attainment, occupation, monthly household income and type of living quarters.

Male respondents (24.4%), those with primary education or below (27.1%), blue collar workers (34.8%) or service workers (29.3%), those with household income of \$8,000 to \$13,999 (28.2%) and those living in public rental flats (25.0%) were more likely to have their level of physical activity classified as "high" when compared with their respective counterparts (Table 4.3.4).

Variable	Level	Base	Low	Moderate	High	Chi-square test	Kruskal- Wallis test	Rank correlation
Condon	Male	970	22.6%	53.0%	24.4%	0.002		
Gender	Female	1 115	23.1%	58.8%	18.2%	0.002		
	Primary or below	233	18.3%	54.6%	27.1%			
	Had not completed secondary	368	21.2%	55.6%	23.2%			
Educational attainment	Completed secondary (F.5)	558	22.9%	53.5%	23.6%		0.000	
	Matriculation	188	20.6%	59.0%	20.4%			
	Tertiary or above	733	25.8%	58.3%	15.9%			
	Managerial/ Professional worker	561	27.4%	57.1%	15.5%			
	Clerk	236	20.7%	62.4%	16.9%			
Occupation	Service worker	206	19.3%	51.4%	29.3%	0.000		
	Blue collar worker	306	17.7%	47.5%	34.8%			
	Not working	728	22.4%	59.0%	18.6%			
	Below \$8,000	133	24.1%	54.7%	21.2%			
	\$8,000 - \$13,999	263	24.9%	47.0%	28.2%			
Monthly household	\$14,000 - \$19,999	234	16.3%	59.8%	23.9%		0.007	
income	\$20,000 - \$39,999	597	21.5%	57.9%	20.6%			
	\$40,000 or above	470	25.0%	59.4%	15.6%			
Type of	Public rental flats	632	20.3%	54.7%	25.0%			
living	Subsidized sale flats	288	21.7%	59.3%	19.0%	0.016		
4uai tei s	Private housing	1 126	24.9%	56.0%	19.1%			

Table 4.3.4: Physical activity level classified based on categorical score derived from the analysis of IPAQ

## 4.4 Leisure-time activities

#### 4.4.1 Exercise in leisure-time

Frequency of doing exercise in leisure-time during the thirty days prior to the survey is associated significantly with respondents' gender, educational attainment, marital status, occupation and monthly household income.

Female respondents (42.1%), divorced/ separated/ widowed respondents (52.0%), blue collar workers (50.7%), those with monthly household income of below \$20,000 (ranged from 47.1% to 48.1%) were more likely to reported that they had leisure-time exercise less than once a month. Also, the lower the education level of the respondents, the more likely that they reported doing exercise in leisure-time less than once a month (Table 4.4.1).

Table 4.4.1: Frequency of doing exercise in leisure-time during the thirty days prior to the survey (Q14)

			At	4 1-3	1-3	Less		P-value	
Variable	Level	Base	least 4 times per week	times per week	times per month	than once a month	Chi-square test	Kruskal- Wallis test	Rank correlation
C I	Male	971	14.6%	37.4%	13.2%	34.8%		0.014	
Gender	Female	1 121	15.7%	30.9%	11.2%	42.1%		0.014	
	Primary or below	235	20.1%	18.6%	5.2%	56.1%			
	Had not completed secondary	371	21.4%	22.6%	5.5%	50.5%			
Educational attainment	Completed secondary (F.5)	558	12.6%	34.3%	13.1%	40.0%			0.000
	Matriculation	189	16.5%	40.0%	12.7%	30.7%			
	Tertiary or above	734	11.8%	43.0%	16.9%	28.3%			
	Never married	667	11.6%	41.9%	19.5%	27.1%			
Marital	Married	1 325	16.2%	31.0%	9.0%	43.7%			
status	Divorced/ Separated/ Widowed	93	22.7%	20.0%	5.4%	52.0%		0.003	
	Managerial/ Professional worker	561	11.5%	41.6%	17.0%	29.8%			
	Clerk	236	6.2%	38.1%	15.3%	40.4%			
Occupation	Service worker	206	13.4%	35.4%	15.6%	35.6%		0.000	
	Blue collar worker	310	14.8%	26.0%	8.5%	50.7%			
	Not working	732	21.5%	29.6%	8.0%	40.9%			

	Below \$8,000	135	24.2%	23.3%	4.9%	47.6%		
	\$8,000 - \$13,999	263	18.2%	26.2%	8.5%	47.1%		
Monthly household	\$14,000 - \$19,999	233	15.0%	30.5%	6.4%	48.1%		0.005
income	\$20,000 - \$39,999	597	14.3%	34.0%	16.5%	35.2%		
	\$40,000 or above	471	12.1%	45.4%	14.2%	28.3%		

#### 4.4.2 Watching television during weekdays

Daily average time spent on watching television (including videos, VCDs or DVDs) in the leisure-time during weekdays (i.e. Monday to Friday) is associated significantly with respondents' gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Female respondents (38.4%), those aged 55-64 (42.5%), divorced/ separated/ widowed respondents (48.9%), not working respondents (47.6%), those with monthly household income of below \$8,000 (49.4%) and those living in public rental flats (42.0%) were more likely to spend on average 180 minutes or above of their leisure-time a day on watching television during weekdays. Also, the lower the education level of respondents, the more likely that they reported so (Table 4.4.2).

			Less	30.	- 60-	120-	180		p-value	
Variable	Level	Base	than 30 mins	<60 mins	<120 mins	<180 mins	mins or above	Chi- square test	Kruskal- Wallis test	Rank correlation
Condon	Male	971	5.7%	8.3%	28.5%	28.4%	29.1%		0.000	
Gender	Female	1 121	5.0%	6.1%	20.3%	30.2%	38.4%		0.000	
	18-24	271	7.9%	5.3%	21.3%	30.3%	35.1%			
	25-34	450	4.4%	8.6%	20.6%	35.2%	31.2%			
Age	35-44	518	6.8%	8.3%	29.9%	27.2%	27.7%			0.000
	45-54	526	4.1%	6.4%	24.9%	27.3%	37.2%			
	55-64	310	3.9%	5.1%	21.0%	27.5%	42.5%			
	Primary or below	236	3.1%	3.8%	17.8%	28.2%	47.1%			
Educational	Had not completed secondary	368	5.8%	3.1%	16.4%	28.8%	45.8%			0.000
attainment	Completed secondary (F.5)	561	2.4%	5.2%	25.0%	29.7%	37.7%			0.000
	Matriculation	189	5.7%	9.5%	24.4%	28.4%	31.9%			
	Tertiary or above	733	8.0%	11.0%	29.4%	30.0%	21.7%			

Table 4.4.2: Average daily time spent on watching television during weekdays (Q15a)

	Never married	664	7.4%	7.4%	21.2%	31.8%	32.3%		
Marital	Married	1 327	4.3%	7.2%	26.0%	28.6%	33.9%	0.00 <b>-</b>	
Status	Divorced/ Separated/ Widowed	93	5.1%	3.4%	18.1%	24.6%	48.9%	0.007	
	Managerial/ Professional worker	561	6.2%	11.9%	33.3%	28.2%	20.5%		
	Clerk	237	5.3%	5.4%	28.8%	30.5%	30.0%		
Occupation	Service worker	206	5.1%	6.0%	27.0%	35.0%	26.9%	0.000	
	Blue collar worker	310	4.5%	7.2%	20.9%	30.4%	37.0%		
	Not working	730	5.0%	4.1%	15.7%	27.7%	47.6%		
	Below \$8,000	135	5.5%	3.3%	21.0%	20.8%	49.4%		
	\$8,000 - \$13,999	263	4.0%	7.4%	17.4%	30.8%	40.4%		
Monthly household	\$14,000 - \$19,999	234	4.6%	5.0%	24.7%	32.6%	33.1%		0.000
income	\$20,000 - \$39,999	597	4.2%	6.7%	23.2%	31.2%	34.7%		
	\$40,000 or above	471	5.8%	10.6%	32.7%	26.2%	24.8%		
Type of	Public rental flats	635	4.2%	7.0%	19.7%	27.2%	42.0%		
living quarters	Subsidized sale flats	288	3.3%	6.0%	22.3%	36.5%	31.8%	0.000	
	Private housing	1 131	6.4%	7.4%	27.3%	28.7%	30.1%		

#### 4.4.3 Surfing the internet or engaging in related activities during weekdays

Daily average time spent on surfing the internet or engaging in related activities in the leisure-time during weekdays (i.e. Monday to Friday) is associated significantly with gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

Male respondents (18.8%), those with matriculation education level (28.2%), never married respondents (30.9%), not working respondents (20.0%), those with monthly household income of \$20,000-\$39,999 (18.2%), and those living in public rental flats (16.4%) were more likely to spend on average 180 minutes or above of their leisure-time a day on surfing the internet or engaging in related activities during weekdays. Also, the younger the respondents, the more likely that they reported so (Table 4.4.3).

			Less	30-	60-	120-	180		p-value	
Variable	Level	Base	than 30 mins	<60 mins	<120 mins	<180 mins	mins or above	Chi- square test	Kruskal- Wallis test	Rank correlation
Condon	Male	968	30.0%	10.6%	22.6%	17.9%	18.8%		0.000	
Gender	Female	1 118	41.9%	12.8%	19.0%	12.7%	13.5%		0.000	
	18-24	271	3.8%	4.4%	18.0%	24.4%	49.4%			
	25-34	449	16.4%	11.5%	28.9%	22.5%	20.8%			
Age	35-44	518	31.7%	17.2%	25.6%	15.9%	9.7%			0.000
	45-54	522	56.3%	12.8%	16.0%	8.3%	6.6%			
	55-64	310	68.1%	8.5%	10.9%	6.2%	6.3%			
	Primary or below	236	82.5%	4.5%	5.4%	3.5%	4.2%			
Educational	Had not completed secondary	370	63.3%	8.0%	14.8%	7.5%	6.5%			0.000
attainment	Completed secondary (F.5)	561	32.4%	13.1%	23.5%	16.6%	14.5%			0.000
	Matriculation	188	21.5%	12.8%	17.4%	20.1%	28.2%			
	Tertiary or above	726	14.3%	14.9%	27.6%	20.5%	22.7%			
	Never married	663	13.4%	9.2%	24.2%	22.4%	30.9%			
Marital	Married	1 324	45.7%	13.5%	19.4%	12.4%	9.1%		0.000	
Status	Divorced/ Separated/ Widowed	91	68.1%	7.2%	11.9%	4.2%	8.6%		0.000	
	Managerial/ Professional worker	558	18.4%	17.4%	27.7%	19.5%	17.0%			
<b>a</b>	Clerk	235	24.2%	17.7%	25.8%	14.8%	17.4%			
Occupation	Service worker	204	33.5%	14.0%	26.0%	16.6%	9.9%		0.000	
	Blue collar worker	310	61.5%	7.2%	17.1%	6.9%	7.2%			
	Not working	730	44.7%	6.7%	13.9%	14.7%	20.0%			
	Below \$8,000	133	70.6%	5.4%	5.2%	7.4%	11.4%			
	\$8,000 - \$13,999	263	57.6%	4.1%	13.5%	11.4%	13.4%			
Monthly household	\$14,000 - \$19,999	232	32.6%	14.9%	21.7%	16.5%	14.3%			0.000
income	\$20,000 - \$39,999	597	30.2%	13.9%	22.4%	15.3%	18.2%			
	\$40,000 or above	469	21.3%	15.7%	30.1%	17.0%	15.8%			
Type of	Public rental flats	633	45.4%	6.7%	16.7%	14.8%	16.4%			
living quarters	Subsidized sale flats	286	35.7%	11.1%	26.2%	11.6%	15.3%		0.010	
	Private housing	1 128	31.5%	14.8%	21.7%	16.1%	15.9%			

Table 4.4.3: Average daily time spent on surfing the internet or engaging in related activities during weekdays (Q15b)

### 4.4.4 Doing other sedentary activities during weekdays

Daily average time spent on other sedentary activities (e.g. reading books, newspapers and magazines, playing video or computer games, drawing, listening to music or playing music instruments etc) in the leisure-time during weekdays (i.e. Monday to Friday) is associated significantly with respondents' gender, age, educational attainment, marital status and occupation.

Males (12.1%), respondents aged 18-24 (30.1%), those with matriculation education level (22.1%), never married respondents (17.8%) and not working respondents (18.8%) were more likely to spend on average 180 minutes or above of their leisure-time a day on other sedentary activities during weekdays (Table 4.4.4).

			Less	30.	60.	120-	180		p-value	
Variable	Level	Base	than 30 mins	<60 mins	<120 mins	<180 mins	mins or above	Chi- square test	Kruskal- Wallis test	Rank correlation
C l	Male	969	13.6%	19.1%	38.5%	16.7%	12.1%		0.010	
Gender	Female	1 124	15.9%	20.9%	35.2%	16.6%	11.4%		0.010	
	18-24	270	5.3%	12.2%	31.3%	21.0%	30.1%			
	25-34	453	12.8%	25.5%	34.5%	17.9%	9.4%			
Age	35-44	516	15.9%	19.9%	39.7%	15.7%	8.8%			0.000
	45-54	525	17.9%	21.5%	39.1%	14.3%	7.2%			
	55-64	312	19.6%	17.1%	35.0%	16.3%	11.9%			
	Primary or below	236	26.8%	19.7%	32.9%	13.0%	7.6%			
Educational	Had not completed secondary	372	21.4%	19.4%	35.6%	16.2%	7.3%			0.000
attainment	Completed secondary (F.5)	559	14.1%	19.4%	39.0%	15.6%	11.9%			0.000
	Matriculation	188	8.0%	21.3%	32.5%	16.0%	22.1%			
	Tertiary or above	733	10.0%	20.8%	37.5%	19.1%	12.6%			
	Never married	663	9.7%	18.3%	34.7%	19.5%	17.8%			
Marital	Married	1 330	17.0%	21.8%	37.5%	14.8%	8.9%		0.000	
Status	Divorced/ Separated/ Widowed	91	21.8%	8.5%	38.0%	21.3%	10.4%		0.000	

Table 4.4.4: Average daily time spent on other sedentary activities during weekdays (Q15c)

	Managerial/ Professional worker	562	11.4%	22.4%	41.9%	17.1%	7.2%			
	Clerk	236	16.2%	21.4%	37.2%	15.0%	10.2%			
Occupation S F V	Service worker	203	14.7%	22.0%	36.0%	17.7%	9.6%		0.000	
	Blue collar worker	310	26.5%	24.9%	30.9%	11.7%	6.0%	0% 8%		
	Not working	732	11.6%	15.5%	35.3%	18.9%	18.8%			

#### 4.4.5 Watching television during weekends and public holidays

Daily average time spent on watching television including videos, VCDs or DVDs in the leisure-time during weekends and public holidays is associated significantly with respondents' age, occupation and monthly household income.

Blue collar workers (44.1%), not working respondents (43.9%) or clerks (43.7%) and those with monthly household income of below \$40,000 (ranged from 39.5% to 44.5%) were more likely to spend on average 180 minutes or above of their leisure-time a day on watching television during weekends and public holidays. Also, the younger the respondents, the more likely that they reported so (Table 4.4.5).

			Less	30-	60-	120-	180		p-value	
Variable	Level	Base	than 30 mins	<60 mins	<120 mins	<180 mins	mins or above	Chi- square test	Kruskal- Wallis test	Rank correlation
	18-24	271	8.5%	2.9%	15.5%	28.9%	44.1%			
	25-34	453	6.0%	3.5%	12.8%	34.8%	42.9%			
Age	35-44	513	9.7%	4.0%	22.1%	25.4%	38.8%			0.001
	45-54	525	10.3%	5.8%	19.8%	25.8%	38.3%			
	55-64	308	10.0%	6.7%	20.0%	25.5%	37.8%			
	Managerial/ Professional worker	559	7.0%	4.9%	22.1%	31.2%	34.8%			
	Clerk	237	10.1%	2.3%	15.7%	28.2%	43.7%			
Occupation	Service worker	204	10.4%	4.2%	20.3%	32.9%	32.2%		0.015	
	Blue collar worker	309	10.8%	5.8%	18.3%	20.9%	44.1%			
	Not working	731	8.9%	4.4%	15.5%	27.3%	43.9%			

Table 4.4.5: Average daily time spent on watching television during weekends and public holidays (Q16a)

	Below \$8,000	136	9.0%	5.5%	14.9%	31.1%	39.5%		
	\$8,000 - \$13,999	263	10.9%	6.0%	16.2%	24.1%	42.8%		
Monthly household	\$14,000 - \$19,999	234	8.7%	2.3%	17.5%	29.7%	41.7%		0.049
income	\$20,000 - \$39,999	593	7.3%	4.0%	16.0%	28.1%	44.5%		
	\$40,000 or above	471	7.4%	5.0%	24.7%	29.6%	33.2%		

## 4.4.6 Surfing the internet or engaging in related activities during weekends and public holidays

Daily average time spent on surfing the internet or engaging in related activities in the leisure-time during weekends and public holidays is associated significantly with respondents' gender, age, educational attainment, marital status, occupation and monthly household income.

Male respondents (22.9%), those with matriculation education level (31.2%), clerks (21.2%), never married respondents (37.9%) and those with monthly household income of \$14,000 or above (ranged from 19.1% to 19.9%) were more likely to spend on average 180 minutes or above of their leisure-time a day on surfing the internet or engaging in related activities during weekends and public holidays. Also, the younger the respondents, the more likely that they reported so (Table 4.4.6).

			Less	30-	60-	· 120-	180	p-value			
Variable	Level	Base	than 30 mins	<60 mins	<120 mins	<180 mins	mins or above	Chi- square test	Kruskal- Wallis test	Rank correlation	
C l	Male	967	35.3%	5.4%	19.4%	17.0%	22.9%		0.000		
Gender	Female	1 122	47.3%	9.2%	15.7%	13.7%	14.2%		0.000		
	18-24	271	4.1%	1.8%	12.9%	24.9%	56.3%				
	25-34	453	20.2%	5.5%	22.1%	24.8%	27.4%				
Age	35-44	515	38.8%	11.8%	23.5%	14.0%	11.8%			0.000	
	45-54	525	63.5%	8.0%	13.9%	8.5%	6.1%				
	55-64	310	74.3%	6.8%	9.6%	6.0%	3.3%				

Table 4.4.6: Daily average time spent on surfing the internet or engaging in related activities during weekends and public holidays (Q16b)

	Primary or below	236	88.0%	2.6%	4.8%	3.5%	1.1%		
Educational	Had not completed secondary	368	66.7%	4.9%	12.5%	7.8%	8.1%		
attainment	Completed secondary (F.5)	561	39.7%	7.8%	20.9%	14.0%	17.6%		0.000
	Matriculation	187	29.0%	9.4%	13.6%	16.8%	31.2%		
	Tertiary or above	733	18.8%	9.4%	22.3%	23.4%	26.0%		
	Never married	664	14.9%	4.6%	17.9%	24.7%	37.9%		
Marital	Married	1327	52.9%	8.8%	17.8%	11.3%	9.1%	0.000	
Status	Divorced/ Separated/ Widowed	91	74.3%	7.6%	6.6%	3.2%	8.3%	0.000	
	Managerial/ Professional worker	562	24.1%	10.1%	23.3%	22.9%	19.6%		
	Clerk	237	29.5%	10.8%	21.2%	17.2%	21.2%		
Occupation	Service worker	203	35.3%	6.0%	22.5%	18.8%	17.5%	0.000	
	Blue collar worker	309	67.2%	3.0%	12.8%	7.1%	10.0%		
	Not working	731	50.8%	6.6%	12.0%	11.4%	19.2%		
	Below \$8,000	136	66.7%	4.5%	9.5%	7.1%	12.3%		
	\$8,000 - \$13,999	263	61.1%	2.6%	11.6%	9.9%	14.8%		
Monthly household	\$14,000 - \$19,999	234	40.5%	7.8%	18.2%	13.6%	19.9%		0.000
income	\$20,000 - \$39,999	596	35.8%	8.5%	18.3%	18.3%	19.1%		
	\$40,000 or above	472	28.4%	11.3%	23.9%	17.3%	19.1%		

#### 4.4.7 Doing other sedentary activities during weekends and public holidays

Daily average time spent on other sedentary activities (e.g. reading books, newspapers and magazines, playing video or computer games, drawing, listening to music or playing music instruments etc) in the leisure-time during weekends and public holidays is associated significantly with respondents' gender, age, educational attainment, marital status, occupation and monthly household income.

Males (18.7%), respondents aged 18-24 (37.4%), those with matriculation education level (27.7%), never married respondents (25.9%) and not working respondents (21.2%) were more likely to spend on average 180 minutes or above of their leisure-time a day on other sedentary activities during weekends and public holidays (Table 4.4.7).

			Less	30-	- 60-	)- 120-	180		p-value	
Variable	Level	Base	than 30 mins	<60 mins	<120 mins	<180 mins	mins or above	Chi- square test	Kruskal- Wallis test	Rank correlation
C l	Male	965	12.4%	11.0%	32.3%	25.7%	18.7%		0.000	
Gender	Female	1 123	17.4%	12.9%	31.3%	21.1%	17.3%		0.000	
	18-24	271	6.5%	6.2%	20.6%	29.3%	37.4%			
	25-34	453	11.8%	9.6%	36.2%	23.7%	18.7%			
Age	35-44	512	14.9%	15.0%	34.7%	21.1%	14.3%			0.000
	45-54	527	18.4%	14.4%	31.4%	24.0%	11.8%			
	55-64	309	22.9%	11.3%	30.6%	18.9%	16.2%			
Educational attainment	Primary or below	236	33.4%	16.5%	24.2%	13.3%	12.6%			
	Had not completed secondary	370	21.8%	13.3%	31.8%	20.5%	12.6%			0.000
	Completed secondary (F.5)	560	12.5%	14.3%	35.4%	22.4%	15.4%			0.000
	Matriculation	187	10.6%	8.2%	31.4%	22.2%	27.7%			
	Tertiary or above	732	8.9%	9.3%	31.5%	28.5%	21.8%			
	Never married	663	8.8%	7.9%	29.0%	28.4%	25.9%			
Marital	Married	1 326	17.7%	14.3%	33.7%	20.6%	13.7%		0.000	
Status	Divorced/ Separated/ Widowed	91	22.9%	8.8%	24.5%	22.3%	21.5%		0.000	
	Managerial/ Professional worker	560	9.9%	8.4%	35.4%	28.5%	17.7%			
	Clerk	237	10.3%	10.7%	35.6%	26.0%	17.4%			
Occupation	Service worker	205	16.1%	11.0%	35.0%	20.5%	17.4%		0.000	
	Blue collar worker	307	24.5%	19.3%	24.0%	20.9%	11.3%			
	Not working	732	16.3%	12.1%	30.5%	19.8%	21.2%			
	Below \$8,000	134	27.4%	14.1%	22.7%	17.6%	18.2%			
Monthly \$ household \$	\$8,000 - \$13,999	263	24.0%	13.8%	28.5%	18.6%	15.1%			
	\$14,000 - \$19,999	234	13.9%	12.7%	28.3%	27.9%	17.2%			0.000
income	\$20,000 - \$39,999	596	10.2%	12.7%	33.9%	23.5%	19.7%			
	\$40,000 or above	471	11.0%	10.0%	35.6%	26.5%	16.8%			

 Table 4.4.7: Daily average time spent on other sedentary activities during weekends and public holidays (Q16c)

## 4.5 Dietary habits

### 4.5.1 Frequency of drinking fruit or vegetable juice per week

The frequency of fruit or vegetable juice consumption is associated significantly with respondents' gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of female respondents (86.4%), married (87.2%) or divorced/ separated/ widowed respondents (86.9%), clerks (87.0%) and blue collar workers (87.5%) or not working respondents (86.9%), and those living in public rental flats (88.0%) or subsidized sale flats (87.2%) reported that they drank juice or vegetable juice 1 day or less in a week on average. Also, the older, the lower the education level and the lower the monthly household income of respondents, the more likely that they drank fruit or vegetable juice 1 day or less in a week (Table 4.5.1).

Table 4.5.1: Number of days per week in which respondents consumed fruit or vegetable juice (Q17c)

								p-value	
Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	Chi-square test	Kruskal- Wallis test	Rank correlation
Condon	Male	970	83.7%	10.4%	2.5%	3.5%		0.007	
Gender	Female	1 123	86.4%	8.6%	1.7%	3.4%		0.007	
	18-24	271	77.7%	15.3%	4.7%	2.4%			
	25-34	453	81.4%	11.5%	1.7%	5.4%			
Age	35-44	516	84.1%	10.0%	2.7%	3.2%			0.000
	45-54	525	90.2%	6.0%	1.1%	2.7%			
	55-64	311	90.2%	6.1%	0.9%	2.7%			
	Primary or below	236	93.7%	3.0%	0.0%	3.4%			
	Had not completed secondary	372	88.8%	7.1%	1.0%	3.0%			
Educational attainment	Completed secondary (F.5)	560	84.3%	11.5%	1.8%	2.4%			0.000
	Matriculation	187	82.8%	11.3%	2.8%	3.1%			
	Tertiary or above	735	81.6%	10.6%	3.3%	4.5%			
	Never married	666	80.8%	13.3%	2.7%	3.2%			
Marital Status	Married	1 325	87.2%	7.6%	1.8%	3.4%		0.000	
Status	Divorced/Separated /Widowed	94	86.9%	7.4%	0.0%	5.7%			

	Managerial/ Professional worker	562	81.7%	10.8%	3.3%	4.2%		
Oserration	Clerk	237	87.0%	8.6%	2.0%	2.4%	0.024	
Occupation	Service worker	206	82.7%	11.4%	2.3%	3.6%	0.034	
	Blue collar worker	309	87.5%	7.2%	2.1%	3.2%		
	Not working	732	86.9%	9.0%	1.2%	3.0%		
	Below \$8,000	134	91.4%	5.5%	0.0%	3.2%		
Monthly	\$8,000 - \$13,999	263	87.0%	7.0%	2.9%	3.0%		
household	\$14,000 - \$19,999	234	86.3%	7.5%	2.0%	4.2%		0.000
income	\$20,000 - \$39,999	595	85.5%	9.8%	1.9%	2.7%		
	\$40,000 or above	473	80.2%	12.5%	2.9%	4.5%		
T f	Public rental flats	637	88.0%	8.4%	1.0%	2.6%		
lype of living quarters	Subsidized sale flats	287	87.2%	8.0%	3.3%	1.5%	0.023	
quarters	Private housing	1 130	83.1%	10.4%	2.4%	4.2%		

### 4.5.2 Frequency of consuming fruit per week

The frequency of fruit consumption is associated significantly with respondents' gender, age, educational attainment, marital status, occupation and type of living quarters.

The proportion of people consuming fruit 6-7 days a week was higher among female respondents (61.8%), those aged 55-64 (72.0%), married (63.1%) or divorced/ separated/ widowed respondents (63.3%), not working respondents (61.9%) and those living in subsidized sale flats (57.7%) or private housing (58.8%). Also, the lower the education levels of respondents, the more likely that they consumed fruits 6-7 days a week (Table 4.5.2).

								p-value	
Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	Chi-square test	Kruskal- Wallis test	Rank correlation
a l	Male	971	12.1%	18.8%	18.3%	50.9%		0.000	
Gender	Female	1 123	4.9%	17.1%	16.3%	61.8%		0.000	
	18-24	271	10.2%	21.0%	24.4%	44.5%			
	25-34	453	11.7%	23.9%	22.2%	42.2%			
Age	35-44	514	6.7%	17.9%	18.4%	56.9%			0.000
	45-54	526	7.0%	14.9%	13.1%	65.1%			
	55-64	313	6.6%	11.9%	9.5%	72.0%			

Table 4.5.2: Number of days per week in which respondents ate fruit (Q17ai)

	Primary or below	236	7.7%	14.7%	9.8%	67.8%		
	Had not completed secondary	371	10.4%	16.5%	15.3%	57.8%		
Educational attainment	Completed secondary (F.5)	561	7.8%	18.2%	16.6%	57.4%		0.000
	Matriculation	189	7.1%	19.5%	16.9%	56.6%		
	Tertiary or above	733	8.0%	19.0%	21.2%	51.9%		
	Never married	663	12.7%	22.3%	22.2%	42.7%		
Marital Status	Married	1 332	5.9%	15.7%	15.4%	63.1%	0.000	
Status	Divorced/Separated /Widowed	91	10.6%	17.8%	8.3%	63.3%		
	Managerial/ Professional worker	561	9.7%	17.1%	20.1%	53.0%		
Occupation	Clerk	237	9.4%	24.6%	17.8%	48.3%	0.002	
Occupation	Service worker	206	6.8%	24.0%	11.7%	57.5%	0.002	
	Blue collar worker	309	11.2%	15.5%	15.3%	58.0%		
	Not working	733	5.9%	15.4%	16.8%	61.9%		
Tune of	Public rental flats	635	11.8%	19.0%	16.8%	52.4%		
living	Subsidized sale flats	287	9.1%	14.6%	18.6%	57.7%	0.010	
qual tel s	Private housing	1 134	6.1%	18.0%	17.1%	58.8%		

#### 4.5.3 Frequency of consuming vegetables per week

The frequency of vegetable consumption in the week prior to the survey is associated significantly with respondents' gender, age, marital status and occupation.

A relatively higher proportion of female respondents (87.9%), married (87.6%) or divorced/ separated/ widowed respondents (86.3%) and not working respondents (88.9%) had consumed vegetables 6-7 days a week. Also, the older the respondents, the more likely that they had consumed vegetables 6-7 days a week (Table 4.5.3).

(Q17bi)	Table 4.5.3:	Number of	of days	per	week i	n which	respondent	s consumed	vegetables
	(Q17bi)						_		-

								p-value	
Variable	Level	Base	0-1 day	2-3 days	4-5 days	6-7 days	Chi-square test	Kruskal- Wallis test	Rank correlation
Condon	Male	975	2.0%	7.0%	10.4%	80.6%		0.000	
Genuer	Female	1 125 0.7% 3.5% 7.8% 87.9%	0.000						

	18-24	272	2.0%	6.7%	9.1%	82.2%		
	25-34	453	1.0%	6.9%	9.5%	82.6%		
Age	35-44	518	1.4%	4.4%	10.3%	83.9%		0.001
	45-54	527	1.3%	4.4%	9.4%	85.0%		
	55-64	314	0.9%	3.9%	5.9%	89.4%		
	Never married	667	2.3%	7.6%	12.0%	78.0%		
Marital	Married	1 332	0.7%	4.0%	7.7%	87.6%	0.000	
Status	Divorced/Separated /Widowed	94	2.4%	4.6%	6.6%	86.3%		
	Managerial/ Professional worker	562	0.3%	4.7%	12.3%	82.7%		
Occupation	Clerk	237	0.4%	9.9%	8.2%	81.5%	0.001	
Occupation	Service worker	206	3.7%	5.3%	5.8%	85.2%	0.001	
	Blue collar worker	310	3.2%	6.7%	9.8%	80.3%		
	Not working	736	0.9%	3.0%	7.2%	88.9%		

### 4.5.4 Amount of fruit and vegetables consumed per day

From this survey, the average number of servings of fruit and vegetables consumed per day are associated significantly with respondents' gender, age and marital status.

# 4.5.4.1 Number of servings of fruit and vegetables consumed per day (excluding fruit/vegetable juice consumption)<sup>30</sup>

Female respondents (24.9%), those aged 45-64 (ranged from 24.4% to 25.5%) and married (23.2%) or divorced/ separated/ widowed respondents (23.0%) were more likely than their respective counterparts to have consumed 5 or more servings of fruit and vegetables per day (Table 4.5.4.1)

			Less			p-value	
Variable	Level	Base	than 5 servings	5 servings or more	Chi-square test	Kruskal- Wallis test	Rank correlation
C	Male	966	83.0%	17.0%		0.000	
Gender	Female	1 113	75.1%	24.9%		0.000	

Table 4.5.4.1: Number of servings of fruit and vegetables consumed per day(excluding fruit and vegetable juice) (Q17ai, Q17aii, Q17bi & Q17bii)

 $<sup>^{30}</sup>$  Total average number of servings: average no. of fruit eaten per day + (average no. of bowls of vegetables eaten per day x 2)

	18-24	271	87.0%	13.0%			
	25-34	452	78.3%	21.7%			
Age	35-44	512	80.7%	19.3%			0.000
	45-54	523	75.6%	24.4%			
	55-64	305	74.5%	25.5%			
	Never married	661	83.0%	17.0%			
Marital Status	Married	1 322	76.8%	23.2%	0.001		
	Divorced/Separated /Widowed	89	77.0%	23.0%			

# 4.5.4.2 Number of servings of fruit and vegetables consumed per day (including fruit/vegetable juice consumption)<sup>31</sup>

Female respondents (26.1%), those aged 55-64 (25.9%) and married (23.9%) or divorced/ separated/ widowed respondents (24.7%) were more likely than their respective counterparts to have consumed 5 or more servings of fruit and vegetables per day (Table 4.5.4.2)

			-			p-value	Rank correlation
Variable	Level	Base	Less than 5 servings	5 servings or more	Chi-square test	Kruskal- Wallis test	Rank correlation
Condon	Male	962	82.3%	17.7%		0.000	
Genuer	Female	1 110	73.9%	26.1%		0.000	
	18-24	271	84.9%	15.1%			
	25-34	452	76.8%	23.2%			
Age	35-44	511	79.6%	20.4%			0.000
	45-54	521	75.6%	24.4%			
	55-64	302	74.1%	25.9%			
	Never married	660	81.6%	18.4%			
Marital Status	Married	1 316	76.1%	23.9%		0.006	
Status	Divorced/Separated /Widowed	89	75.3%	24.7%			

Table 4.5.4.2: Number of servings of fruit and vegetables consumed per day(including fruit and vegetable juice) (Q17ai, Q17ai, Q17bi, Q17bi& Q17c)

<sup>&</sup>lt;sup>31</sup> Total average number of servings: average no. of fruit eaten per day + (average no. of bowls of vegetables eaten per day x 2) + (average no. of days per week having drunk one cups or more of fruit or vegetable juice)

## 4.6 Pattern of alcohol consumption

#### 4.6.1 Consumption of alcohol

Consumption of alcohol is associated significantly with respondents' gender, age, educational attainment, marital status, occupation and monthly household income.

Male respondents (47.5%), those aged 25-34 (46.4%), those with tertiary education level or above (40.5%), never married respondents (41.8%) and managerial/ professional workers (43.6%) were more likely than their respective counterparts to have consumed at least one alcoholic drink in the month prior to the survey. Also, the higher the monthly household income of respondents, the more likely that they had consumed at least one alcoholic drink in the month prior to the survey (Table 4.6.1).

			Var	Yes,	Yes,			p-valu	e
Variable	Level	Base	during the last month	the previous 2-12 months	more than 12 months ago	No	Chi- square test	Kruskal- Wallis test	Rank correlation
C l	Male	975	47.5%	15.7%	7.7%	29.1%	0.000		
Gender	Female	1 125	24.1%	14.9%	9.5%	51.5%	0.000		
	18-24	272	36.2%	22.2%	8.5%	33.1%			
	25-34	453	46.4%	18.7%	7.6%	27.3%			
Age	35-44	518	31.9%	15.9%	8.8%	43.4%		0.000	
	45-54	527	34.4%	12.5%	8.9%	44.3%			
	55-64	314	24.6%	8.0%	9.1%	58.3%			
	Primary or below	237	26.1%	11.8%	9.1%	53.0%			
	Had not completed secondary	373	33.2%	9.9%	6.7%	50.2%			
Educational attainment	Completed secondary (F.5)	561	33.1%	14.5%	10.3%	42.1%		0.000	
	Matriculation	189	34.0%	15.3%	10.7%	40.1%			
	Tertiary or above	735	40.5%	19.6%	7.8%	32.1%			
	Never married	667	41.8%	20.2%	7.7%	30.3%			
Marital status	Married	1 332	32.2%	13.2%	9.1%	45.5%	0.000		
	Divorced/Separated /Widowed	94	26.3%	9.2%	7.4%	57.1%			

Table 4.6.1: Ever had at least one alcoholic drink (Q18a)

	Managerial/ Professional worker	562	43.6%	17.3%	7.8%	31.3%			
Occupation	Clerk	237	33.6%	17.2%	10.1%	39.1%			
	Service worker	206	38.3%	16.8%	9.9%	35.0%	0.000		
	Blue collar worker	310	41.0%	10.2%	6.6%	42.1%			
	Not working	736	24.8%	14.9%	9.5%	50.8%			
	Below \$8,000	136	18.2%	7.7%	15.7%	58.3%			
Monthly	\$8,000 - \$13,999	263	27.6%	14.5%	8.7%	49.1%			
household income	\$14,000 - \$19,999	234	32.8%	14.2%	10.0%	43.1%		0.000	
	\$20,000 - \$39,999	597	36.4%	16.2%	7.5%	39.9%			
	\$40,000 or above	473	40.6%	17.3%	7.3%	34.8%			

#### 4.6.2 Frequency of alcohol consumption

Frequency of alcohol consumption per week during the month prior to the survey is associated significantly with the drinkers' gender, age, educational attainment, marital status and occupation.

A relatively higher proportion of male respondents (14.7%), those with primary education level or below (36.4%), divorced/ separated/ widowed respondents (32.0%) and blue collar workers (25.4%) reported that they drank 6 days or more per week Also, the older the respondents, the more likely that they drank 6 days or more per week (Table 4.6.2).

			6 days	4-5 davs	2-3 days	1 day		p-value       Kruskal- Wallis test     Rank correlati       0.000     0.000	e
Variable	Level	Base	or more per week	per week	per week	or less per week	Chi- square test	Kruskal- Wallis test	Rank correlation
C l	Male	460	14.7%	4.9%	16.0%	64.4%		0.000	
Gender	Female	269	6.0%	0.9%	7.3%	85.9%		0.000	
Age	18-24	99	1.6%	1.6%	14.5%	82.3%			
	25-34	210	5.3%	3.9%	11.4%	79.4%			
	35-44	162	12.1%	3.4%	13.0%	71.5%			0.000
	45-54	181	19.8%	3.3%	13.4%	63.6%			
	55-64	76	20.4%	4.9%	12.4%	62.2%			
	Primary or below	60	36.4%	3.8%	3.0%	56.9%			
	Had not completed secondary	123	18.5%	3.4%	13.5%	64.6%			
Educational attainment	Completed secondary (F.5)	183	8.1%	6.2%	14.0%	71.8%			0.001
	Matriculation	64	11.8%	2.2%	7.4%	78.5%			
	Tertiary or above	298	5.6%	1.9%	14.8%	77.7%			

 Table 4.6.2: Frequency of consuming at least one alcoholic drink in the month prior to the survey (Q18b)

	Never married	279	4.6%	3.3%	11.9%	80.1%			
Marital	Married	424	14.8%	3.7%	13.9%	67.6%		0.003	
status	Divorced/Separated /Widowed	25	32.0%	0.0%	3.2%	64.8%		01000	
	Managerial/ Professional worker	245	9.2%	2.5%	17.2%	17.1%			
	Clerk	80	6.4%	0.9%	9.7%	83.0%			
Occupation	Service worker	79	13.5%	7.5%	9.5%	69.5%		0.000	
	Blue collar worker	125	25.4%	6.1%	11.4%	57.1%			
	Not working	181	6.4%	2.5%	10.4%	80.7%	6		

## 4.6.3 Consumption of at least 5 glasses/cans of alcohol on one single occasion (Binge drinking)

Binge drinking during the month prior to the survey is associated significantly with the drinkers' gender, age, marital status and occupation.

A relatively higher proportion of male respondents (34.5%), those aged 25-34 (30.4%), never married respondents (32.4%) or divorced/ separated/ widowed respondents (31.2%) and clerks (33.4%), blue collar workers (32.7%) or service workers (31.8%) reported that they had engaged in binge drinking during the month prior to the survey (Table 4.6.3).

Variable	Level	Base	Yes	No	Chi-square test	p-value Kruskal- Wallis test	Rank correlation
<u> </u>	Male	463	34.5%	65.5%	0.000		
Gender	Female	271	12.6%	87.4%	0.000		
	18-24	99	25.7%	74.3%			
	25-34	210	30.4%	69.6%			
Age	35-44	165	27.6%	72.4%		0.014	
	45-54	181	26.1%	73.9%			
	55-64	77	15.2%	84.8%			
	Never married	279	32.4%	67.6%			
Marital status	Married	429	22.3%	77.7%	0.010		
	Divorced/Separated /Widowed	25	31.2%	68.8%			

Table 4.6.3: Consumption of at least 5 glasses/cans of alcohol on one single occasion during the month prior to the survey (Q18d)

	Managerial/ Professional worker	245	27.0%	73.0%		
	Clerk	80	33.4%	66.6%		
Occupation	Service worker	79	31.8%	68.2%	0.004	
	Blue collar worker	127	32.7%	67.3%	-	
	Not working	182	16.4%	83.6%		

### 4.6.4 Frequency of binge drinking

The frequency of binge drinking is associated with the binge drinkers' educational attainment. Binge drinkers who had primary education or below (56.3%) were more likely to have engaged in binge drinking three times or more in the month prior to the survey (Table 4.6.4).

Table 4.6.4: Frequency of binge drinking in the month prior to the survey (Q18e)

					Three		p-value	
Variable	Level	Base	Once	Twice	times or more	Chi-square test	Kruskal- Wallis test	Rank correlation
	Primary or below	26	17.4%	26.3%	56.3%			
	Had not completed secondary	29	20.7%	45.9%	33.5%			
Educational attainment	Completed secondary (F.5)	55	42.1%	24.3%	33.6%			0.003
	Matriculation	14	41.3%	9.3%	49.4%			
	Tertiary or above	69	53.9%	21.7%	24.4%			

## 4.7 Smoking habits

### 4.7.1 Smoking habits

Smoking habit is associated significantly with respondents' gender, educational attainment, marital status, occupation and type of living quarters.

A relatively higher proportion of male respondents (25.6%), those who had not completed secondary education (24.5%), divorced/ widowed/ separated respondents (21.2%), blue collar workers (32.0%) and those living in public rental flats (18.9%) were more likely to be current smokers (Table 4.7.1).

			Yes.	Yes, and			p-value	
Variable	Level	Base	but not now	still smoking	Never	Chi-square test	Kruskal- Wallis test	Rank correlation
Condon	Male	975	17.9%	25.6%	56.5%	0.000		
Gender	Female	1 125	8.1%	6.5%	85.5%	0.000		
	Primary or below	237	11.5%	20.2%	68.3%			
Educational attainment	Had not completed secondary	373	15.4%	24.5%	60.1%			
	Completed secondary (F.5)	561	14.5%	16.4%	69.1%		0.000	
	Matriculation	189	8.0%	12.1%	79.9%			
	Tertiary or above	735	11.2%	9.3%	79.5%			
	Never married	667	9.6%	14.5%	75.9%			
Marital Statua	Married	1 332	14.3%	15.5%	70.1%	0.012		
Status	Divorced/Separated/ Widowed	94	10.8%	21.2%	68.1%			
	Managerial/ Professional worker	562	13.5%	14.6%	71.9%			
	Clerk	237	8.9%	10.8%	80.3%			
Occupation	Service worker	206	17.3%	15.5%	67.2%	0.000		
	Blue collar worker	310	16.1%	32.0%	51.9%			
	Not working	736	10.5%	9.4%	80.0%			
Type of F living S	Public rental flats	638	12.9%	18.9%	68.2%			
	Subsidized sale flats	288	13.6%	14.8%	71.6%	0.041		
quarters	Private housing	1 135	12.4%	13.5%	74.1%			

Table 4.7.1: Smoking habits (Q19a)

#### 4.7.2 Amount of cigarettes consumed

The amount of cigarettes consumed is associated significantly with current smokers' gender, age, educational attainment, marital status and occupation.

A relatively higher proportion of male respondents (9.4%), respondents aged 55-64 (15.8%), those with primary education level or below (16.0%), never married respondents (9.3%) and blue collar workers (11.5%) reported that they smoked more than 20 cigarettes per day (Table 4.7.2).

More p-value Less than 1-10 11-20 than 20 1 cigarette cigarettes cigarettes Chi-Kruskal-Base Variable Level cigarette Rank per day per day per day square Wallis s per day correlation now now now test test now Male 250 5.1% 38.3% 47.1% 9.4% Gender 0.000 Female 9.8% 67.4% 20.7% 73 2.1% 18-24 28 16.8% 52.8% 19.4% 11.0% 25-34 85 8.9% 61.6% 27.8% 1.7% 0.000 Age 35-44 78 1.7% 39.0% 52.8% 6.5% 45-54 94 4.3% 36.4% 49.0% 10.4% 55-64 36 6.3% 35.7% 42.2% 15.8% Primary or below 48 6.1% 35.6% 42.2% 16.0% Had not completed 92 3.2% 31.5% 58.7% 6.6% secondary Educational 0.001 Completed attainment 92 8.0% 49.3% 35.9% 6.8% secondary (F.5) Matriculation 59.0% 0.0% 23 12.7% 28.2% Tertiary or above 5.6% 58.7% 28.1% 7.5% 68 Never married 96 9.8% 51.7% 29.3% 9.3% Married Marital 206 5.1% 39.3% 47.8% 7.8% 0.038 Status Divorced/ Separated/ 20 0.0% 70.5% 29.5% 0.0% Widowed Managerial/ Professional 82 3.6% 53.3% 33.5% 9.5% worker Clerk 26 18.1% 40.6% 36.2% 5.1% 0.011 Occupation Service worker 0.0% 50.0% 46.9% 3.1% 32 Blue collar 99 5.5% 31.0% 52.0% 11.5% worker Not working 70 9.9% 53.1% 31.9% 5.1%

 Table 4.7.2: Average number of cigarettes which the respondents smoked per day (Q19c)

## 4.8 Sleeping habits

### 4.8.1 Hours of sleeping

Hours of sleeping is associated significantly with respondents' age and occupation.

A relatively higher proportion of respondents aged 45-64 (ranged from 12.4% to 13.6%) and blue collar workers (15.5%) reported that they slept less than 6 hours per day on average (Table 4.8.1).

			Less		More		p-value	
Variable	Level	Base	than 6 hours	6-8 hours	than 8 hours	Chi-square test	Kruskal- Wallis test	Rank correlation
	18-24	272	10.6%	78.3%	11.2%			
Age	25-34	453	8.9%	83.7%	7.4%			
	35-44	518	10.2%	83.2%	6.6%			0.008
	45-54	526	13.6%	79.4%	7.0%			
	55-64	311	12.4%	79.6%	8.0%			
	Managerial/ Professional worker	561	10.4%	85.8%	3.8%			
	Clerk	237	11.3%	84.4%	4.3%			
Occupation	Service worker	206	10.6%	84.2%	5.1%	0.000	0.000	
	Blue collar worker	310	15.5%	80.1%	4.5%			
	Not working	734	9.7%	76.2%	14.1%			

 Table 4.8.1: Average number of hours that respondents slept per day (Q20a)

## 4.8.2 Frequency of having difficulty in falling asleep

The frequency of having difficulty in falling asleep during the thirty days prior to the survey is associated significantly with gender, educational attainment, occupation and monthly household income.

A relatively higher proportion of female respondents (14.6%), not working respondents (16.7%) and those who had monthly household income of below \$20,000 (ranged from 15.6% to 16.4%) reported that they had difficulty in falling asleep three or more times a week during the thirty days prior to the survey. Also the lower the education level of respondents, the more likely that they reported so (Table 4.8.2).

			Not	Less	Once or	Three or		p-value	•
Variable	Level	Base	during the past month	than once a week	twice a week	more times a week	Chi- square test	Kruskal- Wallis test	Rank correlation
Condor	Male	972	56.5%	13.9%	19.4%	10.1%		0.000	
Genuer	Female	1 125	47.5%	16.7%	21.1%	14.6%		0.000	
	Primary or below	236	40.5%	17.4%	21.1%	21.0%			
Educational	Had not completed secondary	373	48.3%	13.0%	22.6%	16.2%			
attainment	Completed secondary (F.5)	561	54.4%	13.2%	19.3%	13.1%			0.000
	Matriculation	188	51.0%	17.8%	22.7%	8.5%			
	Tertiary or above	734	55.0%	17.2%	19.3%	8.5%			
	Managerial/ Professional worker	561	57.1%	15.3%	18.4%	9.2%			
	Clerk	237	58.4%	13.9%	17.1%	10.5%		0.000	
Occupation	Service worker	206	44.3%	16.1%	31.8%	7.8%		0.000	
	Blue collar worker	310	58.0%	14.0%	15.0%	13.0%			
	Not working	735	44.2%	16.7%	22.3%	16.7%			
	Below \$8,000	135	46.9%	20.1%	16.6%	16.4%			
Monthly	\$8,000-\$13,999	263	46.6%	14.2%	23.3%	15.9%			
household	\$14,000-\$19,999	234	49.0%	16.8%	18.7%	15.6%			0.006
income	\$20,000-\$39,999	597	54.1%	15.6%	21.8%	8.6%			
	\$40,000 or above	472	53.4%	16.2%	19.9%	10.5%			

Table 4.8.2: Frequency of having difficulty in falling asleep during the thirty days prior to the survey (Q20b)

# 4.8.3 Frequency of having intermittent awakenings or difficulty in maintaining sleep

The frequency of having intermittent awakenings or difficulty in maintaining sleep during the thirty days prior to the survey is associated significantly with respondents' gender, age, educational attainment, marital status and occupation.

A relatively higher proportion of female respondents (15.3%), those with primary education level or below (19.8%), divorced/ separated/ widowed respondents (18.7%) and clerks (14.0%) or not working respondents (15.3%) reported that they had at least 3 times a week of intermittent awakenings or difficulty in maintaining sleep during the thirty days prior to the survey. Also the older the respondents, the more likely that they reported so (Table 4.8.3).

			Not	Less	0	Three or		p-value	e
Variable	Level	Base	during the past month	than once a week	twice a week	more times a week	Chi- square test	Kruskal- Wallis test	Rank correlation
Condon	Male	974	52.7%	19.2%	19.8%	8.3%		0.000	
Gender	Female	1 125	43.8%	20.8%	20.1%	15.3%		0.000	
	18-24	272	53.3%	19.4%	21.1%	6.2%			
	25-34	453	49.9%	20.1%	20.4%	9.7%			
Age	35-44	518	46.0%	21.9%	20.6%	11.5%			0.000
	45-54	527	46.7%	19.8%	19.6%	13.9%			
	55-64	313	45.3%	18.4%	18.3%	18.0%			
	Primary or below	236	39.9%	18.3%	22.0%	19.8%			
Educational attainment	Had not completed secondary	373	46.3%	17.6%	22.0%	14.2%			
	Completed secondary (F.5)	561	52.7%	16.7%	17.7%	13.0%			0.000
	Matriculation	189	47.7%	22.7%	21.1%	8.5%			
	Tertiary or above	735	47.6%	23.9%	19.8%	8.6%			
	Never married	666	51.6%	20.5%	19.1%	8.8%			
Marital	Married	1 332	46.5%	19.9%	20.4%	13.2%		0.001	
Status	Divorced/ Separated/ Widowed	94	41.9%	19.3%	20.1%	18.7%		0.001	
י ן ן	Managerial/ Professional worker	562	50.4%	22.2%	18.9%	8.5%			
	Clerk	237	46.1%	23.8%	16.1%	14.0%		0.040	
Occupation	Service worker	206	42.2%	19.7%	28.6%	9.6%		0.049	
	Blue collar worker	310	53.0%	17.9%	17.9%	11.1%			
	Not working	735	45.7%	18.5%	20.5%	15.3%			

Table 4.8.3: Frequency of having intermittent awakenings or difficulty in maintaining sleep during the thirty days prior to the survey (Q20c)

## 4.8.4 Frequency of having early morning awakening and unable to sleep again

The frequency of having early morning awakening and being unable to sleep again during the thirty days prior to the survey is associated significantly with gender, age, educational attainment, marital status, occupation and monthly household income.

A relatively higher proportion of female respondents (12.4%), divorced/ separated/ widowed respondents (17.8%), not working respondents (12.8%) and those who had monthly household income of below \$20,000 (ranged from 12.0% to 14.5%) reported that they had early morning awakening and were unable to sleep again three or more times a week during the thirty days prior to the survey. Also, the older and the lower the education level of respondents, the more likely that they reported so (Table 4.8.4).

			Not	Less	Once or	Three or		p-value	9
Variable	Level	Base	during the past month	than once a week	twice a week	more times a week	Chi- square test	Kruskal- Wallis test	Rank correlation
Condor	Male	971	59.3%	15.5%	17.8%	7.4%		0.000	
Gender	Female	1 1 2 0	52.5%	19.2%	16.0%	12.4%		0.000	
	18-24	272	62.8%	17.9%	13.5%	5.9%			
	25-34	453	59.8%	16.4%	15.9%	7.9%			
Age	35-44	517	55.4%	18.2%	18.0%	8.4%			0.000
	45-54	521	49.7%	20.3%	18.3%	11.7%			
	55-64	312	52.8%	13.5%	16.7%	17.0%			
	Primary or below	233	46.2%	15.7%	20.8%	17.3%			
Educational	Had not completed secondary	371	52.3%	16.4%	18.3%	12.9%			
attainment	Completed secondary (F.5)	560	53.0%	17.6%	18.3%	11.1%			0.000
	Matriculation	189	61.2%	18.6%	11.3%	8.9%			
	Tertiary or above	734	60.8%	18.4%	15.2%	5.7%			
	Never married	666	61.5%	18.0%	13.2%	7.3%			
Marital	Married	1 324	53.6%	17.1%	18.4%	10.9%		0.000	
Status	Divorced/ Separated/ Widowed	94	42.5%	19.2%	20.4%	17.8%		0.000	
	Managerial/ Professional worker	561	61.0%	17.6%	14.3%	7.0%			
	Clerk	237	56.0%	20.0%	13.5%	10.6%		0.001	
Occupation	Service worker	205	45.3%	18.7%	27.1%	8.8%		0.001	
	Blue collar worker	307	57.4%	13.3%	19.9%	9.4%			
	Not working	732	53.7%	18.0%	15.5%	12.8%			
1 1 1	Below \$8,000	135	50.5%	18.6%	16.4%	14.5%			
Monthly	\$8,000-\$13,999	261	51.9%	14.4%	19.4%	14.3%			
household	\$14,000-\$19,999	232	49.6%	18.2%	20.2%	12.0%			0.001
income	\$20,000-\$39,999	597	57.4%	19.6%	16.1%	6.8%			
	\$40,000 or above	472	59.4%	15.5%	17.1%	8.0%			

Table 4.8.4: Frequency of having early morning awakening and unable to sleep again during the thirty days prior to the survey (Q20d)

#### 4.8.5 Frequency of not getting enough sleep

The frequency of not getting enough sleep during the thirty days prior to the survey is associated significantly with respondents' age, educational attainment, marital status, occupation and monthly household income.

Respondents aged 25-44 (ranged from 28.8% to 30.9%), those who had completed secondary (F.5) (27.0%) or tertiary education level or above (27.8%), never married (26.3%), clerks (36.6%) and those with monthly household income of \$8,000 or above (ranged from 23.0% to 28.2%) were more likely that their respective counterparts to report that they felt not getting enough sleep for 20 or more days during the thirty days prior to the survey (Table 4.8.5).

								p-value	9
Variable	Level	Base	0 days	1-<10 days	10-<20 days	20 days or more	Chi- square test	Kruskal- Wallis test	Rank correlation
	18-24	272	16.1%	40.7%	19.3%	23.8%			
	25-34	452	21.6%	33.1%	14.5%	30.9%			
Age	35-44	518	23.6%	35.5%	12.1%	28.8%			0.000
	45-54	525	32.2%	36.9%	6.9%	24.0%			
	55-64	311	44.7%	30.8%	7.6%	16.9%			
	Primary or below	235	37.8%	34.6%	8.5%	19.1%			
Educational	Had not completed secondary	373	36.5%	32.1%	7.3%	24.2%			0.000
attainment	Completed secondary (F.5)	556	28.2%	34.7%	10.1%	27.0%			0.000
	Matriculation	189	26.8%	37.7%	11.2%	24.3%			
	Tertiary or above	735	19.3%	37.1%	15.9%	27.8%			
	Never married	666	17.0%	39.4%	17.3%	26.3%			
Marital	Married	1 326	32.3%	33.7%	8.4%	25.6%		0.000	
Status	Divorced/ Separated/ Widowed	93	33.2%	29.9%	16.3%	20.5%		0.000	
N F Occupation F V V	Managerial/ Professional worker	562	18.5%	37.8%	15.6%	28.0%			
	Clerk	237	21.5%	30.8%	11.1%	36.6%		0.000	
	Service worker	502	23.3%	42.6%	9.4%	24.7%		0.000	
	Blue collar worker	309	34.4%	31.5%	7.7%	26.4%			
	Not working	730	34.4%	34.6%	11.1%	19.9%			

Table 4.8.5: Number of days that respondents did not get enough sleep during the thirty days prior to the survey (Q20e)

	Below \$8,000	134	44.6%	31.5%	12.1%	11.8%		
Monthly	\$8,000-\$13,999	263	28.0%	37.0%	8.4%	26.6%		
household	\$14,000-\$19,999	232	26.8%	38.6%	11.6%	23.0%		0.000
income	\$20,000-\$39,999	597	26.2%	35.0%	13.1%	25.7%		
	\$40,000 or above	473	19.4%	38.8%	13.7%	28.2%		

#### 4.8.6 Sleeping quality

The perception about sleeping quality is associated significantly with respondents' gender, educational attainment, marital status and monthly household income.

A relatively higher proportion of female respondents (14.5%), those who had not completed secondary education or below (ranged from 15.2% to 15.5%), divorced/ separated/ widowed respondents (17.9%) and those who had monthly household income of below \$8,000 (14.8%) rated their sleeping quality as "poor / very poor" (Table 4.8.6).

Variable			Vom		Door /		p-value	
Variable	Level	Base	well/ Well	Fair	Very poor	Chi-square test	Kruskal- Wallis test	Rank correlation
Condor	Male	975	45.2%	42.9%	11.9%		0.002	
Gender	Female	1 125	39.2%	46.3%	14.5%		0.002	
	Primary or below	237	39.1%	45.4%	15.5%			
	Had not completed secondary	372	36.1%	48.7%	15.2%			
Educational attainment	Completed secondary (F.5)	561	37.0%	49.9%	13.2%			0.000
	Matriculation	189	48.1%	42.5%	9.4%			
	Tertiary or above	735	47.8%	39.4%	12.8%			
	Never married	667	43.6%	43.9%	12.5%			
Marital	Married	1 331	41.4%	45.2%	13.4%		0.035	
Status	Divorced/ Separated/ Widowed	94	36.4%	45.7%	17.9%		0.000	
	Below \$8,000	136	35.2%	50.0%	14.8%			
Monthly     9       household     9       income     9	\$8,000-\$13,999	263	41.2%	44.9%	13.9%			
	\$14,000-\$19,999	233	43.8%	43.0%	13.1%			0.034
	\$20,000-\$39,999	597	41.0%	47.5%	11.5%	5%		
	\$40,000 or above	473	45.2%	41.5%	13.3%			

Table 4.8.6: The perception about sleeping quality (Q20f)

## 4.9 Cervical screening (for female respondents only)

#### 4.9.1 Experience of cervical screening

The experience of cervical screening is associated significantly with female respondents' age, educational attainment, marital status, monthly household income and type of living quarters.

Those aged 35-54 (ranged from 79.3% to 81.1%), those with secondary education level or below (ranged from 70.7% to 77.3%), married respondents (82.3%) or divorced / separated / widowed respondents (73.5%), those who had monthly household income of \$40,000 or above (74.8%) and those living in subsidized sale flats (66.2%) or private housing (68.2%) were more likely to have had a cervical smear when compared to their respective counterparts (Table 4.9.1).

						p-value	
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation
	18-24	140	8.1%	91.9%			
	25-34	254	54.8%	45.2%			
Age	35-44	292	81.1%	18.9%		0.000	
	45-54	269	79.3%	20.7%			
	55-64	154	73.3%	26.7%			
	Primary or below	143	77.3%	22.7%			
	Had not completed secondary	201	70.7%	29.3%			
Educational attainment	Completed secondary (F.5)	311	74.6%	25.4%		0.000	
	Matriculation	104	46.7%	53.3%			
	Tertiary or above	357	52.6%	47.4%			
	Never married	328	24.3%	75.7%			
Marital	Married	716	82.3%	17.7%	0.000		
status	Divorced/ Separated/ Widowed	69	73.5%	26.5%			
	Below \$8,000	92	56.3%	43.7%			
Monthly	\$8,000 - \$13,999	149	61.3%	38.7%			
household	\$14,000 - \$19,999	110	67.3%	32.7%		0.000	
income	\$20,000 - \$39,999	308	63.2%	36.8%			
	\$40,000 or above	242	74.8%	25.2%			
	Public rental flats	343	57.3%	42.7%			
living	Subsidized sale flats	150	66.2%	33.8%	0.003		
quarters	Private housing	607	68.2%	31.8%			

Table 4.9.1: Ever had cervical smear before (Q21a)

#### 4.9.2 Time since last cervical smear

Among those females who had had a cervical smear before, the period since last cervical smear is significantly associated with their age, educational attainment, monthly household income and type of living quarters.

Among those females who had had a cervical smear before, a relatively higher proportion of respondents with tertiary education or above (59.9%), those with monthly household income of \$40,000 or above (57.0%) and those living in private housing (55.9%) reported that they had their last smear within 12 months. Also, the younger the respondents, the more likely that they had their last smear within 12 months (Table 4.9.2).

					37		p-value	
Variable	Level	Base	1-12 months	13-36 months	months and above	Chi-square test	Kruskal- Wallis test	Rank correlation
	18-24	11	64.3%	28.6%	7.1%			
	25-34	139	54.3%	42.3%	3.4%			
Age	35-44	233	55.2%	36.1%	8.7%			0.000
	45-54	212	47.6%	39.9%	12.5%			
	55-64	108	36.8%	34.9%	28.3%			
	Primary or below	108	39.5%	40.0%	20.5%			
Educational attainment	Had not completed secondary	140	49.2%	33.4%	17.4%			
	Completed secondary (F.5)	228	48.7%	42.3%	9.0%			0.000
	Matriculation	48	45.6%	41.5%	13.0%			
	Tertiary or above	188	59.9%	34.7%	5.5%			
	Below \$8,000	50	47.1%	26.7%	26.2%			
Monthly	\$8,000-\$13,999	90	40.4%	47.7%	11.9%			
household	\$14,000-\$19,999	73	45.7%	43.1%	11.2%			0.000
income	\$20,000-\$39,999	191	51.3%	37.6%	11.1%			
Type of	\$40,000 or above	181	57.0%	36.7%	6.3%			
	Public rental flats	193	41.2%	43.7%	15.1%			
living	Subsidized sale flats	96	42.7%	43.6%	13.7%		0.001	
iving S quarters P	Private housing	411	55.9%	34.5%	9.6%			

Table 4.9.2: Period of time since last cervical smear (Q21b)

### 4.9.3 First cervical smear

Among those females who had had a cervical smear before, first cervical screening is associated significantly with their age, marital status, monthly household income and type of living quarters among those females who had such test before.

Among those females who had had a cervical smear before, respondents aged 18-24 (92.9%), never married respondents (46.2%), those with monthly household income of below \$8,000 (31.7%) and those living in public rental flats (23.5%) were more likely to report that the last smear they had was their first smear (Table 4.9.3)

						p-value	
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation
	18-24	11	92.9%	7.1%			
	25-34	139	35.2%	64.8%			
Age	35-44	235	11.3%	88.7%		0.000	
	45-54	213	8.4%	91.6%			
	55-64	113	16.4%	83.6%			
	Never married	80	46.2%	53.8%			
Marital status	Married	588	13.1%	86.9%	0.000		
status	Divorced/ Separated/ Widowed	50	19.5%	80.5%			
	Below \$8,000	51	31.7%	68.3%			
Monthly	\$8,000 - \$13,999	91	19.9%	80.1%			
household	\$14,000 - \$19,999	74	10.1%	89.9%		0.012	
income	\$20,000 - \$39,999	194	19.8%	80.2%			
Type of living	\$40,000 or above	181	15.2%	84.8%			
	Public rental flats	196	23.5%	76.5%			
	Subsidized sale flats	98	11.8%	88.2%	0.022		
quarters	Private housing	213       81.3%       88.7%         213       8.4%       91.6%         113       16.4%       83.6%         113       16.4%       83.6%         213       8.4%       91.6%         113       16.4%       83.6%         213       8.4%       91.6%         113       16.4%       83.6%         213       8.4%       91.6%         213       8.4%       53.8%         213       16.4%       83.6%         213       13.1%       86.9%         0.000       51       31.7%       68.3%         999       91       19.9%       80.1%         9999       91       19.9%       80.1%         99,999       74       10.1%       89.9%         99,999       194       19.8%       80.2%         bove       181       15.2%       84.8%         flats       196       23.5%       76.5%         ale flats       98       11.8%       88.2%         ng       414       16.0%       84.0%					

 Table 4.9.3: Only one cervical smear (Q21c)

### 4.9.4 Whether had a total hysterectomy before

Whether female respondents had a total hysterectomy is associated significantly with their age and marital status.

Those aged 55-64 (11.7%) and married (4.1%) or divorced/ separated/ widowed respondents (5.8%) were more likely to have reported that they have had a total hysterectomy when compared to their respective counterparts (Table 4.9.4).

						p-value	
Variable	Level	Base	Yes	No	Chi-square test	Kruskal- Wallis test	Rank correlation
	18-24	140	0.0%	100%			
	25-34	257	0.6%	99.4%			
Age	35-44	292	0.6%	99.4%		0.000	
	45-54	269	5.5%	94.5%			
	55-64	155	11.7%	88.3%			
	Never married	331	0.8%	99.2%			
Marital M status D V	Married	718	4.1%	95.9%	0.010		
	Divorced/ Separated/ Widowed	68	5.8%	94.2%			

 Table 4.9.4: Ever had a total hysterectomy before (Q21d)

## 4.10 Use of antibiotics

### 4.10.1 Whether had taken any antibiotics

Whether respondents had taken any antibiotics during the 12 months prior to the survey is associated with respondents' gender, educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of female respondents (37.0%), married respondents (33.5%), managerial/ professional workers (38.5%), those with monthly household income of \$40,000 or above (38.6%) and those living in subsidized sale flats (33.8%) or private housing (34.5%) reported that they had taken any antibiotics during the 12 months prior to the survey. Also, the higher the education level of respondents, the more likely that they had taken any antibiotics during the 12 months prior to the survey (Table 4.10.1).

						p-value	
Variable	Level	Base	Yes	Never	Chi-square test	Kruskal- Wallis test	Rank correlation
Gender	Male	943	24.8%	75.2%	0.000		
Gender	Female	1 082	37.0%	63.0%	0.000		
	Primary or below	221	22.3%	77.7%			
	Had not completed secondary	355	27.6%	72.4%			
Educational attainment	Completed secondary (F.5)	545	31.4%	68.6%		0.001	
	Matriculation	182	33.8%	66.2%			
	Tertiary or above	718	35.2%	64.8%			
	Never married	656	27.9%	72.1%			
Marital status	Married	1 277	33.5%	66.5%	0.018		
status	Divorced/ Separated/ Widowed	86	24.8%	75.2%			
	Managerial/ Professional worker	551	38.5%	61.5%			
	Clerk	231	33.3%	66.7%			
Occupation	Service worker	201	32.5%	67.5%	0.000		
	Blue collar worker	300	20.6%	79.4%			
	Not working	694	29.6%	70.4%			
	Below \$8,000	130	29.3%	70.7%			
Monthly	\$8,000 - \$13,999	254	22.7%	77.3%			
household	\$14,000 - \$19,999	224	27.9%	72.1%		0.000	
income	\$20,000 - \$39,999	586	33.7%	66.3%			
	\$40,000 or above	465	38.6%	61.4%			

 Table 4.10.1: Whether had taken any antibiotics during the 12 months prior to the survey (Q22)

Type of	Public rental flats	612	25.1%	74.9%		
living	Subsidized sale flats	275	33.8%	66.2%	0.000	
quarters	Private housing	1 100	34.5%	65.5%		

## 4.10.2 Whether followed the doctor's or the pharmacist's instructions on the frequency of taking the drugs everyday

Among those respondents who took antibiotics last time prescribed by doctors, whether follow the instruction of the frequency of taking the drugs everyday is associated significantly with respondents' age.

Respondents aged 25-34 (97.2%) or aged 45-64 (ranged from 98.2% to 98.5%) were more likely than those in other age groups to report that they had followed the instruction of the frequency of taking the drugs everyday (Table 4.10.2).

Table 4.10.2: Whether respondents followed the instruction of the frequency oftaking the drugs everyday (Q24b)

Variable	Level	Base	Yes	No	P-value		
					Chi-square test	Kruskal- Wallis test	Rank correlation
Age	18-24	59	90.5%	9.5%		0.023	
	25-34	166	97.2%	2.8%			
	35-44	163	94.4%	5.6%			
	45-54	139	98.5%	1.5%			
	55-64	75	98.2%	1.8%			
## 4.11 Sunburn

## 4.11.1 Experience of getting sunburn

Whether respondents got sunburn during the 12 months prior to the survey is associated with respondents' gender, age, educational attainment, marital status, occupation and monthly household income.

A relatively higher proportion of male respondents (12.6%), those with matriculation education or above (ranged form 13.0% to 13.2%), never married respondents (14.5%), managerial/ professional workers (13.1%) or service workers (12.3%) and those with monthly household income of \$40,000 or above (13.4%) reported that they got sunburn in the 12 months prior to the survey. Also, the younger the respondents, the more likely that they got sunburn in the 12 months prior to the survey (Table 4.11.1).

						p-value	
Variable	Level	Base	Yes	Never	Chi-square test	Kruskal- Wallis test	Rank correlation
Condon	Male	975	12.6%	87.4%	0.000		
Gender	Female	1 125	7.2%	92.8%	0.000		
	18-24	272	14.9%	85.1%			
	25-34	453	13.3%	86.7%			
Age	35-44	518	11.9%	88.1%		0.000	
	45-54	527	5.8%	94.2%			
	55-64	314	3.3%	96.7%			
	Primary or below	237	6.1%	93.9%			
	Had not completed secondary	373	5.7%	94.3%			
Educational attainment	Completed secondary (F.5)	561	8.4%	91.6%		0.000	
	Matriculation	189	13.0%	87.0%			
	Tertiary or above	735	13.2%	86.8%			
	Never married	667	14.5%	85.5%			
Marital	Married	1 332	7.8%	92.2%	0.000		
status	Divorced/ Separated/ Widowed	94	5.3%	94.7%			
Occupation	Managerial/ Professional worker	562	13.1%	86.9%			
	Clerk	237	9.7%	90.3%			
	Service worker	206	12.3%	87.7%	0.002		
	Blue collar worker	310	8.6%	91.4%			
	Not working	736	6.7%	93.3%			

Table 4.11.1: Whether got sunburn during the 12 months prior to the survey (Q26)

Monthly household income	Below \$8,000	136	7.9%	92.1%	-	0.004	
	\$8,000 - \$13,999	263	7.6%	92.4%			
	\$14,000 - \$19,999	234	7.7%	92.3%			
	\$20,000 - \$39,999	597	8.9%	91.1%			
	\$40,000 or above	473	13.4%	86.6%			

## 4.12 Perceived general health status

Perceived general health status is associated significantly with respondents' gender, age, educational attainment, marital status, occupation, monthly household income and type of living quarters.

A relatively higher proportion of respondents of male respondents (48.2%), those aged 18-24 (49.8%), those who had matriculation education or above (ranged from 50.9% to 52.4%), never married respondents (46.6%), managerial/ professional workers (51.4%), those with monthly household income of \$40,000 or above (52.8%) and those living in private housing (46.0%) self-rated their health status as "excellent/ very good/ good" (Table 4.12).

			Excellent				p-value	
Variable	Level	Base	/ very good/ good	Fair	Poor	Chi-square test	Kruskal- Wallis test	Rank correlation
Gender	Male	973	48.2%	46.7%	5.0%	0.000	0.000	
	Female	1 125	40.8%	51.4%	7.9%		0.000	
	18-24	272	49.8%	44.6%	5.6%			0.000
	25-34	453	43.5%	50.2%	6.3%			
Age	35-44	518	45.3%	49.6%	5.1%			
	45-54	526	43.2%	50.2%	6.5%			
	55-64	314	40.2%	50.2%	9.7%			
	Primary or below	236	32.9%	55.9%	11.2%			0.000
Educational attainment	Had not completed secondary	373	36.9%	56.2%	6.8%			
	Completed secondary (F.5)	561	42.1%	52.3%	5.6%			
	Matriculation	189	52.4%	41.3%	6.2%			
	Tertiary or above	735	50.9%	43.3%	5.8%			
	Never married	666	46.6%	46.5%	6.8%			
Marital	Married	1 332	43.5%	50.7%	5.8%		0.004	
Status	Divorced/ Separated/ Widowed	94	36.3%	49.2%	14.5%			
Occupation	Managerial/ Professional worker	562	51.4%	44.7%	3.9%	0.000		
	Clerk	237	37.9%	54.2%	7.9%			
	Service worker	206	44.8%	51.2%	4.1%		0.000	
	Blue collar worker	309	43.4%	52.5%	4.2%			
	Not working	736	40.2%	50.4%	9.4%			

 Table 4.12: Perceived general health status (Q29)

					-			
Monthly household income	Below \$8,000	136	27.6%	58.6%	13.7%			
	\$8,000-\$13,999	262	36.9%	55.3%	7.8%			
	\$14,000-\$19,999	234	45.8%	49.4%	4.8%			0.000
	\$20,000-\$39,999	597	42.7%	52.0%	5.3%			
	\$40,000 or above	473	52.8%	42.9%	4.3%			
Type of living quarters	Public rental flats	637	42.3%	48.9%	8.8%			
	Subsidized sale flats	288	41.4%	52.2%	6.4%	0.020	0.020	
	Private housing	1 135	46.0%	48.9%	5.2%			

# Chapter 5 Conclusion and Recommendations

## 5.1 Conclusion

## 5.1.1 Weight status and control

Using the World Health Organization (WHO)'s standard Asian classification of weight status, slightly less than half of the respondents (48.9%) were classified as "normal", 23.2% of the respondents were classified as "obese" and 17.9% were regarded as "overweight", while the remaining (9.9%) were classified as "underweight".

Only 16.4% of respondents claimed that they had a weight difference of more than 10 pounds when compared with one year ago. Among these respondents, 64.6% claimed that they had a weight increase.

Regarding respondents' self-perceived current weight status, close to half (49.4%) of the respondents perceived themselves as "just right". In addition, 42.4% considered themselves as "overweight" while 8.2% considered themselves as "underweight". Overall, 67.5% of the respondents perceived their weight status in a way consistent with the WHO's weight status classification for Asian, while 17.6% of the respondents overestimated and 14.9% of them underestimated their weight status. The older respondents (aged 35 years or above), those with secondary education level or below, the married or divorced/ separated/ widowed respondents, the managerial or professional workers, clerks, and blue collar workers were more likely to view themselves as 'overweight'.

During the 12 months prior to the survey, more than three-tenths (31.6%) of the respondents had done something deliberately to control their weight, of which 55.5% of them aimed to lose weight. Among those respondents who had done something deliberately to control their weight, the most commonly used methods to control weight were "doing physical exercise" (84.0%) and "changing dietary habit" (78.3%).

## 5.1.2 Physical activities

For people of all ages, sexes and bodily conditions, regular physical activity improves health<sup>32</sup>. However, this survey revealed that most respondents engaged in limited physical activity. Over half of the respondents had not engaged in any moderate physical activity (55.4%) or vigorous physical activity (64.8%) for at least 10 minutes a day during the week prior to the survey. On the other hand, walking was the most common form of physical activity and 69.9% of the respondents had spent at least 10 minutes on walking everyday in the week prior to the survey. The survey also revealed that respondents had spent long hours sitting during the day, as shown by an average of 6.5 hours per day during weekdays (Monday to Friday) in the week prior to the survey.

<sup>&</sup>lt;sup>32</sup> "Fact Sheet on Physical Activity", Department of Health. (http://www.info.gov.hk/dh/do\_you\_k/eng/exercise.htm)

Based on the categorical scoring of the International Physical Activity Questionnaire (IPAQ) analysis, most of the respondents' level of physical activity was classified as "moderate" (56.1%). The proportion of respondents having "high" level of physical activity was 21.1%. Males, those with primary education or below, blue collar workers or service workers, those with household income of \$8,000 to \$13,999 and those living in public rental flats were more likely to have "high" level of physical activity than their respective counterparts.

## 5.1.3 Leisure-time activities

Less than two-fifths (38.7%) of the respondents reported that they exercised less than once a month in their leisure-time. On the other hand, 15.2% of respondents reported that they exercised 4 times or more a week and 33.9% exercised 1 to 3 times a week in their leisure-time. Females, divorced/ separated/ widowed respondents, blue collar workers and those with monthly household income of below \$20,000 were more likely to exercise less than once a month in leisure-time than their respective counterparts. Also, the lower the education level of the respondents, the more likely to report that they exercised less than once a month in leisure-time.

During weekdays, respondents spent 138.6 minutes per day on average on watching television, 78.1 minutes per day on surfing the internet or engaging in related activities and 84.9 minutes on other sedentary activities in their leisure-time.

During weekends, the average time spent on watching television per day was 153.2 minutes, surfing the internet or engaging in related activities was 80.7 minutes and other sedentary activities was 100.5 minutes in their leisure-time.

## 5.1.4 Dietary habits

Eating enough fruit and vegetables has many health benefits. Adequate consumption of fruit and vegetables as part of the daily diet could help prevent major non-communicable diseases (NCD) such as cardiovascular diseases and certain cancers. Eating a variety of vegetables and fruit could ensure an adequate intake of most micronutrients and dietary fibres.

Most respondents (82.0%) had eaten vegetables on a daily basis while more than half of the respondents (54.8%) had eaten fruit everyday. Regular fruit or vegetable juice consumption was found to be uncommon amongst respondents, as only 3.4% of the respondents drank fruit or vegetable juice daily.

Overall, the average daily intake of fruit and vegetables by the respondents was only 3.5 servings (excluding juice). Around one-fifth (21.2%) of the respondents had a daily average intake of 5 or more servings of fruit and vegetables per day. Females, those aged 45-64 and married or divorced / separated / widowed respondents were more likely to have consumed at least the recommended 5 servings of fruit and vegetables a day than their respective counterparts.

## 5.1.5 Pattern of alcohol consumption

More than one-third of the respondents (34.9%) were drinkers who had drunk at least one alcoholic drink during the month prior to the survey. On the whole, drinking during the month prior to the survey was more prevalent among males, aged 25–34, never married respondents, those with tertiary education level or above and managerial / professional workers. Also, the higher the monthly household income of respondents, the more likely that they had consumed at least one alcoholic drink during the month prior to the survey.

Among the drinkers who had drunk alcohol during the month prior to the survey, 26.4% of them reported that they had engaged in binge drinking (drinking 5 or more glasses/cans of alcohol on one occasion) at least once in the month prior to the survey. Binge drinking was more common among male respondents, those aged 25-34, never married or divorced/ separated/ widowed respondents and clerks, blue collar workers or service workers.

## 5.1.6 Smoking habits

15.4% of the respondents were current smokers at the time of this survey. A relatively higher proportion of current smokers who reported smoking more than 20 cigarettes a day were found amongst male respondents, those aged 55-64, those with primary education level or below, never married respondents and blue collar workers.

## 5.1.7 Sleeping habits

Most respondents (88.8%) slept for at least six hours and close to two-fifths of the respondents (37.1%) reported that they didn't get enough sleep for at least 10 days in the thirty days prior to the survey. A relatively higher proportion of those aged 45-64 and blue collar workers reported that they slept less than 6 hours per day on average. Similar proportion of respondents reported that they frequently (three or more times a week) had difficulty in falling asleep (12.5%), had intermittent awakenings or difficulty in maintaining sleep during the night (12.0%) and had early morning awakening and were unable to sleep again (10.1%). In contrast, about three-tenths (29.9%) of the respondents didn't experience any of these three sleeping problems during the thirty days prior to the survey.

Overall, about two-fifths of them (41.9%) considered they sleep "well" or "very well" while only 13.3% of respondents considered they sleep "poor" or "very poor". A relatively higher proportion of female respondents, those had not completed secondary education or below, divorced/ separated/ widowed respondents and those with monthly household income of below \$8,000 rated their sleeping quality as "poor / very poor".

## 5.1.8 Cervical screening

Close to two-thirds (64.7%) of the female respondents reported that they had had a cervical smear before. Those aged 35-54, those with secondary education level or

below, married respondents or divorced/ separated/widowed respondents, those with monthly household income of \$40,000 or above and those living in subsidized sale flats or private housing were more likely to have had a cervical smear than their counterparts.

Among those female respondents who had a cervical smear before, around half (50.3%) of them had their last cervical smear taken within 12 months prior to the survey and more than four-fifths (82.8%) of them reported having a cervical smear more than one time.

## 5.1.9 Use of antibiotics

About three-tenths (31.3%) of the respondents had taken antibiotics during the 12 months prior to the survey. Among the respondents who had taken any antibiotics, the vast majority (96.1%) of them reported that the antibiotics they took last time were prescribed by doctors, while a small proportion of those respondents reported they purchased antibiotics by themselves (3.6%) or took the leftover of previously bought drugs (0.2%).

Among the respondents who took antibiotics last time prescribed by doctors, the vast majority of them followed the doctor's or pharmacist's instructions when they took antibiotics prescribed by doctors last time. Over 80% of them reported they had been reminded by their doctors or pharmacists of the need to complete the whole course (88.9%) and the number of days of the treatment regimen (82.0%). However, less than one-third (32.5%) of the respondents reported that they had been reminded by their doctors or pharmacists of the increased risk of emergence of antibiotic resistant bacteria if they take antibiotics improperly.

## 5.1.10 Sunburn

About one-tenth (9.8%) of the respondents got sunburn in the 12 months prior to the survey, of which more than half (55.1%) of them reported that they got sunburn because they participated in land sports and other related activities, followed by participation in water sports and other related activities (48.6%) and outdoor work under the sun (26.4%).

## 5.1.11 General health status

More than two-fifths (44.2%) of the respondents rated their health status "good", "very good" or "excellent", while 6.6% considered their health status was "poor".

## 5.2 **Recommendations**

Some recommendations based on the survey findings are suggested below:

- 1. The survey results showed 67.5% of the respondents perceived their weight status in a way consistent with the WHO's weight status classification for Asian, while 17.6% of the respondents overestimated and 14.9% of them underestimated their weight status. Furthermore, less than half of the respondents spent at least one day a week on vigorous (35.2%) or moderate (44.6%) physical activities. Also, only about one-fifth of respondents reported that they had a daily average intake of five or more servings of fruit and vegetables per week. Therefore, the importance of maintaining normal body weight, engaging in regular physical activity and healthy eating needs to be further emphasized. Health promotion programmes should focus on educating the community about:
  - i. proper assessment of body weight status, such as using the Body Mass Index (BMI);
  - ii. proper methods of maintaining normal body weight, such as increased physical activity and having healthy diets;
  - iii. the benefits of regular physical activity, such as reducing the risk of developing various chronic diseases; and
  - iv. the benefits of having at least 5 servings of fruit and vegetables a day.
- 2. From this survey, about one-tenth of respondents reported that they frequently had 'difficulty in falling asleep' (12.5%), 'intermittent awakenings or difficulty in maintaining sleep' during the night (12.0%) and 'early morning awakening and were unable to sleep again' (10.1%). As having good quality sleep is vital to mental and physical well-being, health care workers could educate the public some tips for a good night sleep.
- 3. Among the respondents who took antibiotics last time prescribed by doctors, about two-thirds of them reported that they had not been reminded by their doctors or pharmacists of the increased risk of emergence of antibiotic resistant bacteria if they take antibiotics improperly. While the Government could promote the proper use of antibiotics, doctors and pharmacists should remind patients taking the antibiotics exactly as prescribed including the risk of emergence of antibiotic resistant bacteria associated with improper use of antibiotics.
- 4. Health is not only related to personal characteristics such as gender, age, education level, marital status, occupation, income level and type of living quarters, but also determined by certain socio-economic and environmental factors. Therefore, such underlying factors should be taken into account when planning health promotion programmes to ensure overall health in the community.

## 5.3 Limitations

- 1. Although the data were weighted by age and sex distribution in order to correct for over- or under-representation of all groups in the population, the data were not weighted for the number of eligible respondents in a household and the number of phones in a household, or to account directly for non-response.
- 2. The use of the "Next Birthday" rule to select respondent when there is more than one eligible respondent resided in a household by the time of the telephone contact cannot cover people who are always not at home in the evening and weekends.
- 3. A household telephone survey, by definition, excludes the institutionalized population and households without fixed line telephones, so the findings cannot be generalized to these sub-populations. However, as the fixed line telephone coverage in households still exceeds 85%, this reason only excludes a small proportion of households.
- 4. The survey relied on self-reported data and had certain limitations.
  - i. Respondents might not be willing to disclose to interviewers and deliberately under-report those behaviours that are socially undesirable or considered as unhealthy (such as high alcohol consumption). Conversely, respondents might over-report those behaviours that are considered desirable (such as consuming more fruit and vegetables).
  - ii. Self-reporting behaviour or practices was also subjected to recall bias and recall error (such as the consumption of fruit and vegetables or amount of physical activities). However, the recall period was kept quite short in this survey that would reduce such bias.
- 5. Finally, this was a cross-sectional study. The causal or time relationship between various factors could not be identified.

# Annex A Survey Questionnaire

# BEHAVIOURAL RISK FACTOR SURVEY APRIL 2008 QUESTIONNAIRE

#### **Introduction**

Hello! My name is \_\_\_\_\_\_\_, an interviewer from the Social Sciences Research Centre of the University of Hong Kong (SSRC). We are commissioned by the Department of Health to conduct a public survey on healthy living. This survey takes approximately 15 minutes to complete. All the information provided by you will be kept strictly confidential and for collective analysis only. If you have any queries on this survey, you can call the SSRC at phone number: 3921 2600 during office hours between 9 am and 6 pm. If you have questions about your rights as a research participant, please contact the Human Research Ethics Committee for Non-Clinical Faculties of the University at 2241 5267.

#### **Respondent selection**

[S1] Telephone No.

[S2] Interviewer No.

Because we are choosing a respondent randomly, please tell me how many household members aged 18-64 years there are at home right now? [S3] \_\_\_\_\_ Persons

Who is the one who will next have a birthday? (Interviewer: explain the "Next Birthday" rule if respondent questions)

Q1. Record the gender

- 1. Male
- 2. Female

## A) Body Measurements, Weight Perception and Body Weight Control

Because the Department of Health wishes to gauge the height and weight of Hong Kong people, please provide the figures as accurate as possible in the following questions. (Interviewer: please convert the measurement scale as needed; if the respondent does not know his/her height/weight/waist/hip circumference, input '998'; if the respondent refuses to report his/her height/weight/waist/hip circumference, input '999' as the missing value.)

Q2a. What is your height without wearing shoes?	cm
Q2b. What is your weight wearing simple clothes?	Kg
Q2c. What is your waist circumference?	cm

- Q3a. Does your weight now differ by more than 10 pounds (about 4.5 Kg) from your weight one year ago?
  - 1. Yes
  - 2. No (skip to Q4)
  - 3. Don't know (skip to Q4)

Q3b. Did it increase or decrease?

- 1. Increase
- 2. Decrease
- Q4. What do you think about your current weight?
  - 1. Overweight
  - 2. Just right
  - 3. Underweight

- Q5a. During the past 12 months, did you try to do something deliberately to control your weight for example increasing weight, decreasing weight or maintaining weight?
  - 1. Yes
  - 2. No (skip to Q7)

Q5b. Was it for increasing weight, losing weight or maintaining weight?

- 1. Losing weight
- 2. Increasing weight
- 3. Maintaining weight

Q6. Did you use the following methods to control your weight?

Q6a. Taking the drugs or products including health food for controlling your weight?

- 1. Yes
- 2. No

Q6b. Consulting doctors or dieticians?

- 1. Yes
- 2. No

Q6c. Going to weight control or beauty parlours?

- 1. Yes
- 2. No

Q6d. Doing physical exercises?

- 1. Yes
- 2. No

Q6e. Changing dietary habit?

- 1. Yes
- 2. No

#### Q6f. Any other methods?

- 1. Yes, please specify:\_\_\_\_\_
- 2. No

#### B) Physical Activity/Exercises

In the following few questions, I am going to ask you about the time you spent on vigorous physical activities, moderate physical activities and walking in the last 7 days. These activities can be carried out in your work place, your home or in your leisure-time.

- Q7. During the last 7 days, on how many days did you do vigorous physical activities? Vigorous activities are those that make you breathe much harder than normal, e.g., aerobics, football, swimming, heavy physical work, jogging, etc., and you did these activities for at least 10 minutes at a time. \_\_\_\_\_Days
- Q8. [Ask those whose answers in Q7 are greater than or equal to "1"] On those days that you have performed vigorous physical activity for at least 10 minutes, how much time on average per day did you usually spend on doing vigorous physical activities? \_\_\_\_\_Minutes
- Q9. During the last 7 days, on how many days did you do moderate physical activities? Moderate physical activities are those that make you breathe somewhat harder than normal, e.g., bicycling, washing cars/polishing, fast walking, cleaning windows, etc. and you did these activities for at least 10 minutes at a time. Days

Q10. [Ask those whose answers in Q9 are greater than or equal to "1"] On those days that you have performed moderate physical activity for at least 10 minutes, how much time on average per day did you usually spend on doing moderate physical activities?

- Q11. During the last 7 days, on how many days did you walk for at least 10 minutes at a time? This includes walking to offices/schools, walking to travel from place to place, and walking for leisure.
- Q12. [Ask those whose answers in Q11 are greater than or equal to "1"] On those days that you have walked for at least 10 minutes, how much time on average did you usually spend on walking in one of those days?

Hours Minutes

Q13. During the last 7 days, how much time on average did you usually spend on sitting on a weekday? This includes time spent sitting at work, at home, visiting friends, reading, traveling on public transport, and lying down to watch television. [If the respondent cannot answer the daily average time, then say: Please try to make an estimate as accurate as possible.]

\_\_\_\_\_Hours \_\_\_\_\_Minutes

#### **Leisure-time activities**

- Q14. During the past 30 days , how often did you exercise in your leisure-time, which at least made you breathe somewhat harder than normal and sweat?
  - 1. Once or more a day
  - 2. 4-6 times/week
  - 3. 2-3 times/week
  - 4. Once a week
  - 5. 2-3 times a month
  - 6. Once a month
  - 7. Less than one a month
- Q15a. During weekdays (i.e. Monday to Friday), how much leisure-time per day do you usually spent on watching television, including videos, VCDs or DVDs? \_\_\_\_\_ Hours \_\_\_\_\_Minutes
- Q15b. During weekdays (i.e. Monday to Friday), how much leisure-time per day do you usually spent on surfing the internet or engaging in related activities? \_\_\_\_\_Hours \_\_\_\_\_Minutes
- Q15c. During weekdays (i.e. Monday to Friday), how much leisure-time per day do you usually spent on other sedentary activities, such as reading books, newspapers and magazines, playing video or computer games (excluding motion games, for example "wii"), drawing, listening to music or playing music instruments?

\_\_\_\_\_ Hours \_\_\_\_\_Minutes

Q16a. During weekends and public holidays, how much leisure-time per day do you usually spent on watching television, including videos, VCDs or DVDs?

- Q16b. During weekends and public holidays, how much leisure-time per day do you usually spent on surfing the internet or engaging in related activities?
- Q16c. During weekends and public holidays, how much leisure-time per day do you usually spent on other sedentary activities, such as reading books, newspaper and magazines, playing video or computer games (excluding motion games, for example "wii"), drawing, listening to music or playing music instruments?

## C) Fruit and Vegetable consumption

- Q17ai. On average, how many days do you eat fruit each week? (not including fruit juice)
  - 1. 1 Day
  - 2. 2 Days
  - 3. 3 Days
  - 4. 4 Days
  - 5. 5 Days
  - 6. 6 Days
  - 7. 7 Days
  - 8. None (skip to Q17bi)

Q17aii. [Ask those whose answers in the above question are from "1" to "7"]

On average, how many fruit did you eat on one of those days?

(Interviewer: One fruit equals to 1 medium-sized apple or orange, 1 medium sized banana, or 2 kiwi fruits or plums, or 1 bowel of small fruits like grapes or strawberries. Ask exactly what they ate and then convert using table. The numbers can be recorded as half such as 0.5 or 1.5).

\_\_\_\_\_ Portions

- Q17bi. On average, how many days do you eat vegetables each week? (not including vegetable juice)
  - 1. 1 Day
  - 2. 2 Days
  - 3. 3 Days
  - 4. 4 Days
  - 5. 5 Days
  - 6. 6 Days
  - 7. 7 Days
  - 8. None (skip to Q17c)
- Q17bii. [Ask those whose answers in the above question are from "1" to "7"] On average, how many bowls of cooked vegetables did you eat on one of those days? (Interviewer's prompts: one bowl refers to the size of a rice bowl The numbers can be recorded as half such as 0.5 or 1.5. For uncooked leafy vegetables, half the total)

Bowls

- Q17c. On average, how many days do you drink at least one cup of fruit or vegetable juice each week? "Juice" refers to freshly squeezed juice or those are labeled 100% or pure fruit/vegetable juice. A cup means 250 mls in volume or a standard-sized tetra pack of juice drink.
  - 1. 1 Day
  - 2. 2 Days
  - 3. 3 Days
  - 4. 4 Days
  - 5. 5 Days
  - 6. 6 Days
  - 7. 7 Days
  - 8. None

## D) Pattern of Alcohol Consumption

- Q18a. Have you ever had at least one alcoholic drink? (Interviewer: read out the answers one by one)
  - 1. Yes, during the last month
  - 2. Yes, during the previous 2 12 months (skip to Q19a)
  - 3. Yes, more than 12 months ago (skip to Q19a)
  - 4. No (skip to Q19a)
- Q18b. On how many days per week during the last month, on average, did you drink at least one alcoholic drink? (Interviewer: Do not read out the answers)
  - 1. Daily
  - 2. 6 days per week
  - 3. 5 days per week
  - 4. 4 days per week
  - 5. 3 days per week
  - 6. 2 days per week
  - 7. 1 day per week
  - 8. Less than 1 day per week
- Q18c. How many standard unit of drinks on average did you drink on those days? (Read out the types of standard drink) (A can or small bottle of beer is approximately equal to 1.5 standard drink. Or 1 standard drink is approximately equal to one dining glass of wine, or 1 spirit nip of brandy/whisky, or one small glass of Chinese wine such as rice wine) (a can/small bottle of beer approximately equals to about 330 375 mls. Be aware, a big bottle can range from 640 mls (most brands) to 960 mls (Blue Ribbon)). [Interviewer please refer to the standard drink information sheet- the illustrated guide to typical standard drinks- for other examples if needed]

\_\_\_\_\_Unit of drinks

- Q18d. In the last month, did you drink at least 5 glasses or cans of alcohol on one occasion? That means the total number of glasses and cans of any type of alcohol, and one occasion means period of a few hours.
  - 1. Yes
  - 2. No (skip to Q19a)

- Q18e. How many times did you do this in the last month? (Interviewer: Do not read out the answers)
  - 1. Once
  - 2. Twice
  - 3. Three times or more

## E) Smoking Pattern

- Q19a. Have you smoked before? (Interviewer: read out the answers one by one)
  - 1. Yes, but not now
  - 2. Yes, and still smoking (skip to Q19c)
  - 3. Never (skip to Q20a)
- Q19b. How long have you abstained from smoking? (Interviewer: read out the answers one by one)
  - 1. Had abstained for less than 1 month (skip to Q20a)
  - 2. Had abstained for 1 month to 1 year (skip to Q20a)
  - 3. Had abstained for more than 1 year (skip to Q20a)
- Q19c. How many cigarettes do you smoke on average per day? (Interviewer: Do not read out the answers)
  - 1. Less than 1 cigarette per day now
  - 2. 1-10 cigarettes per day now
  - 3. 11-20 cigarettes per day now
  - 4. More than 20 cigarettes per day now

## F) <u>Sleeping habits</u>

Q20a. On average, how many hours do you sleep per day? [Interviewer: The numbers can be recorded as half such as 0.5 or 1.5]

\_\_\_\_\_ Hours

- Q20b. In the past 30 days, how often did you have difficulty in falling asleep, e.g. you cannot get to sleep within 30 minutes? [Interviewer: Read out the answers one by one]
  - 1. Not during the past month
  - 2. Less than once a week
  - 3. Once or twice a week
  - 4. Three or more times a week
- Q20c. In the past 30 days, how often did you have intermittent awakenings or difficulty in maintaining sleep during the night? [Interviewer: Read out the answers one by one]
  - 1. Not during the past month
  - 2. Less than once a week
  - 3. Once or twice a week
  - 4. Three or more times a week
- Q20d. In the past 30 days , how often did you have early morning awakening and unable to sleep again? [Interviewer: Read out the answers one by one]
  - 1. Not during the past month
  - 2. Less than once a week
  - 3. Once or twice a week
  - 4. Three or more times a week
- Q20e. During the past 30 days, for about how many days you felt you did not get enough sleep?

\_\_\_\_ Days

- Q20f. Overall, how well do you consider your sleep? [Interviewer: Read out the answers one by one]
  - 1. Very Well
  - 2. Well
  - 3. Fair
  - 4. Poor
  - 5. Very poor

## G) <u>Cervical Screening (female only)</u>

- Q21a. Have you had a cervical smear before?
  - 1. Yes
  - 2. No (skip to Q21d)
  - 3. Not sure (skip to Q21d)
- Q21b. [Ask those whose answers in Q21a are "Yes"]

About how long ago did you have the last cervical smear?

(Interviewer: Do not read out the answers)

- 1. Within 12 months
- 2. 13-24 months
- 3. 25-36 months
- 4. 37-48 months
- 5. 49-60 months
- 6. 61 months and above
- 7. Cannot remember

Q21c. [Ask those whose answers in Q21a are "Yes"]

Was it your first cervical smear?

- 1. Yes, first smear
- 2. No, repeated smear
- 3. Not sure
- Q21d. Have you had a total hysterectomy (surgical removal of the entire uterus) before?
  - 1. Yes
  - 2. No

## H) Use of antibiotics

- Q22. During the past 12 months, have you taken any antibiotics (i.e. specific drugs for treating bacterial infections)?
  - 1. Yes
  - 2. No (skip to Q26)
  - 3. Don't know/ don't remember (skip to Q26)

- Q23. How did you obtain the antibiotics you took last time?
  - 1. Prescription by doctors (including those with doctor's prescription but purchase from dispensary)
  - 2. Self purchase (including those without doctor's prescription but purchase from dispensary) (skip to Q26)
  - 3. Leftover of previous drugs (skip to Q26)
  - 4. Gifts from relatives and friends (skip to Q26)
  - 5. Others (please specify\_\_\_\_\_) (skip to Q26)
- Q24. When you took antibiotics prescribed by doctors last time, did you follow the doctor's (or the pharmacist's) instructions below?
- Q24a. The dose to be taken every time?
  - 1. Yes
  - 2. No (including "on the right time and at the right dose at the beginning, but 'No' when condition has improved")
- Q24b. The frequency taking the drugs every day?
  - 1. Yes
  - 3. No (including "on the right time and at the right dose at the beginning, but 'No' when condition has improved")
- Q24c. Completing the numbers of days of the treatment regimen according to doctor's (or the pharmacists') instruction?
  - 1. Yes
  - 2. No (including "on the right time and at the right dose at the beginning, but 'No' when condition has improved" )
- Q25. When you took antibiotics prescribed by doctors last time, did the doctor (or the pharmacist) remind you of the followings?
- Q25a. The number of days of the treatment regimen?
  - 1. Yes
  - 2. No
- Q25b. Completing the whole course?
  - 1. Yes
  - 2. No

- Q25c. The risk of emergence of antibiotic resistant bacteria may increase if you take antibiotics improperly?
  - 1. Yes
  - 2. No

## I) <u>Sunburn</u>

This section of questions is about sunburns, including any time that even a small part of your skin was red or sore for more than 12 hours.

- Q26. In the past 12 months, did you have a sunburn?
  - 1. Yes
  - 2. No (skip to Q29)
- Q27. In the past 12 months, how many sunburns did you have?
- Q28. What were the main reasons for the sunburn(s)? [Interviewer: Read out the answers]
  - a. Participation in water sports and other related activities (e.g. sunbathing, swimming or water-skiing)
    - 1. Yes
    - 2. No
  - b. Participation in land sports and other related activities (such as hiking, running or ball games)
    - 1. Yes
    - 2. No
  - c. Use of solarium or sunbed (e.g. for skin tanning)
    - 1. Yes
    - 2. No

- d. Outdoor work under the sun
  - 1. Yes
  - 2. No

e. Others, please specify: \_\_\_\_\_

#### J) General Health Status

Q29. In general, would you say your health is: (Interviewer: Read out the answers)

- 1. Excellent
- 2. Very good
- 3. Good
- 4. Fair
- 5. Poor

#### J) <u>Demographics</u>

Please tell us more about yourself in the order to facilitate our analysis. All information collected would be treated in strictest confidence.

Q30. What is your age? \_\_\_\_\_ Years

- Q31. What is your highest educational attainment? (Interview: read out the answers one by one)
  - 1. Primary or below
  - 2. Had not completed secondary
  - 3. Completed secondary (F5)
  - 4. Matriculation
  - 5. Tertiary (Non-degree, degree or above)

Q32. What is your marital status (Interview: read out the answers one by one)

- 1. Never married
- 2. Married and with child (ren)
- 3. Married and without child (ren)
- 4. Divorced or Separated
- 5. Widowed
- 6. Refuse to answer

#### Q33. Are you currently engaged in a job?

- 1. Yes
- 2. No (skip to Q35)

#### Q34. What is your occupation? (Interviewer: record the details of occupation)

1. Employers/Managers/Administrator 2. Professional 3. Associate Professional 4. Clerk 5. Service worker 6. Shop sales worker (skip to Q36) 7. Skilled agricultural/fishery worker 8. Craft and related worker 9. Plant and machine operator and assembler 10. Un-skilled worker 11. Others (Please specify\_\_\_\_)

Q35. Are you a .....? (Interviewer: read out the answers one by one)

- 1. Student
- 2. Home-maker
- 3. Unemployed person
- 4. Retired person
- 5. Others (Please specify\_\_\_\_)



Q36. How much is your monthly personal income including all the income?

- 1. None
- 2. \$1-1,999
- 3. \$2,000-3,999
- 4. \$4,000-5,999
- 5. \$6,000-7,999
- 6. \$8,000-9,999
- 7. \$10,000-11,999
- 8. \$12,000-13,999
- 9. \$14,000-15,999
- 10. \$16,000-17,999
- 11. \$18,000-19,999
- 12. \$20,000-24,999
- 13. \$25,000-29,999
- 14. \$30,000-34,999
- 15. \$35,000-39,999
- 16. \$40,000-44,999
- 17. \$45,000-49,999
- 18. \$50,000 or above
- 19. Refuse to answer

Q37. How much is your monthly household income including all the income?

- 1. Less than \$2,000
- 2. \$2,000-3,999
- 3. \$4,000-5,999
- 4. \$6,000-7,999
- 5. \$8,000-9,999
- 6. \$10,000-11,999
- 7. \$12,000-13,999
- 8. \$14,000-15,999
- 9. \$16,000-17,999
- 10. \$18,000-19,999
- 11. \$20,000-24,999
- 12. \$25,000-29,999
- 13. \$30,000-34,999
- 14. \$35,000-39,999
- 15. \$40,000-44,999
- 16. \$45,000-49,999
- 17. \$50,000-54,999
- 18. \$55,000-59,999
- 19. \$60,000 or above
- 20. Don't Know
- 21. Refuse to answer
- Q38. How many people are living in this household, including yourself but excluding live-in maids? \_\_\_\_\_ Persons
- Q39. What is your type of living quarter?
  - 1. Public rental flats
  - 2. Housing Authority subsidized sale flats
  - 3. Housing Society subsidized sale flats
  - 4. Private residential flats
  - 5. Villas/ Bungalows/ Modern village houses
  - 6. Simple stone structures/ traditional village houses
  - 7. Staff quarters
  - 8. Non-domestic quarters

END