



UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF SCIENCE

UDPS 2033 SAMPLE SURVEY AND SAMPLING TECHNIQUES

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Reviewed article summary:

Author, Year	Objective	Sample Size	Study Design	Main Finding
Sam Abraham, et al. 2018	To examine college students' eating habits and knowledge of nutritional requirements for health.	121 college students	Cross-sectional study, with a descriptive design	Students have fair knowledge of nutritional requirements for health. However, the food choices they made are not necessarily healthy. Convenience and taste of food were priority.
Farrukh Majeed, et al. 2018	To assess the diet and exercise habits and their association with BMI in female college students.	215 female college students	Cross Sectional study	Students preferred unhealthy food and "lack of time" was the most frequently mentioned barrier to eating a healthy diet and engaging in regular exercise. Emphasis should be given to implementing interventions aimed at increasing physical activity and encouraging healthier diets among students thereby reducing their future risk of chronic disease.
Binkowska-Bury, M., et al. (2010).	To evaluate the relation between Sense of Coherence (SOC) and intensity of health related behaviours among university students	555 university students	Cross sectional study design	SOC correlates positively with the tendency towards health related behaviour. The higher the level of coherence, the higher is the tendency towards practising pro-health behaviours.

Linda L. Knol, et al. (2018)	To investigate the relationships between food security status and cooking self-efficacy and food preparation behaviors among college students.	368 students of University of Alabama	Cross-sectional study	Preparing meals at home is less common for very low food secure students, and these students demonstrate less confidence in cooking ability.
Yang, S. Y., et al. (2019)	To examine the relationships among health-related behavior, and Internet addiction in female adolescents	503 female junior college students in southern Taiwan	Cross-sectional study design	The results confirmed the relationship between health-related behaviors and Internet addiction.

General MindMap of the article that we studied:



Part 1:

- 1. Research Question:** Do the cooking ability of university students affect their eating behaviour and health condition?
- 2. Objective:** To determine the relationship between university students' cooking ability and their health condition.
- 3. Study Design:** Cross-Sectional Study. Because the study regarding the sample over the time is not necessary in our case. Therefore, we just adapt the questionnaire and analyse the result at a specific point in time based on the survey.
- 4. Sampling Technique:** Stratified sampling. We separate our target population into stratum according to different faculty in UTAR. Then, we obtain the class timetable

of different courses from different Faculty General Offices (FGO) and apply simple random sampling to select the courses and time slots from each stratum (faculty).

5. List the following for the study based on the design and sampling technique specified:
- i. **Population** - All Malaysia university students.
 - ii. **Target population** - UTAR Kampar students during the data collection period.
 - iii. **Sampling frame** - Lists of timetable from different faculty (obtainable from every FGO)
 - iv. **Sampling unit** - Different timetable of different courses.
 - v. **Elements** - Selected students in different faculties.
 - vi. **Samples** - UTAR students in Kampar.

PART II:

1. Develop an appropriate questionnaire for the study.

Survey Questionnaire

Part A: Respondent Demographic

Instruction: Choose only one answer for this part. Please put a tick “✓” in the box next to the answer of your choice.

1. Please indicate your gender:
☐ Male
☐ Female

2. Please indicate your faculty:
☐ Faculty of Science (FSc)
☐ Faculty of Engineering and Green Technology (FEGT)
☐ Faculty of Business and Finance (FBF)

- ☐ Faculty of Arts and Social Science (FAS)
- ☐ Faculty of Information and Communication Technology (FICT)
- ☐ Institute of Chinese Studies (ICS Kampar)
- ☐ Centre for Foundation Studies (CFS Kampar)

3. Please indicate your year of study:

- ☐ Foundation
- ☐ Year 1
- ☐ Year 2
- ☐ Year 3
- ☐ Year 4 and above

4. Weight:

- ☐ < 40kg
- ☐ 41 - 60kg
- ☐ 61 - 80kg
- ☐ > 80kg

5. Height:

- ☐ < 150cm
- ☐ 151 - 160cm
- ☐ 161 - 170 cm
- ☐ > 170cm

Part B: Personal Eating Behaviour

1. By adapting the standard students food survey (from Q1 to Q28) as shown in appendix.

Part C: Health Behaviour

Instruction: Choose only one answer for this part. Please put a tick “✓” in the box next to the answer of your choice or write in the space provided as the case may be.

1. How often do you seek the consultation from a doctor?

- ☐ Less than once per year
- ☐ 1 - 3 times per year
- ☐ 4 - 6 times per year
- ☐ > 6 times per year

2. Do you currently suffer from any chronic diseases (long term disease)?

- ☐ Yes
- ☐ No

If yes, please specify: _____

3. Do you have any hereditary conditions/diseases (genetically inherited)?

- ☐ Yes
- ☐ No

If yes, please specify: _____

4. Have you taken any medicine in the past 24 hours?

- ☐ Yes
- ☐ No

If yes, please specify: _____

5. How many medications have been prescribed by the doctor that you have taken in the last 24 hours?

- ☐ None
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ ≥ 4

6. Thinking about the last week, how often did you exercise for about 30 minutes? By exercise, we mean any physical activity that increases your heart rate.

- ☐ Every day
- ☐ 4-5 times a week
- ☐ 2-3 times a week
- ☐ Less than twice a week
- ☐ Never

7. How often do you use the sports/fitness facilities in each of the following? Please tick one box in each row.

	Every day	4-6 times a week	2-3 times a week	Less often	Never
University sports centre (Block C)					
Private gym					
Sports club					
Public facilities					
Gym equipment at home					

8. How would you evaluate your overall health? Would you say you are:

- ☐ In good physical health. (No illness or disabilities)
- ☐ Mildly physically impaired. (Minor illness or disabilities)
- ☐ Moderately physically impaired. (Requires substantial treatment)
- ☐ Severely physically impaired. (Requires extensive treatment)

2. Propose a data collection technique for the study.

Closed-ended surveys. In our case, we apply both main types of closed-ended survey, which are categorical and interval/ratio questionnaires because we offer the predefined answer options for the respondents. Hence, these types of data collection methods are rather simple to understand and can be easily analyzable. Besides that, respondents might be more willing to participate themselves in the survey due to the fact that they no need to think of what kind of answer to write as the answer options already provided. Thus, this technique saves them a lot of trouble and time where they just need to tick any particular option that fits them the most.

We execute the data collection step-by-step. Firstly, we separate the target population into stratum according to different faculty in UTAR Kampar. Then, we obtain the class timetable of different courses from different Faculty General Offices (FGO) and do some simple random sampling to select the courses and time slots. Lastly, we give out the survey questionnaires for the students to fill-in in their respective classroom.

Appendix: Questionnaire

APPENDIX 2: QUESTIONNAIRE

Student Food Survey

The Food Standards Agency is interested in talking to students about a number of issues related to food. We need your co-operation and would be grateful if you would answer the questions below. Thank you for your support and please be assured that all the information you provide is confidential.

All the questions relate to where you usually live during term time.

Firstly, we'd like to ask you about where you live and your responsibility for food shopping.

Q1: Do you live ...

- | | | | |
|---|--------------------------|---|-----------|
| With your parents | <input type="checkbox"/> | 1 | |
| With your partner | <input type="checkbox"/> | 2 | |
| With your partner and children | <input type="checkbox"/> | 3 | Go to Q19 |
| With your children | <input type="checkbox"/> | 4 | |
| In catered university accommodation | <input type="checkbox"/> | 5 | |
| In self-catering university accommodation | <input type="checkbox"/> | 6 | |
| In a private house with other students | <input type="checkbox"/> | 7 | |
| Other (please specify) | <input type="checkbox"/> | 8 | |
-

Q2: Do you usually prepare and eat food with a group of people, or do you prepare and eat food individually?

Prepare and eat food as part of a group ☐ 1 Prepare and eat food individually ☐ 2

Q3: Which of the following do you have access to in your accommodation?
Please tick all that apply.

- | | | |
|--|--------------------------|---|
| Hob/Cooking rings | <input type="checkbox"/> | 1 |
| Oven | <input type="checkbox"/> | 1 |
| Grill | <input type="checkbox"/> | 1 |
| Fridge | <input type="checkbox"/> | 1 |
| Freezer | <input type="checkbox"/> | 1 |
| Microwave | <input type="checkbox"/> | 1 |
| Storage facilities (eg food cupboards) | <input type="checkbox"/> | 1 |
| Cooking equipment (eg saucepans, knives) | <input type="checkbox"/> | 1 |

Now we'd like to ask you some questions about shopping for food.

Q4: On average, how much would you spend on food per week? This includes food that you buy to cook as well as eating out.

- | | | |
|------------------------|--------------------------|---|
| Less than £20 per week | <input type="checkbox"/> | 1 |
| £20-29 per week | <input type="checkbox"/> | 2 |
| £30-£39 per week | <input type="checkbox"/> | 3 |
| £40-£49 per week | <input type="checkbox"/> | 4 |
| £50 per week or more | <input type="checkbox"/> | 5 |
| I don't know | <input type="checkbox"/> | 6 |

Q5: When you are buying food, which 3 of the following factors do you consider most? Please tick 3 factors only

- | | | |
|---|--------------------------|---|
| Quality or freshness of the food | <input type="checkbox"/> | 1 |
| Habit or routine | <input type="checkbox"/> | 1 |
| Price of the food | <input type="checkbox"/> | 1 |
| How much money I have | <input type="checkbox"/> | 1 |
| The availability of the food in the shops I go to | <input type="checkbox"/> | 1 |
| Taste | <input type="checkbox"/> | 1 |
| Convenience in preparation | <input type="checkbox"/> | 1 |
| Foods I know how to cook/prepare | <input type="checkbox"/> | 1 |
| Someone else decides on most of the food I eat | <input type="checkbox"/> | 1 |
| Other (please specify) | <input type="checkbox"/> | 1 |
-

Q6: How often do you usually buy groceries?

- | | | |
|-------------------|--------------------------|---|
| Every day | <input type="checkbox"/> | 1 |
| Every 2-3 days | <input type="checkbox"/> | 2 |
| About once a week | <input type="checkbox"/> | 3 |
| Once a month | <input type="checkbox"/> | 4 |
| Less often | <input type="checkbox"/> | 5 |

Q7: Where do you buy most of your groceries?

- | | | |
|--------------------------------------|--------------------------|---|
| On the internet | <input type="checkbox"/> | 1 |
| Supermarkets | <input type="checkbox"/> | 2 |
| Local shops (eg Spar, Mace, garages) | <input type="checkbox"/> | 3 |
| Markets | <input type="checkbox"/> | 4 |
| Other (please specify) | <input type="checkbox"/> | 5 |
-

Go to Q10

Thinking about where you buy most of your groceries ...

Q8: How far is it from where you live?

- | | | |
|-------------------|--------------------------|---|
| Less than 1 mile | <input type="checkbox"/> | 1 |
| 1-2 miles | <input type="checkbox"/> | 2 |
| 3-4 miles | <input type="checkbox"/> | 3 |
| More than 4 miles | <input type="checkbox"/> | 4 |
-

Q9: How do you usually get your groceries home?

- On the bus ☐ 1
- By bicycle ☐ 2
- I drive ☐ 3
- Someone else gives me a lift ☐ 4
- I walk ☐ 5
- The groceries are delivered ☐ 6
- Other (please specify) ☐ 7

Q10: Do you shop there for any of these reasons? Please tick all that apply.

- It's easy to get to ☐ 1
- Value for money – it's cheaper to shop there ☐ 1
- There is a good choice of food ☐ 1
- The quality of the food is good ☐ 1
- Other (please specify) ☐ 1

Q11: How many shops selling a variety of groceries could you walk to in less than 15 minutes from where you live?

If none, please go to Q13

Q12: How do you rate the shops selling groceries within 15 minutes walk of where you live, in terms of ...

Please tick one box in each row.

	Very good	Good	Neither good nor bad	Bad	Very bad
Quality of food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choice of food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Price of food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q13: In general, how much do you usually like or dislike shopping for food?

- I really like food shopping ☐ 1
- I like food shopping ☐ 2
- I neither like nor dislike food shopping ☐ 3
- I dislike food shopping ☐ 4
- I really dislike food shopping ☐ 5

Q14: Please indicate how often the following happens to you.
Please tick one box in each row.

	Every day	4-6 days per week	1-3 days per week	Once every 2 weeks	One a month or less	Never
You do not have enough food to eat because you can't get to a grocery shop?						
You do not have a main meal and you get through the day by just having a snack or a drink when you feel like it?						
You worry that your food will run out because you do not have enough money to buy more?						

The next section looks at cooking.

Q15: How much do you like or dislike cooking?

- | | | |
|------------------------------------|--------------------------|---|
| I really like cooking | <input type="checkbox"/> | 1 |
| I like cooking | <input type="checkbox"/> | 2 |
| I neither like nor dislike cooking | <input type="checkbox"/> | 3 |
| I dislike cooking | <input type="checkbox"/> | 4 |
| I really dislike cooking | <input type="checkbox"/> | 5 |

Q16: On average, how often do you prepare or cook your main meal of the day from fresh or raw ingredients?

- | | | | |
|---------------------|--------------------------|---|------------------|
| Once a day | <input type="checkbox"/> | 1 | Go to Q18 |
| 2-3 times per week | <input type="checkbox"/> | 2 | |
| About once per week | <input type="checkbox"/> | 3 | |
| 2-3 times per month | <input type="checkbox"/> | 4 | Go to Q17 |
| About once a month | <input type="checkbox"/> | 5 | |
| Less often | <input type="checkbox"/> | 6 | |

Q17: Why do you not cook a main meal every day?

Please tick all that apply.

- | | | | |
|--|--------------------------|---|------------------|
| I don't know how to cook at all | <input type="checkbox"/> | 1 | Go to Q19 |
| I don't know how to cook a variety of foods or meals | <input type="checkbox"/> | 1 | |
| Someone else usually cooks for me | <input type="checkbox"/> | 1 | |
| I don't enjoy cooking | <input type="checkbox"/> | 1 | Go to Q18 |
| I usually eat pre-packed/convenience foods | <input type="checkbox"/> | 1 | |
| I can't afford it | <input type="checkbox"/> | 1 | |
| Lack of cooking facilities | <input type="checkbox"/> | 1 | |
| Lack of storage facilities | <input type="checkbox"/> | 1 | |
| I usually eat take-away food | <input type="checkbox"/> | 1 | |
| Lack of time | <input type="checkbox"/> | 1 | |
| Other (please specify) | <input type="checkbox"/> | 1 | |

Q18: Where did you learn to cook?
Please tick all that apply.

At school	<input type="checkbox"/>	1
At home	<input type="checkbox"/>	1
Other (please specify)	<input type="checkbox"/>	1

Q19: Which of the following describes you?
Please tick all that apply.

I am a vegan (I don't eat meat, fish, dairy or other products derived from animals)	<input type="checkbox"/>	1
I am completely vegetarian	<input type="checkbox"/>	1
I am mainly vegetarian – I eat fish but not meat	<input type="checkbox"/>	1
I eat meat	<input type="checkbox"/>	1
I am following a strict diet to lose weight	<input type="checkbox"/>	1
I am on a casual diet to lose weight	<input type="checkbox"/>	1
I am on a special diet for medical reasons	<input type="checkbox"/>	1
I am on a special diet due to allergies	<input type="checkbox"/>	1
I am on a special diet for religious reasons	<input type="checkbox"/>	1

Q20: Which of the following types of food do you eat regularly (at least 2 or 3 days per week)?
Please tick all that apply.

Fresh vegetables/salads	<input type="checkbox"/>	1
Fruit	<input type="checkbox"/>	1
Eggs	<input type="checkbox"/>	1
Ready-made meals (heated in the oven/microwave)	<input type="checkbox"/>	1
Other convenience foods (eg fish fingers, burgers, chips)	<input type="checkbox"/>	1
Dairy products (milk, cheese, yoghurt)	<input type="checkbox"/>	1
Meals prepared from raw fresh fish	<input type="checkbox"/>	1
Meals prepared from raw fresh chicken	<input type="checkbox"/>	1
Meals prepared from other raw fresh meat	<input type="checkbox"/>	1

Q21: How often do you buy food from the following outlets?

Please tick one box in each row.

	Every day	4-6 times a week	2-3 times a week	Once a week	Less often	Never
Takeaway or fast food outlet (eg fish and chip shops, Chinese takeaway, McDonalds)	1	2	3	4	5	6
University canteen or refectory (hot food)	1	2	3	4	5	6
University sandwich/coffee/snack bar	1	2	3	4	5	6
University shop	1	2	3	4	5	6
Other coffee shop	1	2	3	4	5	6
Other takeaway sandwich outlet	1	2	3	4	5	6
Pub	1	2	3	4	5	6
Mobile food outlet	1	2	3	4	5	6
Sports club	1	2	3	4	5	6
Ready to eat takeaway food from supermarkets	1	2	3	4	5	6
Vending machine	1	2	3	4	5	6

Q22: How often do you ...?

Please tick one box in each row.

	Every day	4-6 times a week	2-3 times a week	Less often	Never
Eat breakfast					
Eat fried food					
Drink alcohol					

Q23: Compared to a year ago, how often do you eat or drink the following?

Please tick one box in each row.

	More than a year ago	Same as a year ago	Less than a year ago	I never eat or drink this
Foods or drinks containing sugar (eg sweets, cakes, soft drinks)				
Foods containing fat (eg fried food, crisps)				
Fruit				
Vegetables or salad				
Bread, cereals, rice, pasta, potatoes				
Milk and dairy products				
Meat (all types: red, white and processed)				
Fish				
Unsalted nuts, beans, chickpeas, lentils				
Salt in your food				
Alcohol				

Q24: How often do you look at the labels with nutritional information on food?

- | | | |
|--------------|----------------------|---|
| Always | <input type="text"/> | 1 |
| Fairly often | <input type="text"/> | 2 |
| Sometimes | <input type="text"/> | 3 |
| Never | <input type="text"/> | 4 |

Q25: If you were looking at the nutritional information on a jar of salad cream and it said the product contained 20g of sugar per 100g, would you think this is a lot or a little?

- | | | |
|----------------------|----------------------|---|
| A lot | <input type="text"/> | 1 |
| An acceptable amount | <input type="text"/> | 2 |
| A little | <input type="text"/> | 3 |
| I don't know | <input type="text"/> | 4 |

Q26: If you were looking at the nutritional information on a box of cornflakes and it said the product contained 2g of salt per 100g, would you think this is a lot or a little?

- | | | |
|----------------------|----------------------|---|
| A lot | <input type="text"/> | 1 |
| An acceptable amount | <input type="text"/> | 2 |
| A little | <input type="text"/> | 3 |
| I don't know | <input type="text"/> | 4 |

Q27: If you were looking at the nutritional information on a packet of digestive biscuits and it said the product contained 20g of fat per 100g, would you think this is a lot or a little?

- | | | |
|----------------------|----------------------|---|
| A lot | <input type="text"/> | 1 |
| An acceptable amount | <input type="text"/> | 2 |
| A little | <input type="text"/> | 3 |
| I don't know | <input type="text"/> | 4 |

Q28: How many portions of fruit and vegetables should you eat every day?

portions per day