

THE IMPACT OF DIETARY TRENDS ON THE  
HEALTH AND WELLNESS FOOD  
CONSUMPTION IN MALAYSIA

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## DECLARATION

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## LIST OF ABBREVIATION

<b>CHNS</b>	China Health and Nutrition Survey
<b>BED</b>	Binge-Eating Disorder
<b>DASH</b>	Dietary Approaches to Stop Hypertension
<b>DV</b>	Dependent Variable
<b>DOSM</b>	Department of Statistics Malaysia
<b>FBDG</b>	Food-Based Dietary Guidelines
<b>IBM</b>	International Business Machine
<b>IMB</b>	Information-Motivation-Behavioural
<b>IV</b>	Independent Variables
<b>NES</b>	Night-Eating Syndrome
<b>NHMS</b>	Public Health's National Health and Morbidity Survey
<b>SACN</b>	Scientific Advisory Committee on Nutrition
<b>SPSS</b>	Statistical Package for the Social Sciences
<b>VIF</b>	Variance Inflation Factors
<b>WRT</b>	Weight-Related Teasing
<b>WHO</b>	World Health Organization
<b>YRBSS</b>	Youth Risk Behaviour Surveillance System

## **ABSTRACT**

Over the years, there has been a surge in the wellness market. In particular, there has been a noticeable change in people's dietary habits and food preferences. At the same time, the healthy dietary trend in consumers' food choices can also be recognized within the context of Malaysia. Malaysians nowadays have witnessed increasing health consciousness, leading to a surge in the popularity of healthier food options. Therefore, this study aims to assess the impact of dietary trends on health and wellness food consumption in Malaysia, which is expected to provide valuable insights for the government, health professionals, the food industry, academicians, and the general public in the country.

This study leverages the conceptual framework of the Information-Motivation-Behavioural (IMB) theory, which aims to discover the impact of the independent variables on the dependent variable. The independent variables of this study are dietary information, dietary motivation, and dietary health literacy, while dietary behaviour is the dependent variable. A total of 414 responses are valid and included in the data analysis, which is collected via Google Forms. The data is analysed utilising Statistical Package for the Social Sciences (SPSS) software version 27. The findings derived from the analysis further support the discussion of this research.

The findings reveal that dietary information, dietary motivation, and dietary health literacy possess a significant and positive relationship to dietary behaviours. The most influential independent variables that affect dietary behaviour. Indeed, the practical and theoretical implications of this study are discussed. The limitations and recommendations for further research are provided in order to improve the insights for future related research.

# **CHAPTER 1:**

## **INTRODUCTION**

### **1.0 Introduction**

The researcher delivers a concise background in the opening chapter, exploring into the impact of dietary trends on health and wellness food consumption in Malaysia. The global wellness market is experiencing a notable surge, accompanied by significant shifts in dietary behaviours. Products such as health supplements, poke bowls, and plant-based meat are gaining popularity, crucially due to their promotion on social media platforms. Subsequently, the problem statement for the study is discussed. In Malaysia, there is a lack of studies examining the causal relationship between dietary information, dietary motivation, dietary health literacy, and dietary behaviour. Most existing studies focus on addressing the country's prevalent health issues, such as obesity and overweight. Therefore, this study aims to fill this research gap. Building on this premise, the researcher outlines the detailed objectives and questions of the study, along with the significance, which offers clear guidance throughout the research. Finally, the researcher makes a conclusion for the entire Chapter One.

## 1.1 Research Background

In recent years, there has been a surge in the wellness market. Consumers today increasingly investing in products aimed at enhancing various aspects of their well-being, including health, nutrition, fitness, appearance, sleep, and mindfulness (McKinsey & Company, 2022). Notably, this shift has become more apparent following the occurrence of the COVID-19 pandemic (Jaeger et al., 2021). Many individuals perceive the importance of health, which subsequently encourages them to adopt more virtual healthcare, customized personal diets, and remove mental-health taboos (Broom, 2022). The surge in wellness consciousness has also stimulated growth in the fitness industry, with increased offerings such as wearable technology, workplace health promotion, fitness programs for seniors, exercise for weight loss, and personal training (A'Naja et al., 2024). Other than physical wellness, there has been a growing emphasis on mental wellness. This is evident in the rising trend of wellness tourism in Asian countries, where holistic packages comprise mental healing, yoga, meditation, hot springs, ancient villages, forest parks, and more (Tripathi & Foued, 2023). Health and wellness have underscored the growing importance of holistic well-being in contemporary society.

Meanwhile, there has been a noticeable change in people's dietary habits and food preferences. Responding to these changes, individuals are becoming increasingly health-conscious, prioritizing products with health attributes over their price (Deloitte, 2023; Mathieu, 2023). Individuals are actively demanding high-quality food, which encompasses aspects like improved safety, freshness, nutritional value, and a variety of flavours (Huang et al., 2017). Also, a rising awareness of organic consumption, also known as clean-label food, has been observed among consumers (Brantsæter et al., 2017; Zemser, 2015). This food category is recognized for its natural, fresh qualities, and is free from chemical additives like pesticides. Notably, even snacks and fast-food establishments are adapting to these changing preferences by offering smaller portions and adding more nutritious, wholesome ingredients (Moniuszko, 2023). As such, these



dietary changes are not just a trend for specific age groups. It has spanned all generations, especially younger consumers (Grimmelt et al., 2022).

Concurrently, the market is flooded with numerous health-labelled foods, such as poke bowls, salads, collagen powder, lemon water, green tea pills, sourdough bread, and many more (Arauzo et al., 2021; Bui & Pham, 2019; Lockyer & Spiro, 2020; Sloan, 2021). According to the Unilever Food Solutions Future Menu Trends Report 2023, incorporating more vegetables and mindful proteins into dishes can effectively attract and retain more customers as individuals are increasingly concerned about their diet and health (Unilever PLC, 2023). In addition, there is a growing interest in plant-based and protein-forward products, which include plant-based meat, plant-based seafood, and plant-based milk (Businesswire, 2023). A novel finding from the European countries is that plant-based diets and health have been widely encouraged by the legal law of Europe for the sake of reducing greenhouse gas emissions (Daalen et al., 2022). The popularity of plant-based diets has risen in recent years around the world. The number of vegetarians in Portugal increased by 400% from 2007 to 2017 (The Portugal News, 2017). This circumstance has also occurred in the United States, where individuals eating plant-based diets has risen by almost ten million over the past 15 years (Ipsos, 2016). Overall, it can be viewed that the trend of organic and plant-based food is enthusiastically surging.

Besides, the realm of health and wellness foods is experiencing a significant boost from influencers and content creators on social media which impacts social media users to have changes in their health and well-being (Ramlan et al., 2023). Individuals would be attracted by the captive visual—interesting videos and aesthetic food posts that promise to help individuals lose weight and become healthier (Shah, 2023). Simultaneously, contemporary ideals of physical appearance and body image are being widely promoted on social media (Goldstraw & Keegan, 2016). Individuals who aim to pursue their desired physical appearance have fostered dietary choices, further driving the demand for health and wellness food. In this case, keywords like ‘cheat

meal,' 'fitness,' and 'fitspiration' have come across the market (Cataldo et al.,2021). Hence, it is crucial to note that social media influences stand as a prominent promotional source in shaping how people perceive and engage with their diets in today's dynamic and interconnected environment.

At the same time, the influence of the aforementioned dietary trend on consumers' food choices can also be recognized within the context of Malaysia. Similar to many other nations, there is a view that some communities in Malaysia start to be aware of their health and dietary patterns. Indeed, some studies and news have revealed the scope for dietary improvement in Malaysia (e.g., Ramadas et al., 2021). According to The Sun (2023), a significant portion, up to 75 percent, of Malaysians have shifted their health priorities towards emphasizing a healthy, active lifestyle, and achieving a holistic approach to health, regardless of diet, mental wellness, or physical appearance. Lazada (2023) also reveals an increasing trend in products associated with keywords like 'wellbeing' and 'self-care' in the e-commerce industry, with no signs of slowing down. Therefore, the health and wellness food ocean is expected to stream into Malaysia over time, which is perceived as a contribution to implications for the food industry, sustainable agriculture, and public health.

In a nutshell, this study emphasizes the dietary trends in the popularity of health and wellness food in Malaysia, where a gap is perceived. By examining individuals' perceived information, motivation, literacy, and behaviour regarding dietary choices, this study seeks to contribute valuable insights and guidance for individuals, policymakers, health professionals, and the food industry in fostering healthier and more sustainable food practices within the Malaysian context.

## 1.2 Problem Statement

Malaysia is being in a pessimistic condition regarding its people's health. In fact, this country possesses the highest overweight population of 15.6% among the Southeast Asia nations in 2023 (The Star, 2023), ranking 55th among 183 countries around the globe (Code Blue, 2023). Based on the Institute for Public Health's National Health and Morbidity Survey (NHMS) 2022, one (1) out of three (3) adults and children are considered overweight or obese in Malaysia (Arumugam, 2023). Following that, this obesity rate is expected to accelerate 'very high' on an annual basis for the upcoming years, as revealed by the World Obesity (2023). This circumstance occurs because of inappropriate dietary patterns and lifestyle, which will lead to various negative outcomes for Malaysian health. Significantly, it raises questions regarding to the effectiveness of current dietary trends in promoting health and well-being in Malaysia.

Fortunately, Malaysians nowadays have witnessed increasing health consciousness, leading to a surge in the popularity of healthier food options, especially vegetarian and vegan cuisine, said MIDA, the Malaysian Investment Development Authority (2022). A survey conducted by Herbalife Nutrition in 2020 revealed that almost 50% of Malaysians have shifted their diet, with 61% of Malaysians consuming more fruits and vegetables, and 41% consuming more plant-based foods (Chew, 2021; Durai, 2022; Herbalife, 2020; Murugesan, 2021). This trend is also further underscored by The Star (2022) reporting that a vast majority of Malaysians are now more concerned about their health, fostering them to maintain a balanced diet and regular exercise. Also, Lee & Muda (2019) indicate that young Malaysians have a rising interest in adopting a healthy lifestyle and actively engaging in healthy food consumption.

However, the existing studies lack a comprehensive exploration of the factors shaping choices on health wellness food and organic food in Malaysia. First and foremost, previous research findings regarding dietary information have been inconsistent and

contradictory. Online sources are frequently perceived as lacking credibility (Alfaro-Cruz et al., 2019), yet some argue that the information provided is credible yet oversimplified (Rizvi et al., 2019). Conversely, guidance from healthcare professionals is generally deemed reliable, but critiques have emerged regarding its readability, with some finding it overly technical while others perceive it as too general (Alfaro-Cruz et al., 2019; Trott et al., 2019). Therefore, gaining insights into the perspectives of individuals within the Malaysian context is imperative for prevailing dietary trends within the country.

Moving on, studies over the past decade have seen significant advancements pertaining to dietary motivation. Nevertheless, it is worth noting that the Food Choice Questionnaire, a widely utilised tool, primarily focuses on food choice rather than the act of eating the food. This subtle yet important distinction underscores the need to differentiate between motivations for selecting food and motivations for consuming it. For example, factors like price can heavily impact food choice, but they may not necessarily directly affect dietary motivation (Kontinen et al., 2021). However, despite this discrepancy, some studies continue to employ the Food Choice Questionnaire to examine dietary motivation as these factors can still exert some level of influence.

Furthermore, many studies commonly employ terms like ‘dietary literacy’ or ‘health literacy’ to describe an individual’s understanding of dietary matters, but these terms often fall short of fully capturing how this literacy relates to health outcomes. In addition, the main challenge associated with dietary health literacy is the limited research exploring its relationship with both dietary information and motivation. While it is understandable that dietary health literacy often acts as a mediator between those components, the authors prioritized exploring the impact of dietary information and motivation on dietary behaviour, with dietary health literacy receiving only brief attention. As such, this study aims to delve deeper into the relationship between dietary health literacy and other components in order to provide valuable insights for improving healthier dietary behaviour.

Finally, there is a noticeable changing trend dietary behaviour in the Malaysian context. Unlike previous trends, Malaysians have gradually reduced their consumption of salt, sugar, oil, and fat ever since the onset of COVID-19 (Oppotus, 2020). Additionally, a significant increase in the intake of fruits, vegetables, plain water, and other essential ingredients, particularly among young adults, has been observed (Tan et al., 2022). However, some studies report the persistence of unhealthy dietary behaviour, characterized by high consumption of sugar-sweetened beverages, ultra-processed, and high-sodium foods (Ashari et al., 2022; Eng et al., 2022). Therefore, it important for researchers to assess the perceived dietary trends and behaviours in the country.

In fact, the health and wellness food industry can be a potential opportunity, which is evidenced by the global trend in the health and wellness market size (Precedence Statistics, 2023). Despite the increasing recognition of the importance of positive dietary trends, research on dietary trends in Malaysia remains scarce, especially those who utilise the information-motivation-behaviour (IMB) model. Traditional research on Malaysian dietary behaviour tends to focus more on unhealthy food consumption, overlooking the emerging trend of 'naturally healthy' foods in Malaysia. This underscores the need to pay greater attention to healthy dietary intake. Thus, there is a need to bridge the gap between dietary trends and health wellness food by integrating insights from dietary information, dietary motivation, dietary health literacy, and dietary behaviour. This approach can provide valuable insights for future planning and intervention strategies.

## **1.3 Research Questions and Research Objectives**

### **1.3.1 Research Questions**

RQ1: How is the dietary information affecting dietary health literacy and dietary behaviour in Malaysia?

RQ2: How is the dietary motivation influencing Malaysian dietary health literacy and dietary behaviour?

RQ3: How is the dietary health literacy affecting dietary behaviour in Malaysia?

### **1.3.2 Research Objectives**

RO1: To evaluate the effect of dietary information on dietary health literacy and dietary behaviour in Malaysia.

RO2: To determine the dietary motivation influencing Malaysian dietary health literacy and dietary behaviour.

RO3: To explore the dietary health literacy affecting dietary behaviour in Malaysia.

## **1.4 Significant of the Study**

This study significantly contributes to implications for various stakeholders, including the government, health professionals, the food industry, academicians, and general public in Malaysia. First and foremost, both government and health professionals can obtain comprehensive insights into the factors contributing to healthy dietary choices, which stimulate their ideas in promoting healthier and more sustainable food practices. At this point, they can develop educational programs and interventions that encourage healthier dietary habits based on individuals' preferences. The government is expected to further benefit from this study in taking the best initiatives in order to control the obesity and overweight rate in the country.

Moreover, the findings of this study can assist companies involved in the food industry to perceive current individual needs and preferences. Eventually, businesses can design feasible marketing strategies in health wellness food and organic food products to adapt to current dietary trends, simultaneously retain existing consumers, and attract new customers. At the same time, the Malaysian food industry that has not indulged in health aspects can explore possible chances in that area by obtaining a deeper comprehension of the dietary trend from the study.

In terms of academicians, this study could serve as a baseline to conduct further research for improvement within the area of health wellness food and organic food in the future. Valuable information can be obtained from this research paper to bridge the gap between literature reviews and the authentic dietary factors in Malaysia. Furthermore, the academicians could refer to this study and expand the limitations of this study using IMB Theory within the dietary context.

Last but not least, individuals can benefit from this study in several ways. Primarily, this study allows them to reflect on their initial dietary patterns and perceive the importance of practicing a healthy diet. From a consumer perspective, individuals will

be exposed to more health-conscious food products. If the trend towards healthy food is evidenced, numerous food industries are likely to cater to health-conscious consumers by introducing new products with healthier attributes. Thus, this study delving into the dietary trends is essential for individuals.

## **1.5 Conclusion**

In conclusion, this research pertains to the impact of dietary trends on health and wellness food consumption in Malaysia. A brief overview of the research topic has been discussed in the whole of Chapter One. Indeed, the significance of enhancing the promotion of healthy dietary behaviour should be focused by several stakeholders, including the government, related companies, academicians, and general public. With the aim of studying the relationship between dietary information, dietary motivation, dietary health literacy, and dietary behaviour, further exploration of this study will be disclosed in the following Chapters.



## **CHAPTER 2:**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter covers the literature review, conceptual framework, and hypothesis development pertaining to the dietary trends of health and wellness food. At the beginning of this chapter, the researcher discusses dietary information, dietary motivation, dietary health literacy, and dietary behaviour, which are the four main components of health and wellness food dietary trends. The definition and sub-elements of each component in the context of this study are clearly discussed. In the meantime, past literature and foreign studies have been reviewed to deliver more comprehensive and fruitful information for this research, thereby discovering the research gap that can be developed in this research. Moreover, the researcher brings in the Information-Motivation-Behavioural (IMB) Theory established by Fisher & Fisher (1992), which has been widely adopted in promoting health-related behaviour in recent years. Notably, IMB Theory is the fundamental framework that brings in the four elements of the literature review. Following that, this chapter explores the causal relationships between dietary information, dietary motivation, dietary health literacy, and dietary behaviour. Hence, this study constructs five (5) hypotheses, and each hypothesis is reviewed before the conclusion drawing the conclusion at the end of this chapter.

## **2.1 Literature Review**

The literature review covers the key variables of the study, which encompasses dietary information, dietary motivation, dietary health literacy, and dietary behaviour based on the factors affecting dietary behaviour in Malaysia.

### **2.1.1. Dietary Information**

The fundamental concept of ‘dietary information’ is defined as all forms of spoken or written guidance, education, or advice pertaining to dietary intake, food, nutrition, nutritional status, nutrients, and dietary strategies. It is designed for promoting health and well-being, which includes weight management and symptom relief. In addition, it also extends to nutrition-related complementary medicine or alternative therapies, such as herbal products, specialized dietary plans, vitamin or mineral supplements, and botanical extracts (Barlow et al., 2022; Johnston et al., 2020). Other than that, some studies discussed dietary information by using the term ‘knowledge,’ indicating the acquired ideas and concept related to diet (e.g. Aihemaitijiang et al., 2022; Zhang et al., 2022).

Dietary information can be delivered to individuals via various sources, which have the ability to influence behaviour (Perloff, 2014). In this contemporary era, the internet and online resources have become the most utilised media for dietary information, such as websites, social media, webinars, and blogs (Adamski et al., 2020; Barlow et al., 2022; Nölke et al., 2015; Rizvi et al., 2019; Trott et al., 2019). These channels facilitate a direct connection between influencers and consumers, which is a phenomenon known as disintermediation (Martina & Vacirca, 2017). Data from the United States, Australia, Finland, Norway, and Canada reveal the growing significance of mass media, particularly the internet, as a primary source of dietary information in Western societies over the past two decades (Pollard et al., 2015). Overall, the internet and online media are critical and widely used sources of dietary information around the world.

Meanwhile, the proliferation of influencers, celebrity chefs, and lifestyle gurus has extended to the internet and social media platforms, reshaping public perception of food (Chen et al., 2017; Zopiatis & Melanthiou, 2019). Baker and Rojek (2020) defined these individuals as “unlicensed native agents of awareness,” operating within traditional and social media platforms, who offer emotional support, identity formation, and guidance for self-discovery and well-being, thus gaining recognition and influence. As of now, the influencers have spread across the social media platforms, such as Instagram, Facebook, and Pinterest (Clarke et al., 2016). There is no doubt that online and internet media have made setting up a forum and promoting a particular diet or lifestyle easier than ever before. Regardless of these public figures, any individual can share their own recipes with a wider audience as the food writing in online media has been democratized (Elias, 2017).

Healthcare professionals, including doctors, pharmacists, nurses, medical assistants, nutritionists, and dietitians, are reliable sources of dietary information (Barlow et al., 2022; Quaidoo et al., 2018; Trott et al., 2019). However, with the rise of online media, these healthcare professionals on smaller platforms losing their role as a dietary leader (Garza et al., 2019). At the same time, governmental agencies will also take initiatives to promote healthier dietary information by issuing dietary guidelines, which is considered a powerful influence on an individual’s values and interests (Korthals, 2017).

Moreover, dietary information can be disseminated through traditional media, including books, newspapers, magazines, brochures, television, radio, personalized phone calls, family, relatives, and friends (Barlow et al., 2022; Quaidoo et al., 2018; Trott et al., 2019). Notably, the growing role of mass media as a source of dietary information initiates with the emergence of cooking television in the early twentieth century (Backer & Hudders, 2016). The abovementioned trends of ‘celebrity chefs’ flourished through television as a source of dietary information (Lane & Fisher, 2015). Multiple countries like the United States, United Kingdom, and Belgium have their

own television network that solely broadcast cooking shows (Backer et al, 2016). Moreover, Proesmans and his colleagues (2022) discovered that family and acquaintances are some of the most popular sources of dietary information which rank right after online influencers.

Food labelling, as one of the sources of dietary information, plays a crucial role in attracting individuals who engage in healthy diets. In fact, specific foods and menu items with the identity of 'brain healthy' may encourage individuals to make healthier dietary choices (Howard, 2023). A Turkish study, conducted by Yilmazel, and Bozdogan (2021), admitted that food labelling has a direct effect on dietary preferences, even though the majority of the citizens did not utilise it. Nevertheless, there is a relatively small body of literature on dietary information that pays particular attention to food labelling.

Despite a wide range of dietary information that can be obtained simply from any source, the quality of information has been questioned by the public. The circumstances of today's dietary information are acknowledged by numerous studies from five perspectives:

- (1) The online information is not evidence-based and potentially harmful (Alfaro-Cruz et al., 2019; Chen et al., 2018; Lambert et al., 2017; Titova et al., 2023; Quinn et al., 2013; Yang et al., 2019). The freedom of speaking on the internet resulted in a widespread of content creators who actually lacked reputable credentials, formal training, and professional license asserted themselves as 'subject experts,' and then spreading dietary information that is credit-uncertainty (Ramachandran et al., 2018). Some studies claim that the influencers are perceived as authentic and trustworthy by their followers just because of their personal discourse and the role model image they portray (Byrne et al., 2017; Schouten et al, 2019). Byrne et al. (2017) further proved that the influencers promote healthy diets through "clean eating," involving restricting nutrients and

foods such as dairy, carbohydrates, fat, or sugar, which contradicts dietary guidelines. In addition, recipes shared by influencers often feature high protein and fat content compared to other online recipes, with no significant difference in sugar or salt (Dickinson et al., 2018). Unfortunately, many popular food blogs today include recipes with high levels of saturated fat and salt, which does not promote a healthy diet.

- (2) The online information is trustworthy, but often too simplistic, unspecific, and less helpful (Rizvi et al., 2019). Adamski et al. (2020) explain that only 5% of nutrition-related information is written by professionals, and others are tertiary-educated individuals without identifiable nutrition qualifications as well as unidentifiable authors.
- (3) The online information is accurate, but it requires readers to have a higher level of reading ability in order to understand the material (Alfaro-Cruz et al., 2019).
- (4) The information from healthcare professionals is reliable, but too simple and only minor personalization, often just food lists, which is actually difficult to apply in real life (Trott et al., 2019).
- (5) The common types of nutritional guidelines issued by government agencies are considered trustworthy, but their expert language and their often-incoherent presentation make dietary information confusing and difficult to understand for the general public (Korthals, 2017). It is suggested that individuals prefer nutritional guidelines that incorporate political and philosophical considerations, aligning with their social and cultural perspectives on food.

Continuing from the previous paragraph, Korthals (2017) explains two common types of nutritional guidelines: nutrient-oriented or process-oriented. Nutrient-oriented guidelines emphasize 'healthy' diets, which are rich in vitamins, minerals, carbohydrates, animal and vegetable proteins, and saturated and unsaturated fats. Conversely, process-oriented guidelines categorized food into three levels of processing, including minimally (fruits and vegetables), refined (flour, olive oil, and fruit juice), and reconstituted with added ingredients and chemical additives. Without a doubt, guidelines often promote minimal processing, remain neutral toward refined foods, and discourage consumption of reconstituted food (or known as ultra-processed food) due to the food is reshaped. Notably, Korthals (2017) advocated for meal-oriented dietary information, which prioritizes three 'golden rules': prioritizing freshly prepared foods and dishes; using oils, fats, sugar, and salt in moderation in culinary preparations; and limiting the intake of ready-to-consume products, especially ultra-processed foods. This dietary information considers individuals' sociocultural perspectives on food, presenting dietary guidance in a more meaningful and accessible manner. Thus, Korthals (2017) advocates for the issuance of meal-oriented dietary information over nutrient and process-oriented guidelines.

Living under an enormous number of dietary resources is convenient, however, some individuals indicated that this limits their ability to decide which foods to buy and consume (Meyer et al., 2014). Barlow and others (2022) suggested that patients have a need for individualized information regarding dietary strategies to manage ongoing symptoms professional support for weight management, and practical skills for healthy eating in their dietary post-treatment. Moreover, individuals demand dietary information considering cultural perspective, which is available in their native languages, considering traditional foods and cultural beliefs (Kwok & White, 2014; O'Callaghan et al., 2016). Overall, studies found that individuals that more likely to expose to dietary information are females, younger age, highly educated, married, and higher income (Cui et al., 2022; Li et al., 2019b; McCully et al., 2013; Nölke et al., 2015; Pollard et al., 2015; Visschers et al., 2013; Wang & He, 2017).

### **2.1.2. Dietary Motivation**

Dietary motivation is defined as an internalization that leads to an individual's goals, assigns personal meaning to an individual's food choices, and inclines individuals to undertake dietary promotion actions (Rosenfeld & Burrow, 2017). Individuals maintaining a healthy diet can be motivated not only by health benefits but also by establishing public statements that may lead to social changes. This claim is aligned with Fisher & Fisher (2003) disclosing that motivation can be segregated into personal motivation and social motivation. Personal motivation (intrinsic motivation, private benefits) is the attitudes toward the performance of personal dietary behaviour, while social motivation (public benefits) is social support for developing dietary behaviour.

The motivational factors of a healthy diet are variant between different demographic characteristics, where numerous extensive studies have distinguished individuals with distinct dietary preferences into vegan (veganism, flexitarian, who restrict any form of animal products), vegetarian (who consume animal products but reject meat), and omnivores (who consume at least some meat). Animal products refer to any type of products derived from animals, including foods, cleaning products, clothing, cosmetics, personal hygiene products, transportation, and entertainment. Notably, there are various types of vegans who possess distinct dietary motivation. In fact, businesses that select vegan as its focus group should tailor different marketing strategies and motivational messages to different types of vegans. Braunsberger and Flamm (2019) distinguished vegans into ethical vegans, health vegans, environmental vegans, and spiritual vegans, who respectively maintain their dietary preference in embracing animal rights, health consideration, environmental concern, and spiritual belief.

Moreover, the most common tool to access dietary motivation is the nine-dimensional model known as the Food Choice Questionnaire (Steptoe et al., 1995). This questionnaire evaluates nine key dietary motivations influencing dietary choices, encompassing health, mood, convenience, price, weight control, familiarity, sensory

appeal, natural content, as well as ethical concern. Following that, Lindeman and Väänänen (2000) expanded on the ethical concern from Steptoe's model by segregating it into four factors, which are animal welfare, environmental concerns, and political and religious values. In fact, there are numerous models that can be used to assess the factors of food-related decisions as organized by Eustis and others (2021). Still, motivational factors from the Food Choice Questionnaire remain feasible and widely applied in the current research and practice (Eustis et al., 2021).

Health is the primary motivation for an individual's healthy dietary choices across groups (Dorard & Mathieu, 2021; Hopwood et al., 2021b). The majority of omnivores are predominantly motivated by health concerns (MacInnis and Hodson, 2017). For some individuals, adopting a healthy diet is perceived purely as a choice of lifestyle, while others are indirectly motivated by the anticipated benefits associated with maintaining a healthy body, including the prevention of future health problems (Alexander et al., 2018). However, Wetherill and his associates (2018) explain that dietary interventions already implicitly emphasize health considerations. Therefore, they suggest that studies aiming to promote healthy dietary behaviours may achieve more effective outcomes by focusing on other motivational factors beyond health. This claim is proved by Eustis et al. (2021), who advocate for the removal of health motivation from the Food Choice Questionnaire.

Apart from that, natural content is perceived to motivate individuals with specific dietary behaviours. This is associated with food safety concerns, which promote food with no additives and artificial ingredients. Even though individuals prefer to achieve faster results through weight loss dietary supplements, they are concerned about the potential health hazards in the future after consuming these supplements (Bharadwaj, 2022). In Arabian countries like Ethiopia, safety is a prominent concern of the citizens (Melesse & Berg, 2021). Other than that, Moscato and Machin (2018) identify five major factors of dietary motivation on natural content, which are most prominently perceived as a trusted source that can affect positive attributes. Especially for women's



character as a mother, natural content stands as a crucial dietary motivation in their daily purchasing behaviour.

Furthermore, mood plays a significant role in motivating individuals' dietary behaviours (AlAmmar et al., 2020; Leeds et al., 2020). According to a survey conducted by the Mather Institute, respondents are inclined to adopt healthier diets because they feel more energetic after consuming nutritious foods (Bonvissuto, 2023). Alternatively, more studies delve into the influence of negative mood on dietary behaviour. The negative mood induction generally results in more unfavourable dietary behaviour, including greater dietary intake and distinct food choices (Cardi et al., 2015). Individuals who undergo a negative mood tend to consume more sweets, high calories, and high fat given that they habitually presume these unhealthy foods as better mood boosters. However, the mood-elevating effect of unhealthy food is less powerful than healthy food, which indicates that unhealthy food can only maintain a positive mood for the short term (Wagner et al., 2014). Therefore, it is assumed that a positive mood is always required to exhibit a healthier dietary outcome.

Moving on, motivational factors like weight management and self-appearance also have a significant influence on dietary choices (Churuangsuk et al., 2020; Dorard & Mathieu, 2021; Landt et al., 2017; North et al., 2021). In fact, weight management and self-appearance are closely linked to self-esteem, which refers to an individual's self-concept that drives the evaluation of their self-worth (Lipowska & Lipowski, 2015; Rahardja, 2022; Rubio, 2014). In today's modern era, there is a widespread circumstance among adolescents who pursue to meet social beauty standards influenced by social media, which subsequently results in self-appearance anxiety, depression, and weight-related teasing (WRT) (Bharadwaj, 2022; Pan, 2023). WRT involves teasing about body shape and can have a long-lasting impact on an individual's physical and psychological health (Puhl et al., 2018). Notably, WRT is a dominant factor influencing dietary behaviour (Chisuwa-Hayami & Haruki, 2017). For instance, in the face of an increasing obesity rate, individuals may be emotionally affected by

negative body shape and size, prompting them to seek effective weight loss methods such as purchasing weight loss dietary supplements (Schachter et al., 2018).

Following that, environment and animal rights are key motivations for vegans and vegetarians (Dorard & Mathieu, 2021; Hopwood et al., 2021b; Malek & Umberger, 2021; North et al., 2021; Rosenfeld, 2018). Despite the increasing availability of non-meat-based nutrition options, individuals' consumption and demand for meat have significantly increased, leading to a faster acceleration in meat production compared to population growth (Leroy & Praet, 2015; Ritchie et al., 2017). In fact, the consumption of animal-derived products has been shown to contribute to climate change, environmental degradation, and poor health (Springmann et al., 2016). Therefore, consumers become increasingly conscious of the environmental impact of their dietary choices, which embark on securing environmental sustainability and minimizing animal suffering (Bastian & Loughnan, 2017; Godfray et al., 2018; Marchi et al., 2016). This is supported by Sonoda and his associates (2018) who found that consumer preferences for beef in Japan align with animal welfare and sustainability standards.

Besides, an individual's spiritual belief can stand as a motivational factor for adopting a healthy diet (Asher et al., 2014). Regarding the consumption of meat, Milfont and his associates (2019) categorized beliefs into three aspects: beliefs about the animals consumed (eaten), beliefs about oneself and others justifying meat consumption (eaters), and beliefs about the physical actions and process of eating meat (eating). Specifically, meat eaters' beliefs are summarized by the '4Ns,' which subsequently explain their sustained choice to consume meat (Piazza et al., 2015). These 4Ns comprise the beliefs that meat consumption is Necessary (for health), Nice (for enjoyment), Natural (due to human evolution and has been done for thousands of years), and Normal (as a common human behaviour). Notably, vegetarians and omnivores both adhere to the 4Ns in explaining their dietary motivation (Hopwood et al., 2021a). An example of how spiritual beliefs serve as a dietary motivation is observed in Ethiopia, an African country with a sizable Orthodox Christian population. Here, the individuals

are guided by religious practices with food taboos to implement fasting periods and avoid certain ingredients (Federal Democratic Republic of Ethiopia, 2016). In short, some individuals' dietary behaviours are motivated by their spiritual beliefs, which can be one of the possible factors for them to maintain a healthy diet.

However, based on the ethical concern motivation in Steptoe et al. (1995), its environmental factor is more focused on sustainable product packaging. Also, other than the environment, animal rights, and religion, the ethical concern motivation includes political factors. In fact, the political factors are also tied to animal abuse, exploitation of food producers, environmental destruction, healthcare issues, and food distribution (Chuck et al., 2016). The difference is that it is government-imposed policies or interventions to carry out and manage ethical considerations (Kalte, 2021). Therefore, it indicates that these factors are highly correlated, Steptoe et al. (1995) combine all of them into one and name the dietary motivation as 'ethical concern' is reasonable. Significantly, the topic of environment and animal rights has grown popular in recent years.

Also, price is an indispensable dietary motivation for food choices, especially for lower-income households (Martinho et al., 2022). Notably, consumers consider various factors beyond just price when making food purchasing decisions, for instance, social acceptance of the product (Kalnina et al., 2022). In European countries, fruits and vegetables often sell at higher prices than meat (Darmon & Drewnowski, 2015). While low-income individuals normally buy fattier cuts of meat that are cheaper, indicating that they are required to spend more in order to pursue a healthy diet (Darmon & Drewnowski, 2015). Therefore, it is expected that if the price of healthy ingredients is lower than unhealthy food, there will be improvement of individuals' health behaviour.

Moreover, individuals' dietary behaviour can be motivated by convenience factors (Cabral et al., 2017; Martinho et al., 2022). Notably, availability and accessibility stand

as the most crucial motivational factors in low- and middle-income countries, especially among those facing challenges in meeting their basic subsistence needs (Gebremariam et al., 2017; Turner et al., 2020). In fact, there is much less research emphasizes particularly on convenience motivation, but its importance is being highlighted in various dietary behaviour framework (Clarke & Best, 2019; Eustis et al., 2021).

Next, individuals prefer to adopt certain diets that they are familiar with, associating with their traditions (Giacalone & Jaeger, 2016). According to Steptoe et al. (1995), familiarity denotes the significance placed on maintaining one's accustomed diet rather than being adventurous in food choices. Notably, familiarity motivation often leads to a negative impact on dietary behaviour (Rankin et al., 2018). In recent years, studies regarding familiarity as dietary motivation are rare, where most of them just default the applications of familiarity based on Steptoe's food choice framework.

In addition, individuals' diets can be motivated by sensory characteristics, such as taste, freshness, colour, appearance, texture, and smell (Dinnella et al., 2014; Pula et al., 2014; Tan et al., 2017). A satisfied sensory appeal indicates good taste, nice smell, pleasant appearance, and appealing texture of the food (Imtiyaz et al., 2021). Undoubtedly, sensory appeals have significantly influenced individuals' purchase intention, perception, consumption, and satisfaction with food (Braghieri et al., 2016; Tan et al., 2017). In order to motivate individuals to conduct more healthy eating, suggested to appeal to more sensory properties in vegetables (Appleton et al., 2019).

Among the abovementioned dietary motivations, it is said that motivations such as health, natural content, and ethical concerns are linked with healthier dietary intake. In contrast, motivations including sensory appeal, price, convenience, and familiarity have been observed leading to a less healthy dietary impact (Konttinen et al., 2021). Moreover, the relationship between dietary outcomes and dietary motivations like

familiarity, price, and convenience has lacked research discussing it, where most of them focus more on food purchasing decisions, or just default apply Steptoe's Food Choice Questionnaire to their studies.

Undoubtedly, dietary motivation plays a pivotal role in an individual's purchasing behaviour, influencing their choices when it comes to food selection. Dietary motivation often prompts individuals to make immediate purchases without prior planning when exposed to external factors such as promotional campaigns (Liu & Xiao, 2018). This behaviour is referred to as impulsive purchase intentions. Importantly, impulsive purchase intentions are significantly affected by enjoyment and arousal, which are considered a motivational impact (Chen et al., 2020). Thus, dietary motivation serves as a key driver of purchasing behaviour, thereby impacting individuals' dietary behaviour.

Overall, an individual's dietary motivation is driven by both social values and personal focus. These two focuses can be understood by integrating them with the four higher-order dimensions established in Schwartz's (2012) value theory, which are openness to change (motivation to pursue innovative ways), conservation (motivation to preserve the status quo), self-transcendence (motivation to promote the welfare of others and nature), and self-enhancement (motivation by self-interest). Social value aligns with conservation and self-transcendence, indicating dietary motivations that arise within social groups or prevailing institutions. Meanwhile, personal focus is associated with openness to change and self-enhancement, reflecting dietary motivations that express the agency or capability of the decision-maker (Blake et al., 2023). All in all, dietary motivations cover a wide range of demographics and factors, and it is required to discover their influence on an individual's dietary outcomes.

### **2.1.3. Dietary Health Literacy**

Dietary health literacy is a substitute for the behavioural skills from the preliminary IMB model. Behavioural skill, as defined in Fisher & Fisher (2003), is an individual's ability to perform health promotion behaviour. In particular, as explained by Stanley & Williamson (2017), skills are known as 'knowing how'. Thus, applying 'skills' to dietary context indicating 'knowing how to eat' is unreasonable. In addition, the term 'knowledge' involves 'knowing the answer to a question,' namely infinitival embedded questions, is also considered insufficient to apply in this study as it lacks discursive (Stanley & Williamson, 2017). The argument is supported by Ronto et al. (2016), who acknowledged that possessing sufficient dietary knowledge does not necessarily lead to actively engaging in healthy dietary behaviours. This situation occurs due to the reason of lack of dietary skills. Hence, both skills and knowledge are required to take part in order to result in dietary behaviour outcomes. Eventually, this study utilised 'literacy,' which is the merging of skills and knowledge (Truman et al., 2017).

Based on Truman and others (2017), dietary health literacy is defined as critical knowledge, information acquisition, and skills. The study has organized and analysed the exact definition of 'food literacy,' and proposed that dietary literacy can be assessed by six themes, which include skills and behaviours, food or health choices, culture, knowledge, emotions, and food systems (Truman et al., 2017). Notably, despite 'literacy' indicates both knowledge and skills, the 'knowledge' aspects is deliberated under dietary information. Therefore, this study focuses on dietary literacy as primarily emphasizing the skills aspect that convey 'knowing how to apply information to a healthier dietary behaviour.' This not only represents a clear cut between dietary information and dietary literacy, but also reinforces the accessibility of cognitive and operational skills (Aihemaitijiang et al., 2022) in promoting healthy dietary behaviours.

Moreover, Truman et al. (2017) highlights that ‘dietary literacy’ is rarely utilised in health and well-being studies as the term encompasses limitations and it lacks a clear connection to health outcomes. Therefore, ‘dietary health literacy’ is used to align with this research study, as adding in ‘health’ emphasized an explicit connection to health outcomes. However, in many studies, higher dietary literacy conceptually correlates with better outcomes on nutritional quality, health, and overall well-being (Krause et al., 2018; Palumbo, 2016).

There is a relatively small body of literature that is concerned with dietary health literacy. Other than ‘food literacy,’ many studies delved into a more general interpretation using ‘health literacy,’ which dietary health literacy is only one of them (Buja et al., 2021; Yoshida et al., 2014). Indeed, the definition of ‘health literacy’ is more mature than ‘dietary health literacy’ due to the wide use of the former term. Also, the acknowledged definition of ‘health literacy’ is aligned with the explanation of ‘dietary health literacy’ stated by Truman et al. (2017), despite the ‘health literacy’ does not emphasize solely dietary perspective, both definitions imply the capabilities to understand health-related knowledge and skills (Liu et al., 2020). Although ‘health literacy’ is not precise enough to elaborate from a dietary perspective, it still has associations with this general term (Kuczmarski et al., 2016). Even though a large amount of nutrition-related intervention research may not explicitly utilise the term ‘dietary health literacy,’ their findings and discussions remain relevant for studies concerning dietary health literacy due to the proximity of the underlying concepts. This claim is also underpinned by Meyn et al. (2022) who study food literacy.

Therefore, the meaning of dietary health literacy is inconsistent in various studies. Beginning from Truman et al. (2017) describe dietary health literacy in a simple way, which is knowledge and skills pertaining to nutrition. In recent years, this term has become increasingly popular among researchers as a concept that can be addressed through interventions to improve health outcomes, such as dietary behaviour (Yuen et al., 2018). Moving on, Ronto and others (2016) measure dietary health literacy by

categorizing it into dietary knowledge, dietary skills, and capacity. Capacity is an individual's intrinsic attitude that stimulates confidence in believing in themselves to perform continuous health actions. This construct is expanded by Teng and Chih (2022) into five dimensions, which are dietary knowledge, dietary skills, attitudes, action intent, and action strategies. The meaning of attitudes in this study can be deemed similar to the capacity mentioned in previous research. It expanded action intent and action strategies, which respectively indicate the willingness to act for healthy diets as well as applying knowledge and skills to conduct a healthy diet.

Back to this study, the skills in dietary health literacy can be segregated into cognitive skills and operational skills (Aihemaitijiang et al., 2022). In general, cognitive skill refers to mental abilities and processes to critical thinking, non-routine problem solving, and system thinking, which helps individuals 'to recognise' or 'to conceptualize' dietary-related matters (Geisinger, 2016; Singh & Singh, 2022). In the context of dietary health literacy, individuals who are aware of nutrition and health information can identify and apply accurate information and are deemed to possess cognitive skills (Singh & Singh, 2022). Other than that, operational skill, often known as practical skill or instrumental skill, involves manual dexterity, as well as the usage of methods, tools, instruments, and materials (Ala-Mutka, 2011). Similarly, operational skills can be applied to the dietary health literacy context. According to Singh and Singh (2022), these skills are so-called practices that enable individuals to unleash their abilities, such as learning to estimate the amount of food, learning to read food nutrition labels and choose food, using supplements with the help of health professionals, and paying attention to food hygiene. These skills are supported by Zhang et al. (2022) who also delve into the skills perspective of dietary health literacy.

Dietary health literacy represents a dominant determining factor (Perez-Cueto, 2019; Yuen et al., 2018). In addition, the most crucial period for the development of dietary health literacy is childhood and adolescence (Paroche et al., 2017). The nutritional status and dietary habits developed during adolescence significantly impact the health



and well-being of individuals and can have lasting effects on intergenerational health outcomes (Rah et al., 2017). Besides, some studies discovered a significant relationship between the ability to read information and health literacy (Byun and Golden, 2015). Men are reported to possess a lower capacity to distinguish between healthy and less healthy options, while women often exhibit more positive attitudes toward such matters (Butcher et al., 2021; Forray et al., 2023). When delving into dietary health literacy, most studies also discussed the influence of dietary information that is acceptable to individuals to sufficiently acquire dietary health literacy (Estacio et al., 2019; Lambert et al., 2017). Although dietary health literacy plays a mediative role that connects various dietary factors in different contexts, it is an indispensable element leading to healthier dietary behaviour for all populations (Liu et al., 2023).

Along with various studies, the researchers concluded that their research participants were required to improve their dietary health literacy level (Forray et al., 2023; Liu et al., 2023). According to the China Health and Nutrition Survey (CHNS) (2015), only 34.4 percent of the participants had adequate dietary health literacy (Yang et al., 2020). Bhawra et al. (2023) reported that Canada scores the highest average health literacy level among Australia, the United Kingdom, Mexico, and the United States with only 5.1 over 8. Due to the proliferation of convenience foods, many individuals are no longer acquiring the essential knowledge and skills needed to prepare healthy meals using whole-food ingredients (Wijayaratne et al., 2018). Government initiatives, family food practices, and cultural beliefs contribute to different dietary health literacy levels in various countries (Bhawra et al., 2023).

#### **2.1.4. Dietary Behaviour**

Dietary behaviour refers to all aspects associated with three overarching concepts, which are food choice, eating behaviour, and dietary intake or nutrition (Stok et al., 2018). Within this framework, the concept of food choice extends to encompass preferences, purchase frequency, share of income spent on food, willingness to pay, product of purchase, food preparation methods, and intentions to choose, buy, or consume. Furthermore, eating behaviour reflects eating habits, eating occasions, dieting, portions of eating, disordered eating symptoms, and selective eating (so-called neophobia, pickiness, or fussiness). Lastly, dietary intake or nutrition refers to dietary patterns, meal patterns, food components, and food intake (Stok et al., 2018). In the ocean of research, dietary behaviour is being disclosed using substitute synonyms inconsistently, such as ‘eating behaviour,’ ‘diet,’ ‘dietary intake,’ ‘food habits,’ ‘nutritional status,’ ‘food preferences,’ ‘nutrition,’ and ‘nutritional status’ (Slate, 2014). These terms are actually under the umbrella concept of dietary behaviour, but they were mixed up due to confusion of concepts.

Furthermore, a healthy dietary behaviour indicates consuming the right portion of macronutrients, sufficient micronutrients, and fluids that can support physiological and energetic needs without overeating (Fenta et al., 2023). In addition, the World Health Organization (WHO) (2020b) explains a healthy diet as the adequate intake of fruits, vegetables, legumes, nuts, and whole grains, while minimizing the intake of free sugars, salt consumption, and saturated and trans-fats. Meanwhile, this concept is aligned with numerous healthy eating approaches, such as the Mediterranean diet, Dietary Approaches to Stop Hypertension (DASH), and the Alternative Healthy Eating Index. These dietary plans encourage food components including cereals, vegetables, fruits, nuts and legumes, and fish, while presenting different points of view on the consumption of meat, fats, and dairy products (Morze et al., 2020; Schulze et al., 2018). Undoubtedly, sweetened beverages are discouraged from all of these diet plans.

Among the dietary plans, the Mediterranean diet, commonly abbreviated as MedDiet, has been recognized as a modern sustainable lifestyle model (Bravi et al., 2018; Dernini et al., 2017). It emphasizes the intake of olive oil while discouraging the consumption of meat and dairy products. In contrast, the DASH eating plan discourages the consumption of fats and fatty meats but advocates for low-fat dairy products. Although the Alternative Healthy Eating Index does not address any ideas on dairy consumption, it promotes fat sources that are rich of long chain omega-3 fatty acids, which can be found in foods such as salmon, blue-fin tuna, anchovies, sardines, and others (Singer et al., 2021). Thus, red and processed meat that contains other types of fat, are discouraged in the Alternative Healthy Eating Index diet plan. These dietary plans are recognized as approaches to promote healthy lifestyles and dietary behaviour among individuals.

Significantly, the consumption of sugar is strongly discouraged in various dietary guidelines and policies. The World Health Organization (2015) advises limiting the consumption of ‘free sugars,’ which include added sugar as well as sugars naturally present in honey, syrups, and fruit juices, to no more than 10% of total energy intake. Meanwhile, the Scientific Advisory Committee on Nutrition (SACN) (2015) in the United Kingdom dietary guidelines recommends restricting the intake of free sugar to 5% of energy intake. Moreover, there is a concerning upward trend in the intake of sugar-sweetened beverages in Asian countries such as Thailand, Brunei, India, Sri Lanka, Malaysia, and the Philippines, which prompts the need for these countries to impose sugar taxes on such beverages to curb excessive sugar intake (Neelakantan et al., 2022). Notably, there is limited scientific evidence supporting the benefits of added dietary sugars. High sugar consumption is often associated with numerous adverse impacts including obesity, diabetes, heart disease, and cognition decline (Gillespie et al., 2023; Russell et al., 2021). Therefore, incorporating high levels of sugar into healthy diet plans is not encouraged.

Ample evidence exists to support the relationship between dietary behaviour and disease. Indeed, engaging in healthy dietary behaviours and lifestyles that incur healthy

ingredients are able to minimize potential risks of chronic diseases and non-communicable diseases, such as obesity, cancer, cardiovascular diseases, stroke, type 2 diabetes, and coronary heart disease (Schulze et al., 2018; World Health Organization, 2020). In relation to diseases, dietary behaviour plays a crucial role (Russel et al., 2021). Due to the widespread diet plans and concepts, Schulze and his associates (2018) delve into individual dietary patterns, which argue that whether the key to good health depends on exclusion diets, including vegetarian diet, vegan diet, or the avoidance of foods containing gluten, lactose, or fructose. This is because engagement in exclusion diets may trigger substitution effects, wherein the high consumption of certain foods correlates with reduced intake of other foods. Consequently, it becomes imperative to strike a balance in the amount of dietary intake that is needed for human health.

Sad to say, various individuals are still engaged in unhealthy dietary behaviour. The rise in availability and demand for ultra-processed foods, which are low in nutrients, has contributed to increasing rates of obesity and non-communicable diseases, particularly among children and youth (Irache et al., 2022; Maxfield et al., 2016; Popkin et al., 2020). In particular, research evidence that these processed foods are rich in saturated fat, sugar, and sweeteners not only involved in western diets, but also spread throughout the world (Haque, 2021). Also, there are 5% to 15% of individuals with obesity encounter binge-eating disorder (BED) and night-eating syndrome (NES), which contribute to weight gain and a combination of diseases (McCuen-Wurst et al., 2018). While some individuals are experiencing unhealthy dietary behaviour due to their sociocultural and environmental factors. For instance, women of reproductive age in Ethiopia are deemed to have a high possibility of chronic energy deficiency and malnutrition due to several factors, such as unequal distribution of food within households, improper food storage and preparation methods, insufficient dietary intake, as well as improper food storage and preparation methods (Federal Democratic Republic of Ethiopia, 2016).

Despite dietary behaviour covers a great number of umbrella concepts, several studies found that some concepts affecting dietary behaviour do not influence it as a whole. For instance, Vaitkeviciute et al. (2015) discovered that adolescents who often assist in preparing dinner tend to maintain a healthier dietary intake, however, their food shopping habits appear to be associated with less healthy food choices. Other than that, Yang et al. (2019) found that individuals in Taiwan possess a healthy diet with the rise of interactive online health promotion programs, however, this is an exception for Taiwanese women, which is also supported by Luo et al. (2018). It is because the nation's culture is heavily influenced by perception of beauty and weight control, leading them to be involved in inadequate dietary behaviour as long as to maintain their physical appearance.

In order to promote healthy dietary behaviour, 87 percent of countries all around the world established food-based dietary guidelines (FBDG) (Herforth et al., 2019). For instance, to ensure behaviour can be measured or monitored, the Youth Risk Behaviour Surveillance System (YRBSS) was established in the United States, which is a biennial survey to track behaviours that lead to adolescent's health (Mpofu et al., 2023). In terms of dietary behaviour, YBRSS provides six questions for participants pertaining to the frequency of food type that consume from the past seven days (Azli et al., 2023). Overall, there exists significant diversity in how foods are classified, especially concerning legumes, nuts, and animal-source foods, as well as minor discrepancies in categorizing fats, oils, and oilseeds. While groupings for fruits and vegetables tend to be relatively uniform, there are occasional inconsistencies in the classification of potatoes, other roots and tubers, legumes, and fruit juice (Herforth et al., 2019).

Apart from this, numerous existing literatures studied that healthy dietary behaviour is influenced by multiple factors, Osei-Kwasi and his associates (2016) clustered 63 dietary behaviour factors into seven groups, including migration context, social and cultural environment, food beliefs and perceptions, accessibility of food, body composition, psychological, as well as social and material resources. Among these

groups, the majority of studies delve into the social and cultural perspectives. It is said that an individual's future health-related behaviours are shaped by their life phase, potentially resulting in specific chronic diseases in adulthood (Frech, 2014). These conditions could subsequently affect the health and development of the next generation and potential offspring.

In particular, dietary behaviour in the adolescence stage is being studied widely. Egolf (2018) found that Generation Z (a group of individuals 7-26 of age) prioritizes their physical and mental well-being and prefers to monitor their health using diverse methods. Therefore, this generation is more willing to spend money on healthy food products and dietary supplements compared to other generations (Moussavi & Mander, 2019). Also, it is found that the majority of European and Canadian adolescents fail to meet the current nutritional guidelines and consume insufficient fruits and vegetables and a large number of sweets and sugary drinks (World Health Organization, 2020a). However, altering dietary behaviour poses a significant challenge due to the complex system of factors influencing consumption, including general, environmental, and individual determinants (Bel-Serrat et al., 2022; Mason-D'Croz et al., 2019).

Overall, dietary behaviour is formed by the collective interplay of food choice, eating behaviour, and dietary intake or nutrition. However, most studies primarily delve into the viewpoint of dietary intake or nutrition, with food choice and eating behaviour serving as contributing factors. This may have occurred due to the inconsistent definition of dietary behaviour. Despite that, it is evident that an individual's quality of life can be improved through possessing healthy dietary behaviour (Zingone et al., 2015).

## **2.2 Conceptual Framework and Hypothesis Development**

A conceptual framework and hypotheses are constructed using insights from the literature review. This researcher utilises the Information-Motivation-Behaviour (IMB) model, applying it into the dietary context of this study, which includes dietary information, dietary motivation, dietary health literacy, and dietary behaviour. Besides, five hypotheses are formulated according to the theory. The causal relationships between the variables are clearly visualized and identified from the hypotheses.

### **2.2.1 Information-Motivation-Behaviour (IMB) Model: An Overview**

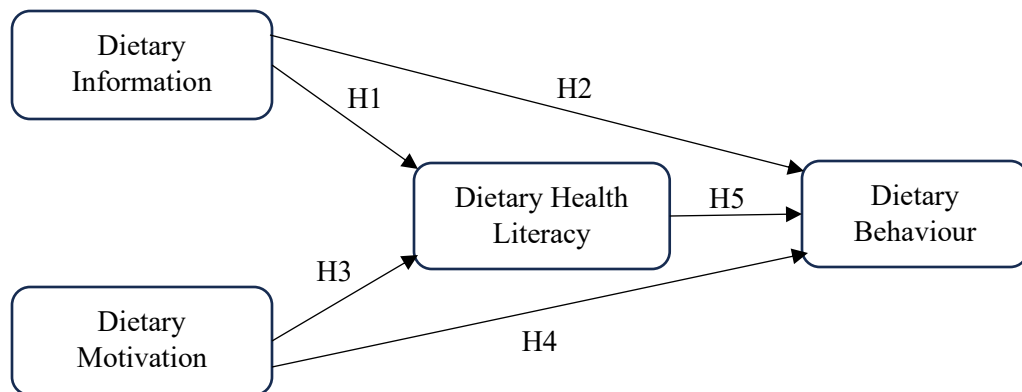
The Information-Motivation-Behaviour (IMB) model describes the concept of fundamental psychological determinants on behavioural performance that have the ability to impact the health status positively or negatively, which underscores the causal relationship between information, motivation, and behavioural skills (Fisher & Fisher, 1992). This model was initially developed to examine the psychological determinants of HIV risk and preventive behaviour (Fisher & Fisher, 1992), and it is still being applied in recent infection and preventive behaviour-related studies (e.g., Jiang et al, 2019; John et al., 2017; Si et al., 2022). Until today, the IMB model is widely used in promoting health-related behaviour context (e.g., Abay & Kaplan, 2021; Chang et al., 2014; Li & Zhu, 2022), which is consistent with this research.

Moreover, Fisher and Fisher (1992) explain each of the components in the IMB model in a general context. Information refers to specific facts including health promotion, relevant heuristics (simple rules that are often incorrect), and implicit theories; Motivation indicates whether well-informed individuals will be motivated to carry on health promotion actions, regardless of personal motivation or social motivation; behavioural skills examine the capabilities of enacting health promotion behaviours.

The model indicates that under conditions where individuals are adequately informed, highly motivated, and equipped with the requisite behavioural skills, they are more inclined to initiate and sustain health-promoting behaviours, consequently leading to positive health outcomes. On the contrary, when individuals are inadequately informed, unmotivated, and lack necessary behavioural skills, they are less likely to begin and maintain health-promoting behaviours, which could result in negative health outcomes (Fisher & Fisher, 2003). To align with the objectives of the study, this research incorporates dietary elements into the IMB model, which are dietary information, dietary motivation, dietary health literacy, as well as dietary behaviour.

## 2.2.2 Relationship between Dietary Information, Dietary Motivation, Dietary Health Literacy, and Dietary Behaviour

Figure 2.1 Conceptual Framework of the Study



Consistent findings across multiple studies underscores the causal relationship between dietary information, dietary motivation, dietary health literacy, and dietary behaviour, which form a cohesive foundation for the hypotheses explore in this model:



**H1: There is a relationship between dietary information and dietary health literacy.**

Firstly, dietary literacy is literally shaped by the accumulation of information, as explained by Krause et al. (2018), wherein dietary literacy is defined as the ability to understand dietary information. Dietary information plays a crucial role in delivering dietary health literacy effectively. For instance, nutrition education and cooking programs are able to improve nutrition-related knowledge and skills in various populations (Begley et al., 2017; Reicks et al., 2018). Besides, individuals with high dietary health literacy levels increase the use of online platforms to search for health-related information (Estacio et al., 2019). Korthals (2017) claims that meal-oriented guidelines, which incorporate sociocultural meaning, can encourage individuals to develop and sustain proficient food capabilities.

This is supported by Byun and Golden (2015) who examined that the education materials exceeding the level of an individual's literacy skills are deemed to be ineffective. The researchers discovered that the more the ability to read the information, the more acquiring of health literacy (Byun and Golden, 2015). Therefore, individuals with higher education levels had significantly higher dietary quality compared to those with lower education levels (Kuczmariski et al., 2016). Meanwhile, a study from Iran found that the nutritional content of school textbooks is generally theoretical and impractical, resulting in many students with high dietary knowledge possessing limited dietary practical skills (Omidvar et al., 2016). In addition, individuals possessing either strong or weak levels of health literacy often use other people, including doctors, friends, and family, as their source of information (Vettori et al., 2019; Yoshida et al., 2014). In particular, older adults normally do not obtain dietary information from written sources (Yoshida et al., 2014).

Dietary health literacy often acts as a mediator of dietary information and dietary behaviour. Thus, the expansion of dietary health literacy is achievable through the development of dietary information (Cui et al., 2019; Nutbeam et al., 2018).

## **H2: There is a relationship between dietary information and dietary behaviour.**

Moreover, dietary information is one of the keys that can directly impact dietary behaviour (Hansen et al., 2018; Zou et al., 2017). Higgs & Ruddock (2020) revealed that individuals are easily affected by information about what others have eaten, thereby influencing their food choices. Some studies also complimented that cooking shows and celebrity chef content can lead to increased consumption of specific food groups and greater time spent on cooking among viewers (Lane & Fisher, 2015; Pope et al., 2015). Interestingly, Taillie (2018) disclosed that the dietary information from influencers results in an increasing number of men cooking at home. Also, individuals who learn about dietary or nutritional facts are discovered to lead to more desirable dietary behaviours (Yee et al., 2017). In recent studies, food labelling as direct information was found to have an impact on individuals selecting the product (Hawkes et al., 2015; Shangguan, et al., 2019).

However, there is minor research that conveys inconsistent points of view regarding the influence of certain dietary information sources on dietary behaviour. For example, Villani and his associates (2015) argue against the notion that dietary information delivered by celebrity chefs influences dietary behaviour. They suggest that individuals primarily view such content for entertainment rather than educational purposes.

## **H3: There is a relationship between dietary motivation and dietary health literacy.**

Dietary motivation is indispensable in stimulating individuals to pursue dietary health literacy. Various studies have highlighted the importance of motivation for dietary health literacy (Krause et al., 2018; Velardo, 2015; Vidgen & Gallegos, 2014). It is said that dietary motivation is strongly linked to the ability to prepare healthy food. Without dietary motivation, individuals will not possess skills (one of the components of dietary literacy) through continuous practice. For instance, one of the Australian studies

discovered that the consumer's level of support for environmental food policies impacts their perception on food purchasing (Worsley et al., 2015).

In fact, studies that directly linked the relationship between dietary motivation and dietary health literacy are limited. However, an individual who solely possesses dietary health literacy, without the collaboration of dietary motivation, is unable to achieve the intended dietary behaviour (Juul et al., 2018). Therefore, the driver of dietary motivation leading to positive health behaviour requires the contribution of dietary health literacy.

#### **H4: There is a relationship between dietary motivation and dietary behaviour.**

Furthermore, dietary motivation is one of the most influential determinants of health-related dietary behaviour (De Pelsmacker et al., 2016; Caperon et al., 2019; Naughton et al., 2015; Rosenfeld & Burrow, 2017). Juul and others (2018) found that autonomous motivation was the strongest factor linked with behaviour change. Individuals who hope to lose weight often select to have dietary supplements, which can enable them to get quick results without much effort (Austin et al., 2017). Typically, individuals who are highly motivated to maintain a healthy lifestyle exhibit healthy dietary behaviour, such as consuming more fruits and vegetables (Naughton et al., 2015). Consequently, they encounter few challenges in adopting healthy dietary habits. Meanwhile, depression and disordered dietary behaviours seriously occur among the obesity individuals (Schachter et al., 2018). Also, examples were given that individuals perform dietary behaviour that requires the stimulation of motivational health messages, such as fear and persuasion (Godinho, et al., 2015). Other than that, it is found the convenience of processed food has led to individuals being more willing to pay for such food in recent years (Worku et al., 2017).

In the context of veganism, dietary motivation shapes dietary behaviour differently. Ethical vegans, who prioritize animal rights, are reluctant to embrace clean meats, also known as cultivated or lab-grown meats, due to concerns about their production methods potentially involving animal matter and lacking cruelty-free guarantees (Barwick, 2016). However, they may be willing to consume plant-based meat substitutes. On the other hand, healthy vegans, motivated by health considerations, often avoid plant-based meat substitutes and are likely to accept clean meats. Unlike ethical vegans, healthy vegans may be less aware of apparel, cosmetics, and cleaning products containing animal-derived materials or tested on animals.

Regarding dietary motivation rooted in spiritual beliefs, Ethiopian citizens typically skip breakfast, eat a single meal late in the afternoon or evening, and refrain from consuming meats, fats, eggs, and dairy products entirely (Federal Democratic Republic of Ethiopia, 2016). Melesse and Berg (2021) suggest that such motivation may constrain individuals from adopting a healthy diet.

Interestingly, Graca et al. (2018) and Rosenfeld (2018) found that women show a greater inclination to transition from meat-based to plant-based diets, whereas men are less likely to make this shift. In contrast, men are less likely to shift from meat to no-meat diets. Supporting this observation, Milfont et al. (2021) discovered that individuals who possess motivations with liberal political views, high environmental efficacy, strong subjective health perceptions, and heightened disgust sensitivity are more likely to adopt a vegetarian or vegan diet rather than an omnivorous one.

##### **H5: There is a relationship between dietary health literacy and dietary behaviour.**

Finally, the relationship between dietary health literacy and dietary behaviour exists (Buja et al., 2021; Ronto et al., 2016). Dietary literacy, which is formed by dietary knowledge and skills, can influence dietary choices (Churuangsuk et al., 2020; Wang et al., 2020). For example, dietary guidelines and adequate food portion sizes decide whether individuals have healthy or unhealthy diets (Ronto et al., 2016). Besides, the ability to read and understand food labelling potentially enhances dietary choices and dietary intake (Doustmohammadian et al., 2020; Talagala & Arembepola, 2016). Existing research also implies that limited health dietary literacy potentially results in unfavourable health outcomes (Middleton, 2017; Rosas et al., 2019; Rosas et al., 2022; Spronk et al., 2014).

On the flip side, the higher the dietary literacy, the better the dietary behaviour quality (Cha et al., 2014). Vaitkeviciute and his associates (2015) discovered that adolescents equipped with greater dietary knowledge and engaged in regular food preparation were shown to have healthier dietary practices. For instance, students with excellent general, disease prevention, and health promotion health literacy consumed more fruits and vegetables than students with limited health literacy (Burrows et al., 2015; Oberne et al., 2022). Hence, the initiatives of health promotion programs can be conducted to enhance dietary health literacy, thereby promoting better dietary behaviour (Meyn et al., 2022; Yang et al., 2019).

Once individuals possess dietary health literacy, they can acquire dietary health literacy competencies that drive positive dietary behaviour. According to the framework suggested by Slater and his colleagues (2018), dietary literacy can be segregated into three main types, which are relational, functional, and critical. Relational competencies encompass various practices, cultural understanding, and emotional connections that support the cultivation of healthy and enduring eating habits. Functional competencies involve fundamental knowledge of food and nutrition, along with practical skills

related to meal planning, cooking, and waste management. Lastly, critical competencies including cognitive skills are essential for evaluating information critically, recognizing social, economic, and environmental factors within food systems, and applying the information to make decisions regarding healthy and sustainable dietary choices. This construct is supported by Ares et al. (2024) who discovered that dietary health literacy can lead to different outcomes on pleasure from eating and food familiarity, emotional and hedonic associations with foods, food preparation skills and food safety knowledge, and other dietary behaviour.

### **2.3 Conclusion**

This chapter has provided clear insight into dietary information, dietary motivation, dietary health literacy, and dietary behaviour, which is a construct derived from the IMB Theory. The relationship between these components is evident. meanwhile, a research gap has been identified, and it is beneficial for the following research. There are scarce dietary-related studies that apply IMB Theory, and some of the relationships are not explained in-depth. For instance, dietary health literacy often acts as a mediator, thus it is being gone through briefly in research. Another example is there are numerous studies that delve into ‘food literacy’ or ‘health literacy,’ but no research studied specifically on ‘dietary health literacy.’ Therefore, the findings from this chapter are beneficial for the following research. The following chapter will present a discussion on the research methodology.

## **CHAPTER 3:**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter will demonstrate methods and techniques utilised for the research as well as show the approaches used to conduct the research. First and foremost, the researcher will reveal the research design by peeling the research ‘onion.’ From general to specific, the researcher will provide an overview of the research methodology by delving into the research philosophy, research approach, methodological choice, strategy, and time horizon. Following that, the researcher will conduct primary and secondary data collection that can enrich the knowledge in this study. Notably, this study applies the quantitative research method to determine the causal relationships of the framework. Survey questionnaires are distributed via Google Forms with a five-point Likert scale, while the secondary data are gathered through numerous sources, including literature, academic studies, and newspapers. Moreover, this study leverages non-probability sampling methods, in which the quota sampling method is primarily used, and snowball sampling plays a role in supporting the quota sampling. Six (6) age groups are categorized to ensure the number of respondents is proportionate to the sample size. Finally, SPSS software will be used for data analysis. This chapter ends with the conclusion of entire Chapter Three.

### **3.1 Research Design**

Research design explains the ways in which a study will proceed from the research objectives and questions to the outcomes (Abutabenjeh & Jaradat, 2018). It guides the researchers throughout the study by providing a structured framework and plan in order to address the research questions (Sileyew, 2020). To present the research design for this study, the researcher applies the research ‘onion,’ which illustrates the layers of decisions in the research methodology, progressing from general to specific (Saunders et al., 2019).

#### **3.1.1 Research Philosophy**

The outer layer of the research ‘onion’ is research philosophy. Research philosophy refers to the development and nature of knowledge from the researcher’s point of view (Saunders et al., 2019). In simple terms, it is an assumption that guides the reader to approach the study based on the researcher’s perspective. There are four main types of research philosophies, including positivism, realism, interpretivism, and pragmatism. This study notably adopts a positivist research philosophy, which believes that knowledge can be acquired through objective measurements (Žukauskas et al., 2018). Consequently, the research outcomes for this study are collected and analysed using numerical data.

#### **3.1.2 Research Approach**

Moving on, research approach defines how researcher develops the theory (Saunders et al., 2019). There are two contradict approaches, which are deductive (theory testing) and inductive (theory building). Given that this study aims to measure the causal relationships between variables, a deductive approach is utilised. In a deductive approach, the theory is initially and then tested through a systematic process. First and



foremost, the researcher constructs hypotheses that exhibit relationships between dependent and independent variable based on the IMB framework. Next, testable propositions are derived by referring to existing literature. Once the theory's logic and arguments are evidenced, the researcher applies the study into the theory, and distributes the questionnaire for data collection. Finally, the researcher identifies the consistency between the literature review and the results of the analysis (Saunders et al., 2019).

### **3.1.3 Methodological Choice**

Quantitative research method has been designed for this research. Rahman (2023) has contrasted the difference between quantitative and qualitative research, where one of the outlines explains that quantitative research is suitable for studying social behaviour. Notably, this study aims to determine the factors and causal relationships that influence the dietary behaviour on health and wellness food consumption in Malaysia. Therefore, the researcher selects quantitative method that is more towards math and statistical analysis, and present in numbers, tables, and graphs (Saunders et al., 2019).

### **3.1.4 Strategy**

Delving deeper to the research onion, research strategies must be chosen to support the quantitative method. According to Sekaran and Bougie (2019), several research strategies are available, including experiments, surveys, archival research, case studies, ethnography, action research, grounded theory, and narrative enquiry. This study adopts the survey method, which is one of the well-known approaches to collect statistical data on individuals, events, and situations. A self-administered questionnaire was distributed to targeted respondents for development of the study.

### **3.1.5 Time Horizon**

Between longitudinal and cross-sectional analyses, the researcher chooses a cross-sectional time horizon for this study, meaning that the research data is collected once within a specific time frame from different sources (Caruana et al., 2015). One reason for this choice is that cross-sectional analysis is deemed more suitable for measuring association between variables. Other than that, based on Wang and Cheng (2020), cross-sectional studies are often used to examine the health outcomes and understand the factors of health. Thus, using a cross-sectional time horizon, the researcher collects the data for this research within one month.

## **3.2 Data Collection**

The collection of data is essential for a research. Effective data collection methods are able to enhance accuracy or legitimacy of a study's findings and outcomes (Sadan, 2017). The research's statistical result may lack persuasiveness if data collection is not being performed properly (Li et al., 2021). Data collection is typically categorized into primary data and secondary data (Paradis et al., 2016). Each data is collected in distinct ways.

### **3.2.1 Primary Data Collection**

Primary data is known as the initial information gathered in real-time basis (Ajayi, 2017). In this research, the researcher will gather the primary data through an online platform, which is Google Forms. The survey questionnaires will be constructed, and the Google link will be shared with the participants. The questionnaires were rank order questions, which were measured on a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. The reason for using a Likert scale of 5 points is to

provide opportunity and authority for the respondents to answer the moderate point if they feel the question is mutual. Other than that, a five-point Likert scale is normally used in examining dietary behaviour studies (e.g. Carbert et al., 2019; Choi, 2020; Yang et al., 2019).

### **3.2.2 Secondary Data Collection**

Secondary data indicates the collection of data from secondary sources, which is being processed, compiled, and published by other earlier researchers (Ajayi, 2017). In this research, the secondary data will be retrieved mainly from Google Scholar, Science Direct, Research Gate, Universiti Tunku Abdul Rahman (UTAR) OPAC E-Database system, Taylor & Francis, Emerald Insight, Springer Link, as well as news platforms such as The Star and New York Times. Significantly, secondary data is beneficial to the researcher in obtaining an understanding of the theories, concepts, past changes, and developments associated with their research area.

## **3.3 Sampling Design**

### **3.3.1 Target Population**

The target population refers to the entire group of individuals requires to obtain information and draw conclusions in a study (Kabir, 2016). In this research, the targeted respondents should be citizens of Malaysia. It is because this study seeks to explore the dietary behaviour of Malaysian groups.

However, this study focuses on Malaysian across all age groups except for below 15 years old. One of the reasons excluding individuals below 15 years old is because the dietary patterns of children can be varied and easily influenced by their environment,

especially parental food routine, caregiver's choices, and school meal (Johnson, 2016; Micha et al., 2018). Therefore, the researcher acquires 15 years old as a cut-off according to the Department of Statistics Malaysia's (DOSM) (2023a) statistics. Besides, the age group of 15 to 24 years, or defined as the 'youth' by United Nations (2015), are considered conscious and independence enough to decide their own diet as they will experience leaving home, financial interdependence, increase autonomy, beginning employment, and other life stage transition (Munt et al., 2017; Vaterlaus et al., 2015). The insights gathered from the target populations are valuable to identify the impact of dietary trends on Health and Wellness Food Consumption in the Malaysian region.

### **3.3.2 Sampling Frame, Sampling Location and Sampling Elements**

A sampling frame indicates how individuals grouping is chosen through the target population of the study (Martínez-Mesa et al., 2016). It serves as the source material from which the sample is drafted. In this study, the sampling frame comprises of 33.4 million Malaysian, as reported by the Department of Statistics Malaysia (2023b). Regarding sampling location and sampling elements, data of this research are collected through an online survey conducted via Google Forms. The survey link, containing 50 questionnaire items, is distributed to Malaysian through social media channels, as well as through word-of-mouth promotion via friends and family.

### **3.3.3 Sampling Techniques**

There are two basic approaches to sampling, which are probability sampling and non-probability sampling (Kabir, 2016). In particular, quota non-probability sampling is applied to this research, and snowball sampling is also included to search for more intended respondents. Non-probability sampling involves selecting participants based on the researcher's subjective judgment rather than using random selection (Elfil &

Negida, 2017). As this research focuses on the entire Malaysian group, it is unrealistic for the researcher to acquire the list of every single information of entire Malaysian citizens for random selection. Therefore, a non-probability method is more suitable to apply in this research without a sampling frame.

In addition, quota sampling is conducted by identifying strata within the population that share certain characteristics or have unique attributes, and then selecting individuals from each group in proportions that reflect their representation in the overall population (Tyrer & Heyman, 2016). The heterogeneous population will be segregated into homogeneous groups in the quota sampling (Mohsin, 2016). Compared to convenience, purposive, and judgmental sampling, quota sampling possesses lesser bias as the sample reflects the diversity of the population (Angeloska-Galevska, 2023). Also, this method is widely utilised in various dietary-related studies that focus on large populations (Addo et al., 2019; Guzek et al., 2020; Saghafi-Asl et al., 2020). Moreover, snowball sampling is equipped in order to search for suitable respondents to fulfil the quota. The initial subject serves as 'seeds,' where several respondents who fit the criteria are recruited through several waves (Parker et al., 2019). In this study, certain respondents who are difficult to search can be approached through snowball sampling.

In this study, the Malaysian population is grouped by age, where the percentage of the age group population is identified by the Department of Statistics Malaysia (DOSM) (2023a). The age groups are clustered into ages 15-24 (17.43%), 25-34 (17.43%), 35-44 (15.96%), 45-54 (10.86%), 55-64 (8.27%), and above 65 (7.4%). The allocation of respondents should be proportional to the percentage of these groups within the sample size.

### 3.3.4 Sampling Size

Sample size allows researcher making inferences about the population from the sample. (Taherdoost, 2017). In this study, the researcher selects 385 respondents as the sample size to cover the population of 33.4 million Malaysian in 2023 (Department of Statistics Malaysia, 2023b). The sample size is calculated with a confidence level of 95%, a margin of error of 5%, and a population proportion of 50%. The calculation formula is referred to Israel (1992), which is shown below:

$$n_0 = \frac{Z^2 pq}{e^2}$$

$n_0$  = *sample size*

$p$  = *estimated proportion in the population*

$q$  =  $1 - p$

$e$  = *margin of error*

## 3.4 Research Instrument

### 3.4.1 Questionnaire Design

The questionnaire for this research is formed by Google Forms that consists of three sections (A, B, and C) written in English language. The first section of the questionnaire comprises a screening question. This section is formed because it helps the researcher to select respondents that meet the study criteria, thereby contribute to meaningful data in the study. Since this study focuses dietary trends on health and wellness food of Malaysian, the screening question aims to opt-in only Malaysian to participate the questionnaire. In simple words, individuals who are non-Malaysian will end their participation in the screening stage, while who are Malaysian will continue to move on to the following sections.

Next, Section B encompasses five (5) questions regarding demographic data collection, including gender, age, ethnic background, highest level of education, and monthly income. Firstly, there are two groups of gender, which are male and female. Then, there are age groups ranging from 15 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, and 65 and above. Moving on, ethnicity is included, particularly the three main Malaysian ethnics — Chinese, Malay, and Indian, while other ethnics are allowed to fill in their ethnic too. Furthermore, the highest education background consists of secondary school, diploma, bachelor's degree, master's degree, Doctor of Philosophy, and others. The last question of Section B is monthly income, which are categorized into below RM4000, RM4000 to RM7999, RM8000 to RM11999, as well as RM12000 or above.

Moreover, the questions in are associated to both independent variables (IV) and dependent variable (DV) that determine the impact of dietary trends on health and wellness food consumption in Malaysia. The three IVs are dietary information, dietary motivation, and dietary health literacy, while the DV is dietary behaviour. Notably, the questions for dietary motivation are arranged in the last part of Section C. It is because every question for dietary motivation starts with 'it is important that what I eat,' thus allocating the questions of this independent variable in the final part can avoid confusion for the respondents. In addition, the answer to each question is utilising five-point Likert scale, which ranges from 'strongly disagree' to 'strongly agree.'

### **3.4.2 Pilot test**

Pilot test is utilised to confirm the reliability and consistency of the questionnaires are satisfied, without involving the respondents in the actual research (Mohamad et al., 2015). It is a crucial step that ensure high quality results in research, where a proper experimental design and suitable performance is conducted. In a pilot test, a smaller sample size is employed. Various studies suggest 30 sample size for conducting a pilot test (Perneger et al., 2015; Whitehead et al., 2016). This rule of thumb helps to mitigate

several common problems arising from smaller sample size ( $n > 30$ ). Hence, the draft questionnaire for this study was distributed to 30 individuals. Subsequently, as presented in Table 3.1, the reliability of the questions is assessed through reliability analysis, focusing on the Cronbach's alpha ( $\alpha$ ) value.

Table 3.1 Reliability Analysis for Pilot Test (n = 30)

<b>Constructs</b>	<b>Cronbach's alpha (<math>\alpha</math>)</b>	<b>Number of Items</b>
Dietary Information	0.784	4
Dietary Motivation	0.952	33
Dietary Health Literacy	0.766	5
Dietary Behaviour	0.789	8

The reliability coefficients of Cronbach's Alpha, ranging from 0.766 to 0.952 as displayed in Table 3.1, reveal a noteworthy insight. Among other variables, dietary motivation displays the highest Cronbach's alpha value at 0.952, indicating an excellent level of consistency among the related questions. Conversely, dietary health literacy demonstrates the smallest alpha value; however, a score 0.766 is still considered acceptable. Conventionally, an alpha value of 0.70 or higher is preferred for reliability. Therefore, the reliability of this set of questionnaires is deemed good and valid.

### **3.5 Construct Measurement**

#### **3.5.1 Measurement Scales**

The concept of measurement scales, also known as scales of measurement, is a theory introduced by Stevens (1946). It serves as a fundamental tool to measure empirical research by employing mathematical properties, which can be categorized into four modes, including ratio, ordinal, interval, and nominal scale. Notably, this study utilises ordinal, nominal, as well as interval scale, while the ratio scale is not employed.



### **3.5.1.1 Nominal Scale**

Nominal scale, commonly handled with data that has no quantitative values, employs numbers to categorize observations or events based on common or shared qualitative attributes (Idika et al., 2023). In essence, it enables the researcher to categorize respondents into mutually exclusive (non-overlapping) and collectively exhaustive groups (Sekaran & Bougie, 2019). In addition, there are no ranking characteristics associated with the nominal scale (Idika et al., 2023). For instance, the gender variable can be categorized into male (assigned as number 1) and female (assigned as number 2). These numbers do not carry intrinsic meaning or represent level of ranking. Hence, the nominal scale is suitable in applying to Section A of the questionnaire, which aims to measure the respondent's demographic profile (gender and ethnicity).

### **3.5.1.2 Ordinal Scale**

Ordinal scale organizes data into categorial groups and arranges these categories with rank orders (Sekaran & Bougie, 2019). It delivers more meaningful information than nominal scale as it allows sorting based on preference. For example, income can be ranked from number 1 to 5 indicating lower to higher income level. However, an ordinal scale indicates the magnitude of the difference between ranks (Sekaran & Bougie, 2019). Therefore, in section A, there are few questions considered ordinal scale, including age, highest educational background, and monthly income.

### **3.5.1.3 Interval Scale**

Interval scale comprises quantitative attributes (Stevens, 1946). It has equal interval between the values of the measured variables (Sekaran & Bougie, 2019). In other words, the range, standard deviation, and variance in the interval scale are used to determine

the central tendency of the mean. Importantly, an interval scale measures the magnitude of differences among variables. In addition, it encompasses a true zero point where the distances between defined numbers are meaningful (Wu & Leung, 2017). Therefore, the five-point Likert scale which ranges from strongly disagree (1) to strongly agree (5) is designed in section B. This interval scale is expected to access the extent of agreement or disagreement regarding the questions.

### 3.5.2 Origin and Measurement of Construct

Table 3.2 Origin and Measurement of Construct

Construct		Measurement Items	Sources
Independent Variable: Dietary Information (DI)		<ol style="list-style-type: none"> <li>1. I know that having a proper diet will give me adequate or sufficient energy per day.</li> <li>2. I know which food provide different nutrients, such as proteins, carbohydrates, vitamins, and minerals.</li> <li>3. I understand what will happen to my health if I eat or don't eat certain food.</li> <li>4. I recognize what an adult should eat in a day.</li> </ol>	Okoro et al. (2022)
Independent Variable: Dietary Motivation (DM)	Health	<ol style="list-style-type: none"> <li>1. Keeps me healthy.</li> <li>2. Contains no additives.</li> <li>3. Contains a lot of vitamins and minerals.</li> <li>4. Is good for my skin/teeth/hair/nails, etc.</li> <li>5. Contains natural ingredients.</li> <li>6. Is nutritious.</li> <li>7. Is high in fibre.</li> </ol>	Kim et al. (2022)
	Mood	<ol style="list-style-type: none"> <li>8. Keeps me awake/alert.</li> <li>9. Helps me to cope with life.</li> <li>10. Cheers me up.</li> <li>11. Makes me feel good.</li> <li>12. Helps me cope with stress.</li> </ol>	

	Weight Control	<p>13. Is low in calories.</p> <p>14. Helps me control my weight.</p> <p>15. Is low in fat.</p>	
	Ethical Concern	<p>16. Has been produced in a way that animals' rights have been respected.</p> <p>17. Has been produced in a way that animals have not experienced pain.</p> <p>18. Has been prepared in an environmentally friendly way.</p> <p>19. Comes from a country in which human rights are not violated.</p> <p>20. Has been produced in a way which has not shaken the balance of nature.</p> <p>21. Is packaged in an environmentally friendly way.</p> <p>22. Has been prepared in a way that does not conflict with my political values.</p>	
	Convenience and Price	<p>23. Is easy to prepare.</p> <p>24. Can be cooked very simply.</p> <p>25. Takes no time to prepare.</p> <p>26. Is easily available in shops and supermarkets.</p> <p>27. Is not expensive.</p> <p>28. Can be bought in shops close to where I live or work.</p> <p>29. Is cheap.</p>	
	Sensory Appeal	<p>30. Smells nice.</p> <p>31. Has a pleasant texture.</p> <p>32. Looks nice.</p> <p>33. Tastes good.</p>	

<p>Independent Variable: Dietary Health Literacy (DHL)</p>	<ol style="list-style-type: none"> <li>1. I pay attention to nutrition and health information, identifying and applying correct information.</li> <li>2. I learn to estimate the amount of food and mix food reasonably.</li> <li>3. I learn to read food nutrition labels and choose food reasonably.</li> <li>4. I can make rational use of nutritious fortified foods or nutrient supplements and with the help of nutritionists and doctors.</li> <li>5. I pay attention to food hygiene and learn to make rational use of surplus meals.</li> </ol>	<p>Aihemaitijiang et al. (2022)</p>
<p>Dependent Variable: Dietary Behaviour (DB)</p>	<ol style="list-style-type: none"> <li>1. I eat a variety of foods, with an average of more than 12 types of food per day.</li> <li>2. I eat soft food, chewing carefully and swallowing slowly, eating smaller amount and more frequent meals, eating regularly and having a nutritious breakfast.</li> <li>3. I increase the intake of whole grains and miscellaneous beans.</li> <li>4. I ensure I consume adequate high-quality protein, including fish, poultry, eggs, and meat.</li> <li>5. I prioritize consuming sufficient fruits and vegetables daily.</li> <li>6. I reasonably select high calcium food to ensure milk product and bean product intake.</li> <li>7. I strive to reduce my intake of salt, oil, and sugar in my meals.</li> <li>8. I take the initiative to drink enough water, especially warm boiled water.</li> </ol>	<p>Aihemaitijiang et al., (2022)</p>

## **3.6 Data Processing**

Data processing involves a systematic approach, in which converting and extracting collected data into information that are meaningful (Vaughan et al., 2021). This stage is crucial as it ensures the reliability, validity, and accuracy of the research outcomes. In this study, the data processing procedures consists of data checking, data editing, data coding, data transcribing, and data cleaning.

### **3.6.1 Data Checking**

The procedure of data checking aims at assessing correctness of the gathered information (Barchard and Verenikina, 2013). Its purpose is to avoid errors, such as incomplete questionnaire, that could result in significantly different statistical result. According to Barchard and others (2020), there are four types of data checking, which are double entry, visual checking, solo read aloud, and partner read aloud. In this study, double entry is utilised as it is considered the most accurate data checking method. Therefore, before the distribution of the questionnaire, the researcher will carefully proofread whether the questionnaire consists of grammatical and spelling error, as well as ensure that no jargon is used.

### **3.6.2 Data Editing**

Data editing comprises identifying and altering errors after the questionnaire is completed and collected (Sekaran & Bougie, 2019). Omissions are expected to occur when the respondents do not understand or are unwilling to answer the question. In this study, the researcher requires respondents to answer all questions before submitting their answers to mitigate omissions. However, it is challenging to avoid data that is illegal (numbers that are not specified in the coding instructions), illogical (outcomes that are significantly distinct with others), or inconsistent (non-harmony responses).

Hence, data editing is necessary in such circumstance to ensure quality indicators that generate meaningful research outcomes (De Waal, 2013).

### 3.6.3 Data Coding

Data coding contains appointing numerical values for respondent’s unstructured answers to facilitate their entry into the database (Sekaran & Bougie, 2019). In quantitative studies, ensuring consistency in data coding practice is one of the keys to generate reliable research results (Grabowski & Oh, 2018). Thus, it is important to decide how responses will be categorised or valued (Krippendorff & Craggs, 2016). In this study, each response to the questions in Section B is coded according to the scheme detailed in Table 3.2. Meanwhile, the questions in Section C will be coded based on the 5-point Likert Scale (1= Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree).

Table 3.3 Data Coding for Section B of the Questionnaire

Q1	Gender (Nominal)	<ul style="list-style-type: none"> <li>• “Male” is assigned the code 1</li> <li>• “Female” is assigned the code 2</li> </ul>
Q2	Age (Ordinal)	<ul style="list-style-type: none"> <li>• “15 to 24” is assigned the code 1</li> <li>• “25 to 34” is assigned the code 2</li> <li>• “35 to 44” is assigned the code 3</li> <li>• “45 to 54” is assigned the code 4</li> <li>• “55 to 64” is assigned the code 5</li> <li>• “65 or above” is assigned the code 6</li> </ul>
Q3	Ethnicity (Nominal)	<ul style="list-style-type: none"> <li>• “Chinese” is assigned the code 1</li> <li>• “Malay” is assigned the code 2</li> <li>• “Indian” is assigned the code 3</li> <li>• “Others” is assigned the code 4</li> </ul>
Q4	Highest Education Background (Ordinal)	<ul style="list-style-type: none"> <li>• “Secondary School” is assigned the code 1</li> <li>• “Diploma” is assigned the code 2</li> <li>• “Bachelor’s Degree” is assigned the code 3</li> <li>• “Master’s Degree” is assigned the code 4</li> <li>• “Doctor of Philosophy (PhD)” is assigned the code 5</li> <li>• “Others” is coded as 6</li> </ul>

Q5	Monthly Income (Ordinal)	<ul style="list-style-type: none"> <li>• “Below RM 4,000” is assigned the code 1</li> <li>• “RM 4,000 – RM 7,999” is assigned the code 2</li> <li>• “RM 8,000 – RM 11,999” is assigned the code 3</li> <li>• “RM 12,000 or above” is assigned the code 4</li> </ul>
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### 3.6.4 Data Transcribing

Data transcribing, or referred to data transcription, involves converting any form of data into text to facilitate analysis (Sutton & Austin, 2015). This step is essential because data collection in both quantitative and qualitative studies involve numerous formats, such as video and audio, which cannot be directly incorporated into a written study. In this research, the researcher inputs the written form of collected data into Statistical Package for the Social Sciences (SPSS) software version 27 built by the International Business Machine (IBM) for further analysis.

### 3.6.5 Data Cleaning

Data cleaning consists of two stages, which are error detection and error repairing (Chu et al., 2016). It involves resolving inconsistencies, eliminating errors, and transforming data into uniform format. Errors or missing values of the dataset is expected to generate different results of the research. Hence, conducting data cleaning is crucial as it can enhance data quality (Ridzuan & Zainon, 2019). In this study, the researcher equips SPSS version 27 to facilitate the researcher to recognise and edit inaccurate responses.

### **3.7 Data Analysis**

Once the collected information contributed to the study's objective is processed, researchers must analyse it, screening through a large amount of data using a series of steps. According to Ashirwadam (2014), data analysis involves systematically organizing and summarizing the collected facts and figures. In this research, the researcher employs IBM Statistical Package for the Social Sciences (SPSS) software for data analysis. This software is considered relevant as it has been used in various health-related studies (Bolarinwa, 2015; Heart & Kalderon, 2013).

#### **3.7.1 Descriptive Analysis**

Descriptive statistics serve to describe the fundamental features of the data within a study, conveying a summary of patterns and trends observed in the collected set of data (Mishra et al., 2019). There are three main types of descriptive statistics, including measures of frequency, measures of variation or dispersion and measurement of central tendency of the data. These measures are interpreted using frequency distribution tables, as well as through visual representations such as box plots and histograms (Kaliyadan & Kulkarni, 2019). Notably, in this study, a frequency table is utilised to outline the demographic information gathered from the responses in the Section B of the questionnaire.

#### **3.7.2 Reliability Analysis**

An instrument's score is considered reliable when it is consistent and stable (Mohamad et al., 2015). Therefore, to assess the stability and internal consistency of research questionnaires whenever it is administered repeatedly over multiple times, reliability analysis is employed (Diedenhofen & Much, 2016). Cronbach's alpha, serving as a reliability coefficient, is utilised to identify the 'goodness' of the items set are positively



correlated with each other (Sekaran & Bougie, 2019). According to Taber (2018), Cronbach's alpha is one of the most crucial and extensive statistics in research that consist of test construction. Researchers determine the consistency of the items based on Cronbach's alpha ranging from 0 to 1, with higher values indicating stronger consistency. Following the rules of thumb, the values of Cronbach's alpha indicate different level of reliability, as shown in Table 3.3. Eventually, to assess the reliability of the 50 items in the questionnaire, this study employs Cronbach's alpha by referring its rules of thumb.

Table 3.4 Rules of Thumb of Cronbach's Alpha Coefficient Value

<b>Range of Cronbach's Alpha</b>	<b>Internal Consistency</b>
$\alpha \geq 0.90$	Excellent
$0.90 > \alpha \geq 0.80$	Good
$0.80 > \alpha \geq 0.70$	Acceptable
$0.70 > \alpha \geq 0.60$	Questionable
$0.60 > \alpha \geq 0.50$	Poor
$0.50 > \alpha$	Unacceptable

Note. Adapted from Sharma, B. (2016). A focus on reliability in developmental research through Cronbach's Alpha among medical, dental and paramedical professionals. *Asian Pacific Journal of Health Sciences*, 3(4), 271-278.

### 3.7.3 Normality Test

The evaluation of normality test is crucial for continuous data as it impacts dispersion, central tendency, and the selection of parametric and nonparametric tests. It is essential for the researcher to ensure that the collected data encompasses a standard normal distribution, which is represented by a bell-shaped density curve (Mishra et al., 2019). The reason why normality assumptions should be followed is to draw meaningful conclusion from the data, irrespective of the sample size. Therefore, if continuous data exhibit a normal distribution, the researcher can utilise the mean value to evaluate the significance level ( $P$  value) for comparisons within and across groups. Conversely, if

the data does not follow a normal distribution, it is not reliable to rely solely on the estimate mean. Moreover, given that this study involves large sample sizes ( $n > 50$ ), the researcher analyses the Kolmogorov-Smirnov value, which has lower sensitivity to detect non-normality in the normality test (Hair et al., 2019).

### **3.7.4 Inferential Statistics**

Inferential analysis is used to draw conclusions about the research population based on sample data. (Hair et al., 2019). It measures the relationship among variables and identifies differences among groups. This study utilises two types of inferential statistics, which are Pearson's correlation analysis and multiple regression analysis.

#### **3.7.4.1 Pearson's Correlation Analysis**

Pearson's correlation analysis is a statistical metric used to assess the direction and strength of linear relationship between two or more random variables (Zhou et al., 2016). Based on Armstrong (2019), this approach can explain the correlation between variables in various ways, including the positive and negative statistical relationship, the degree of statistical significance attached to a correlation, the extent of dependent variable ( $x$ ) to explain the independent variable ( $y$ ), as well as the goodness of fit of a linear regression model. The Pearson's correlation coefficient is equipped to determine the degree of correlation, which is denoted by ' $r$ ' ranging from -1 to +1 (Walizada, 2021). Significantly, the rules of thumb to interpret Pearson's correlation are outlined in Table 3.4. In this study, the researcher examines the correlation of three independent variables (dietary information, dietary motivation, dietary health literacy) and one dependent variable (dietary behaviour).

Table 3.5 Rules of Thumb of Pearson’s Correlation Coefficient Value

<b>Correlation</b>	<b>Interpretation</b>
± 0.91 to ± 1.00	Very high positive/negative correlation
± 0.71 to ± 0.90	High positive/negative correlation
± 0.51 to ± 0.70	Moderate positive/negative correlation
± 0.31 to ± 0.50	Low positive/negative correlation
± 0.00 to ± 0.30	Negligible correlation

Note. From Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). Research methods for business. *Education+ Training*, 49(4), 336-337.

### **3.7.4.2 Multiple Regression Analysis**

Regression analysis quantifies the relationship between independent and dependent variables (Ali & Younas, 2021). It allows researchers to estimate the value of dependent variable by identifying the observed values of independent variables. Moreover, this analysis is able to predict the outcomes and transforms in dependent variables by evaluating the relationships between the variables involved.

Multiple regression is one of the types of regression analysis, which examines the relationship between a single dependent variable and multiple independent variables (Hair et al., 2019). Therefore, this study utilises multiple regression instead of simple regression, considering the presence of various independent variables. In addition, multiple regression is interpreted using coefficients of determination (R square) and regression coefficients to determine how variables interact with one another, including dependent and independent variables. The following is the development of the regression equation:

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_nx_n$$

Where,

y = dependent variable

x<sub>1</sub>, x<sub>2</sub>, x<sub>3</sub> = independent variables

β<sub>0</sub> = y-intercept (regression constants value)

β<sub>1</sub>, β<sub>2</sub>, ..., β<sub>n</sub> = the slope coefficient value

To establish the relationship between dietary behaviour and other variables, the equation is:

$$\text{Dietary Behaviour} = \beta_0 + \beta_1 (\text{Dietary Information}) + \beta_2 (\text{Dietary Motivation}) \\ + \beta_3 (\text{Dietary Health Literacy})$$

For the relationship between dietary health literacy (as a mediator) and other variables, the equation is:

$$\text{Dietary Health Literacy} = \beta_0 + \beta_1 (\text{Dietary Information}) + \beta_2 (\text{Dietary Motivation})$$

### 3.7.5 Multicollinearity Test

Multicollinearity arises when two or more variables in a regression model are too highly correlated with each other (Lavery et al., 2019). It is considered an issue when it affects the conclusions drawn about significance and parameter estimates, reflecting that one of the variables may be redundant. Hence, a multicollinearity test should be conducted by analysing the Variance Inflation Factors (VIF), which is the reciprocal of tolerance (Oke et al., 2019). A VIF value below 10 and tolerance value more than 0.1 is acceptable, as it indicates that the variables do not exhibit multicollinearity (Senaviratna & Cooray, 2019).

### **3.8 Conclusion**

In summary, this chapter conveys steps and strategies to gather the data. It clarifies the overall approach of this research, from research design to data analysis, which contributes to a better understanding of the process of data collection. A more in-depth data analysis process will be declared in the next chapter.

## **CHAPTER 4:**

### **RESEARCH RESULTS**

#### **4.0 Introduction**

In this chapter, the researcher presents and interprets the results of the data analysis conducted using SPSS software version 27. The chapter starts with an overview of the demographic profile, covering aspects including gender, age, ethnic background, highest education level, as well as monthly income. The dependent and independent variables is then assessed using Cronbach's Alpha. This is followed by a normality test that examines the data distribution through skewness and kurtosis. Next, the researcher provides a detailed inferential analysis, which not only encompass Pearson's correlation but also multiple regression. The multiple regression analysis is further divided into three tables: model summary, ANOVA, and coefficients. Following that, multicollinearity test is conducted. At last, a conclusion is written at the end of this chapter. Notably, out of the 420 survey participants, 414 completed the survey and passed the screening questions. Consequently, the data analysis for this study is based on these 414 responses.

#### **4.1 Descriptive Analysis**

This section analyses the demographic profile of the respondents. It covers aspects such as gender, age, ethnicity, highest education background, and monthly income. The information gathered from 414 participants in Section A of the questionnaire and analysed using frequency method offers a thorough view of the sample's characteristics.

## 4.1.1 Demographics

### 4.1.1.1 Gender

Table 4.1 Gender

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	156	37.7
Female	258	62.3

Table 4.1 displays the distribution of gender among the 414 respondents. Male respondents accounted for 156 individuals, representing 37.7% of the sample, while female respondents comprised 258 individuals, accounting for 62.3%.

### 4.1.1.2 Age

Table 4.2 Age

<b>Age</b>	<b>Frequency</b>	<b>Percentage (%)</b>
15 to 24	109	26.3
25 to 34	94	22.7
35 to 44	79	19.1
45 to 54	55	13.3
55 to 64	41	9.9
65 or above	36	8.7

Table 4.2 categorizes how respondents are distributed across six age groups. The 15 to 24 age group was the largest contributor to this research, with 109 respondents, accounting for 26.3% of the total sample. The second largest group is the 25 to 34-year-old category, which includes 94 respondents, occupying 22.7% of the total respondents. The third largest age group is from 35 to 44 years old, with 79 individuals, representing

19.1% of the total. The age groups of 45 to 54 and 55 to 64 include 55 (13.3%) respondents and 41 (9.9%) respondents, respectively. Finally, the age group of 65 and above accounts for 36 respondents, making up 8.7% of the total sample.

#### 4.1.1.3 Ethnicity

Table 4.3 Ethnicity

<b>Ethnicity</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Chinese	232	56.0
Malay	144	34.8
Indian	38	9.2

Table 4.3 presents the ethnic composition of the respondents. The majority ethnicity among participants is Chinese, comprising 232 individuals, which accounts for 56% of the total respondents. Following this, 144 respondents identify as Malay, making up 34.8% of the sample. Additionally, there are 38 respondents of Indian ethnicity, representing 9.2% of the total.

#### 4.1.1.4 Highest Education Background

Table 4.4 Highest Education Background

<b>Highest Education Background</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Secondary School	64	15.5
Diploma	30	7.2
Bachelor's Degree	253	61.1
Master's Degree	56	13.5
Doctor of Philosophy (PhD)	5	1.2
Others	6	1.4



Table 4.4 illustrates the respondents' highest educational background. Most participants hold a bachelor's degree, comprising 253 (61.1%) of respondents. In contrast, the least common educational background is Doctor of Philosophy (PhD), with only 5 (1.2%) respondents. Then, 64 respondents (15.5%) have completed their education at the secondary school level, while 30 respondents (7.2%) hold a diploma. The master's degree category includes 56 (13.5%) respondents. Notably, 6 (1.4%) respondents indicated that their highest level of education falls into categories that are not specified in the questionnaire.

#### 4.1.1.5 Monthly Income

Table 4.5 Monthly Income

<b>Monthly Income</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Below RM 4,000	271	65.5
RM 4,000 – RM 7,999	106	25.6
RM 8,000 – RM 11,999	24	5.8
RM 12,000 or above	13	3.1

Table 4.5 displays how respondents are categorized according to their monthly income. The majority of respondents, 271 individuals (65.5%), fall into the income category of below RM 4,000. Next, the monthly income of RM 4,000 – RM 7,999 accounts for 106 respondents (25.6%), followed by 24 respondents (5.8%) who are under the RM 8,000 – RM 11,999 monthly income group. Lastly, 13 respondents (3.1%) report a monthly income of RM 12,000 and above.

## 4.2 Reliability Analysis

The reliability of both IVs and DVs has been analysed through the data collected from the 414 respondents. The summary for reliability analysis is presented in Table 4.6.

Table 4.6 Cronbach's Alpha Reliability Analysis

<b>Variables</b>	<b>Constructs</b>	<b>Number of Items</b>	<b>Cronbach's Alpha</b>	<b>Reliability Level</b>
Independent Variables	Dietary Information	4	0.780	Acceptable
	Dietary Motivation	33	0.943	Excellent
	Dietary Health Literacy	5	0.876	Good
Dependent Variable	Dietary Behaviour	8	0.860	Good

Table 4.6 shows that the reliability of all independent and dependent variables is deemed acceptable, with Cronbach's Alpha values exceeding 0.7. Among all variables, dietary information demonstrates the highest reliability, which has 0.943 Cronbach's Alpha value of. Moving on, both dietary health literacy and dietary behaviour exhibit good reliability, with 0.876 and 0.860 Cronbach's Alpha values, respectively. Lastly, the Cronbach's Alpha for dietary information is 0.780, also reflecting an acceptable reliability level. These findings indicate that the variables are closely related due to acceptable internal consistencies, making them suitable for measuring the IMB constructs.

### 4.3 Normality Test

The outcomes of the normality test are designed to evaluate whether the collected data adheres to a normal distribution. In specific, skewness and kurtosis values are crucial elements in determining the distribution characteristics of the data.

Table 4.7 Normality Test

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Skewness</b>		<b>Kurtosis</b>	
	<b>Statistic</b>	<b>Statistic</b>	<b>Statistic</b>	<b>Statistic</b>	<b>Std. Error</b>	<b>Statistic</b>	<b>Std. Error</b>
<b>Dietary Information</b>	414	4.47	.694	-1.275	.120	1.810	.239
<b>Dietary Motivation</b>	414	4.25	.645	-.563	.120	.917	.239
<b>Dietary Health Literacy</b>	414	4.03	.917	-.861	.120	.387	.239
<b>Dietary Behaviour</b>	414	3.93	.861	-.364	.120	-.519	.239
<b>Valid N (listwise)</b>	414						

Table 4.7 presents the variables' skewness and kurtosis levels. All variables including dietary information (-1.275), dietary motivation (-0.563), dietary health literacy (-0.861), and dietary behaviour (-0.364), exhibited a negative (left) skewness. Negative skewness indicates that the mean is smaller than the mode. Notably, the skewness level for dietary behaviour (the dependent variable) falls between -0.5 and 0.5, suggesting it is nearly symmetrical but slightly left-skewed.

In terms of kurtosis, all variables hold a value that is below 3.0. This shows that dietary information (1.810), dietary motivation (0.917), dietary health literacy (0.387), and dietary behaviour (-0.519) exhibit a platykurtic distribution. A platykurtic distribution

is also recognized as a short-tailed distribution or negative kurtosis, which indicates a flatter peak and heavier tails compared to a normal distribution.

Furthermore, the means and standard deviation among the 414 respondents are provided. Dietary information has a mean value of 4.47, with a standard deviation of 0.694 ( $4.47 \pm 0.694$ ). Moving on, the mean value of dietary motivation and dietary health literacy is 4.25 and 4.03, with a standard deviation of 0.645 ( $4.25 \pm 0.645$ ) and 0.917 ( $4.03 \pm 0.917$ ). Finally, dietary behaviour has a mean value of 3.93, with a standard deviation of 0.861 ( $3.93 \pm 0.861$ ). Overall, dietary information possesses the highest mean value, while dietary behaviour has the lowest mean value.

## 4.4 Inferential Analysis

### 4.4.1 Pearson's Correlation Analysis

Table 4.8 Pearson's Correlation

		Dietary Information	Dietary Motivation	Dietary Health Literacy	Dietary Behaviour
<b>Dietary Information</b>	Pearson Correlation	1	.554**	.523**	.434**
	Sig. (2-tailed)		<.001	<.001	<.001
<b>Dietary Motivation</b>	Pearson Correlation	.554**	1	.530**	.473**
	Sig. (2-tailed)	<.001		<.001	<.001
<b>Dietary Health Literacy</b>	Pearson Correlation	.523**	.530**	1	.653**
	Sig. (2-tailed)	<.001	<.001		<.001
<b>Dietary Behaviour</b>	Pearson Correlation	.434**	.473**	.653**	1
	Sig. (2-tailed)	<.001	<.001	<.001	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 4.8 demonstrates the results of Pearson correlation analysis between the dependent variable (dietary behaviour) and independent variables (dietary information, dietary motivation, dietary health literacy). Overall, all variables exhibit positive correlations. The Pearson correlation coefficient value ranges from 0.434 to 0.653. The significance levels for these correlations are all less than 0.001, which is below the 0.05 alpha value, demonstrating a relationship of 5% significance level.

According to the result, dietary health literacy possesses the highest positive correlation with dietary behaviour, which is 0.653. The value signifies a moderate correlation between dietary health literacy and dietary behaviour. Following that, dietary motivation stands as the second strongest variable that is positively correlated with dietary behaviour (0.473). Then, dietary information is positively correlated with dietary behaviour at a Pearson correlation coefficient of 0.434. Both dietary motivation and dietary information have a low positive relationship with dietary behaviour.

#### 4.4.2 Multiple Regression Analysis

##### 4.4.2.1 Multiple Regression Analysis for Hypothesis 2, 4, and 5

Table 4.9 Model Summary for Hypotheses 2, 4, and 5

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.673 <sup>a</sup>	.452	.448	.639	.452	112.918	3	410	<.001
a. Predictors: (Constant), Dietary Health Literacy, Dietary Information, Dietary Motivation									

Table 4.9 reveals the model summary for hypotheses 2, 4, and 5, which assesses the strength of the predictor variables and the extent to which the regression model accounts for the variance in the dependent variable. The adjusted R<sup>2</sup> value is 0.448, indicating that 44.8% of the variance in the dependent variable (dietary behaviour) is explained by the independent variables (dietary information, dietary motivation, dietary

health literacy). Consequently, other possible variables not included in this model may account for the remaining 55.2% of the variance in dietary behaviour.

Table 4.10 ANOVA for Hypotheses 2, 4, and 5

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	138.363	3	46.121	112.918	<.001 <sup>b</sup>
Residual	167.463	410	.408		
Total	305.826	413			

a. Dependent Variable: Dietary Behaviour  
b. Predictors: (Constant), Dietary Health Literacy, Dietary Information, Dietary Motivation

Table 4.10 shows the ANOVA results for hypotheses 2, 4, and 5, with an F value of 112.918 and a p-value below 0.001. This implies that the regression model is highly significant, demonstrating a strong relationship among dietary information, dietary motivation, dietary health literacy, and dietary behaviour.

Table 4.11 Coefficients for Hypotheses 2, 4, and 5

<b>Model</b>	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
(Constant)	.658	.234		2.805	.005
Dietary Information	.086	.058	.069	1.496	.135
Dietary Motivation	.200	.062	.150	3.217	.001
Dietary Health Literacy	.504	.043	.538	11.801	<.001

Table 4.11 presents the coefficient values used to develop the regression equation, which illustrates the relationships between dietary information, dietary motivation,

dietary health literacy, and dietary behaviour. The following is the formulation of the regression equation:

$$\text{Dietary Behaviour} = 0.658 + 0.086 (\text{Dietary Information}) + 0.2 (\text{Dietary Motivation}) + 0.504 (\text{Dietary Health Literacy})$$

### **Dietary Information**

A 0.086 coefficient value reflects a positive correlation between dietary information and dietary behaviour. It indicates that for each 1 unit increase in dietary information, there is a 0.086 unit increase in dietary behaviour, provided other variables are held constant. Nonetheless, the p-value of dietary information is 0.135, with level of significance greater than 0.05. This signifies that the evidence is inadequate to demonstrate a significant link between dietary information and dietary behaviour at the 5% significance level, resulting in the rejection of the hypothesis.

### **Dietary Motivation**

The 0.2 coefficient value conveys a positive correlation between dietary motivation and dietary behaviour, which indicates that for each 1 unit increase in dietary motivation, there is 0.2 units increase in dietary behaviour, provided other variables are held constant. The p-value of dietary motivation is 0.001, with level of significance lesser than 0.05. Therefore, the evidence supports a significant connection between dietary motivation and dietary behaviour at the 5% level of significance, resulting in the acceptance of the hypothesis.

## Dietary Health Literacy

The 0.504 coefficient value denotes a positive correlation between dietary health literacy and dietary behaviour, which shows that for each 1 unit increase in dietary health literacy, there is 0.504 units increase in dietary behaviour, provided other variables are held constant. The p-value of dietary health literacy is less than 0.001, which is below 0.05 level of significance. Thus, the evidence supports a significant connection between dietary health literacy and dietary behaviour at the 5% significance level, resulting in the acceptance of the hypothesis.

### 4.4.2.2 Multiple Regression Analysis for Hypothesis 1 and 3

Hypotheses 1 and 3 examine the relationships between dietary information and dietary health literacy, as well as between dietary motivation and dietary health literacy. Notably, dietary health literacy stands as a mediator in this study.

Table 4.12 Model Summary for Hypotheses 1 and 3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.597a	.356	.353	.738	.356	113.811	2	411	<.001

a. Predictors: (Constant), Dietary Motivation, Dietary Information

Table 4.12 shows the model summary for hypotheses 1 and 3. The adjusted  $R^2$  value of 0.356 indicates that 35.6% of the variance in dietary health literacy is explained by the dietary information and dietary motivation. Therefore, other possible variables not included in this model may account for the remaining 64.4% of the variance in dietary health literacy.



Table 4.13 ANOVA for Hypotheses 1 and 3

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	123.868	2	61.934	113.811	<.001 <sup>b</sup>
Residual	223.659	411	.544		
Total	347.527	413			

a. Dependent Variable: Dietary Health Literacy  
b. Predictors: (Constant), Dietary Motivation, Dietary Information

Table 4.13 reveals the ANOVA results for hypotheses 1 and 3, showing an F value of 113.811 and a p-value below 0.001. This signifies that the regression model is highly significant, demonstrating a strong relationship among dietary information, dietary motivation, and dietary health literacy.

Table 4.14 Coefficients for Hypotheses 1 and 3

<b>Model</b>	<b>Unstandardized Coefficients</b>		<b>Standardized Coefficients</b>	<b>t</b>	<b>Sig.</b>
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
(Constant)	-.012	.271		-.046	.964
Dietary Information	.437	.063	.331	6.955	<.001
Dietary Motivation	.493	.068	.347	7.289	<.001

Table 4.14 presents the coefficient values that illustrates the relationships between dietary information, dietary motivation, and dietary health literacy. The following is the formulation of the regression equation:

$$\text{Dietary Health Literacy} = -0.12 + 0.437 (\text{Dietary Information}) + 0.493 (\text{Dietary Motivation})$$

## **Dietary Information**

The 0.437 coefficient value presents a positive correlation between dietary information and dietary health literacy. It indicates that for each 1 unit increase in dietary information, there is a 0.437 unit increase in dietary health literacy, provided other variables are held constant. The p-value of dietary information is less than 0.001, which is below 0.05 level of significance. Thus, the evidence is sufficient to form a statistically significant relationship between dietary information and dietary health literacy at the 5% level of significance, resulting in the acceptance of the hypothesis.

## **Dietary Motivation**

The 0.493 coefficient value conveys a positive correlation between dietary motivation and dietary health literacy, indicating that for each 1-unit increase in dietary motivation, there is 0.493 units increase in dietary behaviour, provided other variables are held constant. With p-value below 0.001, indicating it is well within the significance level of 0.05, the evidence supports the significant association between dietary motivation and dietary health literacy at the 5% level of significance, resulting in the acceptance of the hypothesis.

## **4.5 Multicollinearity Test**

### **4.5.1 Multicollinearity Test for Hypotheses 2, 4, and 5**

Table 4.15 Results of Multicollinearity for Hypotheses 2, 4, and 5

	<b>Dietary Information</b>	<b>Dietary Motivation</b>	<b>Dietary Health Literacy</b>
VIF	1.613	1.630	1.554
Tolerance	0.620	0.613	0.644

Table 4.15 reveals the results of multicollinearity for hypotheses 2, 4, and 5. All VIF values are below 10, and tolerance values exceed 0.1, indicating the independent variables do not have multicollinearity among each other.

#### 4.5.2 Multicollinearity Test for Hypotheses 1 and 3

Table 4.16 Results of Multicollinearity for Hypotheses 1 and 3

	<b>Dietary Information</b>	<b>Dietary Motivation</b>
VIF	1.443	1.443
Tolerance	0.693	0.693

Table 4.16 reveals the results of multicollinearity for hypotheses 1, and 3. All VIF values are below 10, and tolerance values exceed 0.1, indicating the independent variables do not have multicollinearity among each other.

#### 4.6 Conclusion

The researcher consolidates the primary data assembled from 414 participants via the Google Form questionnaire. Four main analyses were conducted to obtain the visual data of this research. First, a descriptive analysis provided an overview of the demographic characteristics. Secondly, from the insights gained by reliability analysis, all variables are deemed to have acceptable to excellent reliability. The normality test showed that all variables follow a left-skewed and platykurtic distribution. Furthermore, inferential statistics, including Pearson's correlation and multiple regression analysis, demonstrated positive correlations among the variables and led to the formulation of the regression equation. A multicollinearity test is performed to validate the correlations among the variables. Moving on to the next chapter, this summarized data will be further analysed through a comparison with the literature review.

## **CHAPTER 5:**

### **DISCUSSION AND CONCLUSION**

#### **5.0 Introduction**

This chapter provides outline based on the data collected and the conclusions drawn in Chapter 4. It begins with a discussion of the major findings, summarizing the hypotheses and their results. Each hypothesis is analysed by comparing it with existing literature. The research objectives have been addressed through the analysis, with all hypotheses demonstrating significant and positive relationships between the variables, except for the relationship between dietary information and dietary behaviour. In addition, the chapter explores the practical implications of the study for government bodies, health professionals, the food industry, and individuals, while also considering the theoretical implications for future academic research. The chapter concludes with a discussion of the study's limitations, recommendations to address these limitations, and a final summary to close the chapter.

## 5.1 Discussion on Major Findings

Table 5.1 Summary of Hypotheses and Results

Hypothesis	Statement	Value Scored	Result
H1	There is a relationship between dietary information and dietary health literacy.	$\beta = 0.437$ p-value = < 0.001	Accepted
H2	There is a relationship between dietary information and dietary behaviour.	$\beta = 0.086$ p-value = 0.135	Rejected
H3	There is a relationship between dietary motivation and dietary health literacy.	$\beta = 0.493$ p-value = < 0.001	Accepted
H4	There is a relationship between dietary motivation and dietary behaviour.	$\beta = 0.200$ p-value = 0.001	Accepted
H5	There is a relationship between dietary health literacy and dietary behaviour.	$\beta = 0.504$ p-value = < 0.001	Accepted

### 5.1.1 H1: The relationship between dietary information and dietary health literacy exists

From the findings presented in Table 5.1, the p-value for the association between dietary information and dietary health literacy is below 0.001, falling under the 0.05 significance level. This indicates a significant relationship between dietary information and dietary health literacy. Several existing studies also support the positive relationship between these two variables.

The accessibility of dietary information is crucial in influencing an individual's dietary health literacy. Byun and Golden (2015) found that both understandable and accessible information can potentially enhance a person's literacy level. They suggest that if information aligns with an individual's reading level and is easily comprehensible, it facilitates greater literacy. On the flip side, if the information provided is too advanced and difficult to understand, it may hinder accessibility and prevent improvements in literacy. Kuczmarski et al. (2016) further support this, claiming that individuals with higher education levels often have better access to dietary information, which in turn enhances their dietary health literacy.

Besides, the volume of dietary information also impacts dietary health literacy. Omidvar et al. (2016) suggest that practical and relevant information — rather than theoretical content — is more effective in enhancing literacy. This raises an important debate about the balance between theoretical knowledge and practical application in dietary information. While practical content is undoubtedly valuable, the integration of theoretical aspects might also contribute to a more comprehensive understanding of dietary health.

In addition, various sources of dietary information can positively contribute to different aspects of dietary health literacy. For example, nutrition education, cooking programs, online platforms, and meal-oriented guidelines provide individuals with various health-related knowledge and skills (Begley et al., 2017; Estacio et al., 2019; Korthals, 2017; Reicks et al., 2018). These findings highlight that dietary health literacy can be effectively developed through multiple sources of dietary information.

In short, this study effectively met its goal of “to evaluate the effect of dietary information on dietary health literacy in Malaysia.”

### **5.1.2 H2: The relationship between dietary information and dietary behaviour does not exist**

According to the results derived from the analysis, the p-value regarding the relationship between dietary information and dietary health literacy is 0.135, falling more than the 0.05 significance level. Thus, it indicates that there is no significant relationship between dietary information and dietary behaviour.

In fact, there is a mixed perspective regarding the relationship between dietary information and dietary behaviour. The majority of existing literature supports a positive relationship between dietary information and dietary behaviour, which is consistent with the research findings in this study. Lane and Fisher (2015) discovered that dietary information from celebrity chefs can indeed promote positive dietary behaviours, such as improving basic cooking skills, increasing confidence in selecting ingredients, and fostering sustainability and ethical practices. Similarly, Tailie (2018) found that influencers can significantly impact dietary behaviour by shaping individuals' food choices and practices. Researchers including Higgs and Ruddock (2020), Pope et al. (2015) as well as Yee et al. (2017) have similarly found that the dietary information individuals consume can influence their food choices, eating behaviours, and dietary intake or nutrition.

However, the results of this study indicate that there is no significant relationship between dietary information and dietary behaviour. This aligns with Villani and others (2015) who argue that informal dietary information, specifically disseminated by celebrity chefs, does not provide substantial educational insights that can influence dietary behaviour. This view suggests that while such information might be entertaining, it lacks the depth needed to effect real behavioural change. Higgs (2015) further suggests that social information is not able to convince people to eat foods they dislike.

In addition, Miller and Cassady (2015) asserted that dietary health literacy can only facilitate food choices by enabling individuals to comprehend and process dietary

information on food labels. This suggests that food labelling itself cannot directly influence dietary behaviour. This perspective is consistent with Tapsell (2017), who stated that dietary information alone does not prompt behavioural changes, as well as Ekeagwu (2017), who emphasized that knowledge plays a crucial role in shaping individuals' perceptions through the reinforcement of information.

In conclusion, the objective of “to evaluate the effect of dietary information on dietary behaviour in Malaysia” in this research was achieved.

### **5.1.3 H3: The relationship between dietary motivation and dietary health literacy exists**

The results from the analysis convey the p-value between dietary motivation and dietary health literacy that is less than 0.001, falling below the 0.05 significance level. Therefore, it proves that there is a significant relationship between dietary motivation and dietary health literacy. Existing literature also supports the positive relationship between dietary motivation and dietary health literacy.

While research specifically linking dietary motivation to health literacy is limited, several studies implicitly address the role of motivation in enhancing health literacy. Krause et al. (2018) emphasize that dietary motivation factors are essential components for developing knowledge and practical skills associated with health promotion. Similarly, Vidgen and Gallegos (2014) suggest that individuals motivated to prepare food are likely to develop better skills and knowledge about food preparation. From their discussion, individuals with dietary motivation can be explained as ‘someone who is good with food,’ while individuals with this attribute are able to make good food.

In addition, Velardo (2015) recognised the meaning of health literacy as “cognitive and social skills which can determine motivation. This implies that the researcher considered the relationship between health literacy and motivation to be indispensable.



As emphasized by Juul et al. (2018), dietary motivation and dietary health literacy should collaborate together to affect dietary behaviour. Worsley et al. (2015) support this view, indicating that sustainable dietary health literacy is significantly influenced by an individual's motivation.

All in all, the discussion of existing literature supports the research findings, highlighting a positive relationship between dietary motivation and dietary health literacy. Meanwhile, the research objective of “to determine the dietary motivation influencing Malaysian dietary health literacy” has been successfully accomplished.

#### **5.1.4 H4: The relationship between dietary motivation and dietary behaviour exists**

The p-value between dietary motivation and dietary behaviour revealed in Table 5.1 demonstrates less than 0.001, which is below the 0.05 level of significance. Consequently, this indicates that there is a significant relationship between dietary motivation and dietary behaviour.

Historically, the positive impact of dietary motivation on dietary behaviour has been well-documented. For instance, Caperon et al. (2019) found that motivation is a key determinant of dietary behaviour. They argue that, when advising patients, it is crucial to stimulate their motivation rather than focusing solely on providing dietary knowledge. This perspective is echoed by Naughton et al. (2015), who established a positive correlation between motivation for healthy eating and healthier food choices.

Besides, De Pelsmacker and his associates (2016) discovered that green consumers possess mental model that can motivate individuals to exercise certain eco-friendly behaviour, which also involve in their dietary behaviour. It explained that the motivations are derived due to individuals' distinct values. For example, individuals adhering more self-enhancement values are motivated to perform their actions due to

self-identity, but not owing to moral obligation and environmental concern. This insight is evidenced by Rosenfeld and Burrow (2017), Barwick (2016), as well as Milfont et al. (2021), who claims that motivation assigns personal meaning to individuals' dietary behaviour.

However, dietary motivation is not always associated with healthy dietary choices. Schachter et al. (2018) and Austin et al. (2017) uncovered that factors like depression or desire to lose weight can drive individuals to engage in risky dietary behaviours, such as purchasing weight loss supplements. Similarly, Worku and his associates (2017) determined that convenience motivational factors stimulate individuals to consume processed food. Additionally, Melesse and Berg (2021) also noted that in Ethiopia, spiritual beliefs can limit individuals' ability to maintain a healthy diet. These findings suggest that while dietary motivation generally encourages dietary behaviour, it can sometimes lead to less healthy outcomes.

The existing literatures support the hypothesis that there is a positive connection between dietary motivation and dietary behaviour, reflecting that an increase in dietary motivation can stimulate changes in dietary behaviour. Hence, the research objective of “to determine the dietary motivation influencing Malaysian dietary behaviour” has been successfully achieved.

#### **5.1.5 H5: The relationship between dietary health literacy and dietary behaviour exists**

From the above analysis, the p-value between dietary healthy literacy and dietary behaviour is less than 0.001, which falls below the 0.05 level of significance. Therefore, this result demonstrates a significant relationship between dietary health literacy and dietary behaviour. Numerous existing studies also support the positive relationship between these two variables.

Notably, the positive relationship between dietary health literacy and dietary behaviour can be discussed from two perspectives. On one hand, higher dietary health literacy tends to correlate with healthier dietary behaviours. For instance, Buja et al. (2021) found that individuals with greater dietary health literacy tend to have lower sugar intake. Similarly, Wang et al. (2020) observed that older adults with higher dietary health literacy exhibit a greater sense of self-care and awareness regarding their diet. Ares et al. (2024) and Churuangsuk et al. (2020) also reported that individuals who possess more knowledge of dietary guidelines perceive a critical viewpoint on a low carbohydrate diet, recognizing the micronutrient inadequacy of the diet. These findings are consistent with Burrows et al. (2015), Oberne et al. (2022), Meyn et al. (2022), Slater et al. (2018), Vaitkeviciute et al. (2015), Yang et al. (2019), who highlight that dietary health literacy gained through health promotion programs and food preparation practices often lead to better dietary behaviour, such as increased fruits and vegetables intake.

In contrast, individuals with limited dietary health literacy are more likely to adopt less favorable dietary behaviour. Research by Cha et al. (2014), Doustmohammadian et al. (2020), and Talagala & Arembepola (2016) emphasizes the challenges faced by those with low dietary health literacy, particularly in interpreting food labels. These individuals may struggle to select appropriate foods or beverages despite their ability to read labels, primarily because they lack the skills to translate this information into actionable knowledge. At this point, Ronto et al. (2016) supported this view, noting that adolescents with limited dietary literacy have fewer opportunities to develop essential food skills.

On the whole, results of this research are consistent with past literature, which demonstrates a positive relationship between dietary health literacy and dietary behaviour. Eventually, the research objective of “to explore the dietary health literacy affecting dietary behaviour in Malaysia” was achieved.

## **5.2 Implications of the Study**

### **5.2.1 Practical Implications**

The research outcomes possess practical implications for the government, health professionals, the food industry players, as well as individuals. The study discovered that dietary motivation and dietary health literacy play a significant role in affecting dietary behaviour, while dietary information has no significant relationship with dietary behaviour. Also, dietary information and dietary motivation demonstrates a statistically significant relationship with dietary health literacy. Consequently, it prompts the need for practical players to effectively leverage these significant variables to achieve their ultimate goals.

Dietary information demonstrates a statistically significant relationship with dietary health literacy but not with dietary behaviour. Consequently, the food industry players, especially managers, should prioritize content that enhances dietary health literacy, while selecting the most suitable sources of information for the target audience should be a secondary consideration. The advertised content disseminated via both traditional and online advertising should be effective enough to simultaneously attract and educate the audience, thereby affecting their dietary choices. Besides, government and health professionals must ensure that dietary information from both online and offline media guides the public toward accurate dietary health literacy, as dietary information alone cannot promote healthy dietary behaviour. Other than that, instead of just browsing the dietary information, individuals should focus on improving their dietary health literacy to benefit their overall health.

Among other variables, dietary motivation plays the most crucial role in affecting dietary health literacy and dietary behaviour. The practitioners should not solely educate people about dietary information but also emphasize motivational factors that can attract individuals to engage in certain dietary behaviour. The food industry can launch products that are categorized as healthier alternatives to obtain health-conscious

or weight-control consumers, which the healthy trend has emerged in recent years. Activities such as promotional discounts, sustainable campaigns, environmentally friendly packaging, and innovative flavours can motivate and influence individuals' food choices, eating behaviour, and dietary intake. Also, the government and health professionals should provide welfare for healthy food purchases, which encourages individuals to buy more healthy food and the food industry to promote healthy alternatives. Meanwhile, individuals who are willing to engage in healthy dietary behaviour should determine their motivational factors, which may encourage them to improve their dietary behaviour in the long run.

Finally, dietary health literacy possesses a statistically significant relationship with dietary behaviour. This indicates that dietary behaviour can be influenced by acquiring knowledge and skills. To achieve this relationship, the food industry should introduce product packaging that caters to local's preferences and abilities, such as applying suitable language or simple grammar and terms. Furthermore, governments and health professionals should spread dietary information that is written or spoken to an adequate level of understanding, which enables the majority public to understand the particular knowledge and skills, thereby adopting healthy dietary behaviour.

### **5.2.2 Theoretical Implications**

The findings of this study offer significant theoretical contributions, enriching existing literature and addressing research gaps in the field of dietary studies. The study provides robust evidence of the significant relationships among dietary information, dietary motivation, dietary health literacy, and dietary behaviour, except for the relationship between dietary information and dietary behaviour. Thus, it offers new insights into these interconnections.

One of the key theoretical contributions of this research is its application of the Information-Motivation-Behaviour (IMB) theory within the context of dietary

behaviour. The IMB theory posits that behaviour is primarily influenced by information, motivation, and behavioural skills. This study reinforces the relevance of this theory by demonstrating how dietary motivation and dietary health literacy collectively impact dietary behaviour, and how dietary information and dietary motivation affect dietary health literacy.

In this research, the evidence is sufficient to prove the significant relationship between dietary motivation, dietary health literacy, and dietary behaviour, as well as the relationship between dietary information, dietary motivation, and dietary health literacy. The application of the IMB theory in this research extends our understanding of dietary trends by highlighting the interplay between these variables. It suggests that effective dietary behaviour is not solely the result of acquiring dietary health literacy but is also significantly influenced by motivational factors, while dietary information requires the support of dietary health literacy. By bridging theoretical insights, this study not only contributes to the academic discourse on dietary behaviour but also lays a foundation for future research endeavours. The integration of the IMB theory into the study underscores the need for comprehensive approaches to understanding and influencing dietary behaviours, thus offering a valuable perspective for academicians.

### **5.3 Limitations of the Study**

In this research, numerous drawbacks were encountered. First and foremost, there is an imbalance number of gender and ethnicity for the research demographic. In terms of gender, this study collected more information from female respondents (62.3%), while male respondents occupy a lesser percentage (37.7%). Other than that, Malaysia is formed by three main ethnicities, which are Chinese, Malay, and Indian. However, this study involves a larger number of Chinese respondents (56%), with lesser information from Malay (34.8%) and Indian (9.2%) ethnicity. In fact, it is expected that different opinions may be established between males and females, as well as between different ethnicities. In this study, the opinions of minority demographics are not equally

collected. The research findings of this study are mainly gathered from female gender and Chinese ethnicity.

Moreover, the data of this research is collected using a single-language questionnaire, which is English. Notably, Malaysia is a multi-ethnic country with people who own different mother tongues and native languages. Thus, individuals who are not familiar with the English language may face difficulties in answering the questionnaire. They may not understand what the question is asking or may not comprehensively understand the meaning of the question in-depth. This limitation may affect the accuracy and response rate of the study.

In addition, this study is conducted in a limited timeframe. This research selects a cross-sectional study that is carried out within a short period of time, which may lead to unsatisfactory outcomes on data accuracy and bias. Conducting a longitudinal study with a longer time frame enables the researchers to collect more respondents, which can generate more insightful research outcomes.

Finally, the research context in this study requires additional variables to establish a more meaningful outcome. According to the multiple regression analysis of this study, the adjusted R square result suggests that the existing independent variables (dietary information, dietary motivation, dietary health literacy) can only explain the dependent variable (dietary behaviour) by 44.8%, which is relatively low. Therefore, the researcher needs to discover additional variables that enable to acquisition of more comprehensive insights into dietary behaviour.

## 5.4 Recommendations for Future Research

Based on the study limitations discussed above, there are several recommendations to address these limitations for future research. One of the recommendations is collecting a balance number of gender and ethnicity demographics. This initiative allows the researchers to obtain balanced perspective on different gender and ethnicities, thereby generating more valuable insights for the research outcomes.

Other than that, future researchers should distribute their questionnaire that contains multiple language, including English, Mandarin, and Bahasa Melayu. Although the process of forming multilanguage questionnaire takes time, it enhances the respondents understanding and comprehension towards the questions, thereby elevate the opportunities to obtain accurate information. Also, a questionnaire with multilanguage is able to increase response rate as individuals prefer to read language, they familiar with. Ultimately, this initiative can improve the efficiency and effectiveness during the data collection process.

Moreover, the future research is recommended to apply a longitudinal study, which prolong the period of data collection. A longitudinal study enables researchers to acquire larger sample size that is large enough to represent the Malaysian population. Researchers who obtain a larger sample size not only reduces research bias, but also expand their choice of removing not meaningful data during the data cleaning process. Therefore, this method enables future researchers to establish more reliable and consistent research findings.

Last but not least, the future research is suggested to examine other variables that have not discussed in this research, which could provide a more comprehensive understanding of dietary behaviour. There variables may include psychological factors, socioeconomic status, cultural influences, or many more. By exploring these additional dimensions, researchers are able to gain deeper insights into the factors shaping dietary habits. Practitioners, including government, health professionals, the food industry



players, as well as individuals, are able to design more effective strategies, thereby improving individuals' health performance.

## **5.5 Conclusion**

In a nutshell, four hypotheses present the significant relationship between variables, with the exception of the relationship between dietary information and dietary behaviour. The independent variables in these studies are all argued with the support of past literature, regardless of these variables fall under the context of IMB theory. Also, both practical and theoretical implications have been identified. The findings of this study are expected to contribute to the government, health professionals, food industry players, academicians, as well as the general public. Meanwhile, the limitations and recommendations for research in the future are revealed at the end of the section. The novel findings of this paper, combined with the literature review, are believed to offer holistic ideas on the dietary trends in health and wellness food consumption in Malaysia.

## REFERENCES

- Abay, H., & Kaplan, S. (2021). Evaluation of the effectiveness of a training program for coping with PMS symptoms based on IMB model in university students. *Women & health, 61*(6), 550-561.
- Abutabenjeh, S., & Jaradat, R. (2018). Clarification of research design, research methods, and research methodology: A guide for public administration researchers and practitioners. *Teaching Public Administration, 36*(3), 237-258.
- Adamski, M., Truby, H., Klassen, K., Cowan, S., & Gibson, S. (2020). Using the internet: Nutrition information-seeking behaviours of lay people enrolled in a massive online nutrition course. *Nutrients, 12*(3), 750.
- Addo, I. Y., Brener, L., Asante, A. D., & de Wit, J. (2019). Determinants of post-migration changes in dietary and physical activity behaviours and implications for health promotion: Evidence from Australian residents of sub-Saharan African ancestry. *Health Promotion Journal of Australia, 30*, 62-71.
- Aihemaitijiang, S., Ye, C., Halimulati, M., Huang, X., Wang, R., & Zhang, Z. (2022). Development and validation of nutrition literacy questionnaire for the Chinese elderly. *Nutrients, 14*(5), 1005.
- Ajayi, V. O. (2017). Primary sources of data and secondary sources of data. *Benue State University, 1*(1), 1-6.
- AlAmmar, W. A., Albeesh, F. H., & Khattab, R. Y. (2020). Food and mood: The corresponsive effect. *Current nutrition reports, 9*(3), 296-308.
- Ala-Mutka, K. (2011). Mapping digital competence: Towards a conceptual understanding. *Sevilla: Institute for Prospective Technological Studies, 7-60*.
- Alexander, G. L., Lindberg, N., Firemark, A. L., Rukstalis, M. R., & McMullen, C. (2018). Motivations of young adults for improving dietary choices: Focus group findings prior to the MENU GenY dietary change trial. *Health Education & Behaviour, 45*(4), 492-500.

- Alfaro-Cruz, L., Kaul, I., Zhang, Y., Shulman, R. J., & Chumpitazi, B. P. (2019). Assessment of quality and readability of internet dietary information on irritable bowel syndrome. *Clinical Gastroenterology and Hepatology*, 17(3), 566-567.
- Ali, P., & Younas, A. (2021). Understanding and interpreting regression analysis. *Evidence-Based Nursing*, 24(4), 116-118.
- A'Naja, M. N., Reed, R., Sansone, J., Batrakoulis, A., McAvoy, C., & Parrott, M. W. (2024). 2024 ACSM worldwide fitness trends: Future directions of the health and fitness industry. *ACSM's Health & Fitness Journal*, 28(1), 14-26.
- Angeloska-Galevska, N. (2023). Strategies and methodological considerations in choosing a research sample. *Annuaire de la Faculté de Philosophie*.
- Appleton, K. M., Dinnella, C., Spinelli, S., Morizet, D., Saulais, L., Hemingway, A., ... & Hartwell, H. (2019). Liking and consumption of vegetables with more appealing and less appealing sensory properties: Associations with attitudes, food neophobia and food choice motivations in European adolescents. *Food Quality and Preference*, 75, 179-186.
- Arauzo, M. G., Antón, Á., & Villarroel, J. D. (2021). Collagen in the media: An analysis of news published between 2016 and 2018. *Biochemistry and Molecular Biology Education*, 49(2), 242-250.
- Ares, G., De Rosso, S., Mueller, C., Philippe, K., Pickard, A., Nicklaus, S., ... & Varela, P. (2024). Development of food literacy in children and adolescents: Implications for the design of strategies to promote healthier and more sustainable diets. *Nutrition Reviews*, 82(4), 536-552.
- Armstrong, R. A. (2019). Should Pearson's correlation coefficient be avoided?. *Ophthalmic and Physiological Optics*, 39(5), 316-327.
- Arumugam, T. (2023, May 26). NHMS: One in three adolescents overweight or obese. *New Straits Times*.  
<https://www.nst.com.my/news/nation/2023/05/913736/nhms-one-three-adolescents-overweight-or-obese>

- Ashari, L. S., Abd Rashid, A. A., Shahril, M. R., Lee, Y. Y., Kueh, Y. C., Hakim, B. N. A., ... & Mohamed, H. J. J. (2022). Exploring the norms of eating-out practice among adults in Malaysia. *Malaysian Journal of Nutrition*, 28(1).
- Asher, K., Green, C., Gutbrod, H., Jewell, M., Hale, G., & Bastian, B. (2014). Study of current and former vegetarians and vegans. *Humane Research Council*. [https://faanalytics.org/wp-content/uploads/2015/06/Faanalytics\\_Current-Former-Vegetarians\\_Full-Report.pdf](https://faanalytics.org/wp-content/uploads/2015/06/Faanalytics_Current-Former-Vegetarians_Full-Report.pdf)
- Ashirwadani, J. (2014). Communication Research Methods Methods of Data Analysis. *Tamilnadu Theological Seminary, August*, 1-6.
- Austin, S. B., Yu, K., Tran, A., & Mayer, B. (2017). To-policy translation for prevention of disordered weight and shape control behaviours: A case example targeting dietary supplements sold for weight loss and muscle building. *Eating behaviours*, 25, 9-14.
- Azli, M. S., Noordin, I., Atan, S. A., & Ikram, E. H. K. (2023). Association of physical activity and dietary behaviour on sleep quality among students of faculty of architecture, planning, and surveying in Universiti Teknologi MARA (UiTM) Selangor. *Malaysian Journal of Medicine & Health Sciences*, 19(6).
- Backer, C. J. D., & Hudders, L. (2016). Look who's cooking: Investigating the relationship between watching educational and edutainment TV cooking shows, eating habits and everyday cooking practices among men and women in Belgium. *Appetite*, 96, 494-501.
- Baker, S. A., & Rojek, C. (2020). *Lifestyle gurus: Constructing authority and influence online*. John Wiley & Sons.
- Barchard, K. A., & Verenikina, Y. (2013). Improving data accuracy: Selecting the best data checking technique. *Computers in Human Behavior*, 29(5), 1917-1922.
- Barchard, K. A., Freeman, A. J., Ochoa, E., & Stephens, A. K. (2020). Comparing the accuracy and speed of four data-checking methods. *Behavior Research Methods*, 52, 97-115.

- Barlow, K. H., Pols, J. C., Ekberg, S., & Johnston, E. A. (2022). Cancer survivors' perspectives of dietary information provision after cancer treatment: A scoping review of the Australian context. *Health Promotion Journal of Australia*, 33(1), 232-244.
- Barwick, E. M. (2016, March 28). Is lab grown meat vegan?, *Bite Size Vegan*. <https://bitesizevegan.org/is-lab-grown-meat-vegan/>
- Bastian, B., & Loughnan, S. (2017). Resolving the meat-paradox: A motivational account of morally troublesome behaviour and its maintenance. *Personality and Social Psychology Review*, 21(3), 278-299.
- Begley, A., Gallegos, D., & Vidgen, H. (2017). Effectiveness of Australian cooking skill interventions. *British Food Journal*, 119(5), 973-991.
- Bel-Serrat, S., Greene, E., Mullee, A., & Murrin, C. M. (2022). Theoretical and practical approaches for dietary behaviour change in urban socioeconomically disadvantaged adolescents: A systematic review. *Nutrition Reviews*, 80(6), 1531-1557.
- Bharadwaj, S. (2022). Weight-related teasing as a source of consumer motivation for impulsive purchase intention of weight loss dietary supplements: Insights from generation Z. *Young Consumers*, 23(3), 468-493.
- Bhawra, J., Kirkpatrick, S. I., Hall, M. G., Vanderlee, L., White, C. M., & Hammond, D. (2023). Patterns and correlates of nutrition knowledge across five countries in the 2018 international food policy study. *Nutrition Journal*, 22(1), 19.
- Blake, C. E., Monterrosa, E. C., Rampalli, K. K., Khan, A. N. S., Reyes, L. I., Drew, S. D., ... & Girard, A. W. (2023). Basic human values drive food choice decision-making in different food environments of Kenya and Tanzania. *Appetite*, 188, 106620.
- Bolarinwa, O. A. (2015). Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. *Nigerian Postgraduate Medical Journal*, 22(4), 195-201.

- Braghieri, A., Piazzolla, N., Carlucci, A., Bragaglio, A., & Napolitano, F. (2016). Sensory properties, consumer liking and choice determinants of Lucanian dry cured sausages. *Meat science*, *111*, 122-129.
- Brantsæter, A. L., Ydersbond, T. A., Hoppin, J. A., Haugen, M., & Meltzer, H. M. (2017). Organic food in the diet: Exposure and health implications. *Annual review of public health*, *38*, 295-313.
- Braunsberger, K., & Flamm, R. O. (2019). The case of the ethical vegan: Motivations matter when researching dietary and lifestyle choices. *Journal of Managerial Issues*, 228-245.
- Bravi, F., Spei, M. E., Polesel, J., Di Maso, M., Montella, M., Ferraroni, M., ... & Turati, F. (2018). Mediterranean diet and bladder cancer risk in Italy. *Nutrients*, *10*(8), 1061.
- Broom, D. (2022, February 15). What's the future of health and wellness after the pandemic?. *World Economic Forum*.  
<https://www.weforum.org/agenda/2022/02/megatrends-future-health-wellness-covid19/>
- Bui, L., & Pham, K. (2019). Building a concept for a Japanese themed restaurant in Helsinki metropolitan area using service design. *Laurea University of Applied Sciences*. 73.
- Buja, A., Grotto, G., Montecchio, L., De Battisti, E., Sperotto, M., Bertocello, C., ... & Baldo, V. (2021). Association between health literacy and dietary intake of sugar, fat, and salt: A systematic review. *Public Health Nutrition*, *24*(8), 2085-2097.
- Burrows, T. L., Lucas, H., Morgan, P. J., Bray, J., & Collins, C. E. (2015). Impact evaluation of an after-school cooking skills program in a disadvantaged community: Back to basics. *Canadian Journal of Dietetic Practice and Research*, *76*(3), 126-132.

- Businesswire. (2023, October). Whole foods market forecasts top 10 food trends for 2024. *Businesswire*.  
<https://www.businesswire.com/news/home/20231017499980/en/Whole-Foods-Market-Forecasts-Top-10-Food-Trends-for-2024>
- Butcher, L. M., Platts, J. R., Le, N., McIntosh, M. M., Celenza, C. A., & Foulkes-Taylor, F. (2021). Can addressing food literacy across the life cycle improve the health of vulnerable populations? A case study approach. *Health Promotion Journal of Australia*, 32, 5-16.
- Byrne, E., Kearney, J., & MacEvelly, C. (2017). The role of influencer marketing and social influencers in public health. *Proceedings of the Nutrition Society*, 76(OCE3), E103.
- Byun, J., & Golden, D. W. (2015). Readability of patient education materials from professional societies in radiation oncology: Are we meeting the national standard?. *International Journal of Radiation Oncology, Biology, Physics*, 91(5), 1108-1109.
- Cabral, D., De Almeida, M. D. V., & Cunha, L. M. (2017). Food choice questionnaire in an African country—application and validation in Cape Verde. *Food quality and preference*, 62, 90-95.
- Caperon, L., Arjyal, A., KC, P., Kuikel, J., Newell, J., Peters, R., ... & King, R. (2019). Developing a socio-ecological model of dietary behaviour for people living with diabetes or high blood glucose levels in urban Nepal: A qualitative investigation. *PloS one*, 14(3), 214142.
- Carbert, N. S., Brussoni, M., Geller, J., & Mâsse, L. C. (2019). Moderating effects of family environment on overweight/obese adolescents' dietary behaviours. *Appetite*, 134, 69-77.
- Cardi, V., Leppanen, J., & Treasure, J. (2015). The effects of negative and positive mood induction on eating behaviour: A meta-analysis of laboratory studies in the healthy population and eating and weight disorders. *Neuroscience & Biobehavioural Reviews*, 57, 299-309.

- Caruana, E. J., Roman, M., Hernández-Sánchez, J., & Solli, P. (2015). Longitudinal studies. *Journal of thoracic disease*, 7(11), E537.
- Cataldo, I., De Luca, I., Giorgetti, V., Cicconcelli, D., Bersani, F. S., Imperatori, C., ... & Corazza, O. (2021). Fitspiration on social media: Body-image and other psychopathological risks among young adults. A narrative review. *Emerging Trends in Drugs, Addictions, and Health*, 1, 100010.
- Cha, E., Kim, K. H., Lerner, H. M., Dawkins, C. R., Bello, M. K., Umpierrez, G., & Dunbar, S. B. (2014). Health literacy, self-efficacy, food label use, and diet in young adults. *American journal of health behaviour*, 38(3), 331-339.
- Chang, S. J., Choi, S., Kim, S. A., & Song, M. (2014). Intervention strategies based on information-motivation-behavioural skills model for health behaviour change: A systematic review. *Asian Nursing Research*, 8(3), 172-181.
- Chen, L., Wang, X., & Peng, T. Q. (2018). Nature and diffusion of gynecologic cancer-related misinformation on social media: Analysis of tweets. *Journal of Medical Internet Research*, 20(10), 11515.
- Chen, W. K., Chen, C. W., & Lin, Y. C. (2020). Understanding the influence of impulse buying toward consumers' post-purchase dissonance and return intention: An empirical investigation of apparel websites. *Journal of Ambient Intelligence and Humanized Computing*, 1-14.
- Chen, Y. S., Raab, C., & Chen, C. C. (2017). The influence of celebrity chefs on restaurant customers' behaviour. *Journal of Hospitality Marketing & Management*, 26(5), 489-510.
- Chew, A. (2021, April 5). Malaysians feel healthier in the new normal - Herbalife nutrition survey - health matters. *Health Matters*. <https://www.healthmatters.com.my/malaysians-feel-healthier-in-the-new-normal-herbalife-nutrition-survey/>
- Chisuwa-Hayami, N., & Haruki, T. (2017). Associations of body-related teasing with weight status, body image, and dieting behaviour among Japanese adolescents. *Health Promotion Perspectives*, 7(2), 80.



- Choi, J. (2020). Impact of stress levels on eating behaviours among college students. *Nutrients*, *12*(5), 1241.
- Chu, X., Ilyas, I. F., Krishnan, S., & Wang, J. (2016, June). Data cleaning: Overview and emerging challenges. *Proceedings of the 2016 international conference on management of data*, 2201-2206.
- Chuck, C., Fernandes, S. A., & Hyers, L. L. (2016). Awakening to the politics of food: Politicized diet as social identity. *Appetite*, *107*, 425-436.
- Churuangsuk, C., Lean, M. E., & Combet, E. (2020). Carbohydrate knowledge, dietary guideline awareness, motivations and beliefs underlying low-carbohydrate dietary behaviours. *Scientific reports*, *10*(1), 14423.
- Clarke, C., & Best, T. (2019). Food choice motivations: Profiling low-carbohydrate, high-fat dieters. *Appetite*, *141*, 104324.
- Clarke, T. B., Murphy, J., & Adler, J. (2016). Celebrity chef adoption and implementation of social media, particularly Pinterest: A diffusion of innovations approach. *International Journal of Hospitality Management*, *57*, 84-92.
- Code Blue. (2023, March 3). Report: 41% of Malaysia's adults will be obese by 2035. *CodeBlue*. <https://codeblue.galencentre.org/2023/03/03/report-41-of-malysias-adults-will-be-obese-by-2035/>
- Cui, B., Wang, L. D. L., Wang, F. R., Peng, J., Ma, J. Y., Chen, X., ... & Tian, Y. (2022). Correlation between dietary information sources and knowledge of adequate diets in Eastern China. *Frontiers in Public Health*, *10*, 955766.
- Daalen, K. R., Romanello, M., Rocklöv, J., Semenza, J. C., Tonne, C., Markandya, A., ... & Lowe, R. (2022). The 2022 Europe report of the Lancet Countdown on health and climate change: Towards a climate resilient future. *The Lancet Public Health*, *7*(11), 942-965.

- De Pelsmacker, P., Moons, I., & Barvarossa, C. (2016). A self-identity driven model of electric car adoption and the moderating role of personal values. *International Conference Marketing Trends*, 1-16.
- De Waal, T. (2013). Selective editing: A quest for efficiency and data quality. *Journal of Official Statistics*, 29(4), 473-488.
- Deloitte. (2023, April). The conscious consumer – connecting with health and sustainability priorities. *Deloitte*.  
<https://www.deloitte.com/za/en/Industries/consumer-products/analysis/the-conscious-consumer-connecting-with-health-and-sustainability-priorities.html>
- Department of Statistics Malaysia (2023a). Workbook: MyDemography. *Department of Statistics Malaysia*. [https://tableau.dosm.gov.my/t/BPPD-BahagianperangkaanpendudukdanDemografi/views/MyDemography/MyDemography?%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=card\\_share\\_link](https://tableau.dosm.gov.my/t/BPPD-BahagianperangkaanpendudukdanDemografi/views/MyDemography/MyDemography?%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=card_share_link)
- Department of Statistics Malaysia. (2023b, July). Current Population Estimates. *Department of Statistics Malaysia*.  
<https://www.dosm.gov.my/portal-main/release-content/current-population-estimates-malaysia---2023>
- Dernini, S., Berry, E. M., Serra-Majem, L., La Vecchia, C., Capone, R., Medina, F. X., ... & Trichopoulou, A. (2017). Med Diet 4.0: The Mediterranean diet with four sustainable benefits. *Public health nutrition*, 20(7), 1322-1330.
- Dickinson, K. M., Watson, M. S., & Prichard, I. (2018). Are clean eating blogs a source of healthy recipes? A comparative study of the nutrient composition of foods with and without clean eating claims. *Nutrients*, 10(10), 1440.
- Diedenhofen, B., & Musch, J. (2016). Cocron: A Web Interface and R Package for the Statistical Comparison of Cronbach's Alpha Coefficients. *International Journal of Internet Science*, 11(1).

- Dinnella, C., Torri, L., Caporale, G., & Monteleone, E. (2014). An exploratory study of sensory attributes and consumer traits underlying liking for and perceptions of freshness for ready to eat mixed salad leaves in Italy. *Food Research International*, *59*, 108-116.
- Dorard, G., & Mathieu, S. (2021). Vegetarian and omnivorous diets: A cross-sectional study of motivation, eating disorders, and body shape perception. *Appetite*, *156*, 104972.
- Doustmohammadian, A., Omidvar, N., Keshavarz-Mohammadi, N., Eini-Zinab, H., Amini, M., Abdollahi, M., ... & Haidari, H. (2020). Low food and nutrition literacy (FNLIT): A barrier to dietary diversity and nutrient adequacy in school age children. *BMC research notes*, *13*, 1-8.
- Durai, A. (2022, January 8). Food trends to look out for in 2022. *The Star*. <https://www.thestar.com.my/food/food-news/2022/01/08/food-trends-to-look-out-for-in-2022>
- Ekeagwu, O. A. (2017). Why Nutritional Knowledge May Not Influence Dietary Behaviour. *European Journal of Nutrition & Food Safety*, *7*(2), 101-108.
- Elfil, M., & Negida, A. (2017). Sampling methods in clinical research: An educational review. *Emergency*, *5*(1).
- Elias, M. J. (2017). *Food on the page: Cookbooks and American Culture*. University of Pennsylvania Press.
- Eng, C. W., Lim, S. C., Ngongo, C., Sham, Z. H., Kataria, I., Chandran, A., & Mustapha, F. I. (2022). Dietary practices, food purchasing, and perceptions about healthy food availability and affordability: A cross-sectional study of low-income Malaysian adults. *BMC Public Health*, *22*(1), 192.
- Estacio, E. V., Whittle, R., & Protheroe, J. (2019). The digital divide: Examining socio-demographic factors associated with health literacy, access and use of internet to seek health information. *Journal of health psychology*, *24*(12), 1668-1675.

- Eustis, S. J., Turner-McGrievy, G., Adams, S. A., & Hébert, J. R. (2021). Measuring and leveraging motives and values in dietary interventions. *Nutrients*, *13*(5), 1452.
- Federal Democratic Republic of Ethiopia. (2016). *Ethiopia Demographic and Health Survey*. <https://dhsprogram.com/pubs/pdf/FR328/FR328.pdf>
- Fenta, E. T., Tiruneh, M. G., & Anagaw, T. F. (2023). Exploring enablers and barriers of healthy dietary behaviour based on the socio-ecological model, a qualitative systematic review. *Nutrition and Dietary Supplements*, 13-23.
- Fisher, J. D., and Fisher, W. A. (1992). Changing AIDS risk behaviour. *Psychological Bulletin*, *111*, 455–74.
- Fisher, W. A., Fisher, J. D., & Harman, J. (2003). The information-motivation-behavioural skills model: A general social psychological approach to understanding and promoting health behaviour. *Social psychological foundations of health and illness*, 82-106.
- Forray, A. I., Coman, M. A., Cherecheș, R. M., & Borzan, C. M. (2023). Exploring the impact of sociodemographic characteristics and health literacy on adherence to dietary recommendations and food literacy. *Nutrients*, *15*(13), 2853.
- Frech, A. (2014). Pathways to adulthood and changes in health-promoting behaviours. *Advances in life course research*, *19*, 40-49.
- Garza, C., Stover, P. J., Ohlhorst, S. D., Field, M. S., Steinbrook, R., Rowe, S., ... & Campbell, E. (2019). Best practices in nutrition science to earn and keep the public's trust. *The American Journal of Clinical Nutrition*, *109*(1), 225-243.
- Gebremariam, M. K., Vaqué-Crusellas, C., Andersen, L. F., Stok, F. M., Stelmach-Mardas, M., Brug, J., & Lien, N. (2017). Measurement of availability and accessibility of food among youth: A systematic review of methodological studies. *International Journal of Behavioural Nutrition and Physical Activity*, *14*, 1-19.

- Giacalone, D., & Jaeger, S. R. (2016). Better the devil you know? How product familiarity affects usage versatility of foods and beverages. *Journal of Economic Psychology*, *55*, 120-138.
- Gillespie, K. M., Kemps, E., White, M. J., & Bartlett, S. E. (2023). The impact of free sugar on human health—A narrative review. *Nutrients*, *15*(4), 889.
- Godfray, H. C. J., Aveyard, P., Garnett, T., Hall, J. W., Key, T. J., Lorimer, J., ... & Jebb, S. A. (2018). Meat consumption, health, and the environment. *Science*, *361*(6399), eaam5324.
- Godinho, C. A., Alvarez, M. J., Lima, M. L., & Schwarzer, R. (2015). Health messages to promote fruit and vegetable consumption at different stages: A match-mismatch design. *Psychology & health*, *30*(12), 1410-1432.
- Goldstraw, D., & Keegan, B. J. (2016). Instagram's 'Fitspiration' trend and its effect on young women's self-esteem. *BLED 2016 Proceedings*. 35.
- Grabowski, K. C., & Oh, S. (2018). Reliability analysis of instruments and data coding. *The Palgrave handbook of applied linguistics research methodology*, 541-565.
- Graca, J., Calheiros, M. M., Oliveira, A., & Milfont, T. L. (2018). Why are women less likely to support animal exploitation than men? The mediating roles of social dominance orientation and empathy. *Personality and Individual Differences*, *129*, 66-69.
- Guzek, D., Skolmowska, D., & Głabska, D. (2020). Appetitive traits in a population-based study of polish adolescents within the place-19 study: Validation of the adult eating behaviour questionnaire. *Nutrients*, *12*(12), 3889.
- Hair, J., Anderson, R. E., Tatham, R. L and Black, W. C. (2019) *Multivariate Data Analysis*, 8th Edition, Andover, Hampshire, United Kingdom: Cengage, ©2019
- Hansen, T., Sørensen, M. I., & Eriksen, M. L. R. (2018). How the interplay between consumer motivations and values influences organic food identity and behaviour. *Food policy*, *74*, 39-52.

- Haque, M. (2021). Fresh food is in struggle with processed: A global consternation. *Advances in Human Biology*, *11*(2), 200-203.
- Hawkes, C., Smith, T. G., Jewell, J., Wardle, J., Hammond, R. A., Friel, S., ... & Kain, J. (2015). Smart food policies for obesity prevention. *The lancet*, *385*(9985), 2410-2421.
- Heart, T., & Kalderon, E. (2013). Older adults: Are they ready to adopt health-related ICT?. *International journal of medical informatics*, *82*(11), 209-231.
- Herbalife. (2020, December). Diet Decisions Survey APAC. *Herbalife*. <https://www.herbalife.com/en-sg/about-herbalife/press-room/press-releases/diet-decisions-survey>
- Herforth, A., Arimond, M., Álvarez-Sánchez, C., Coates, J., Christianson, K., & Muehlhoff, E. (2019). A global review of food-based dietary guidelines. *Advances in Nutrition*, *10*(4), 590-605.
- Higgs, S. (2015). Social norms and their influence on eating behaviours. *Appetite*, *86*, 38-44.
- Higgs, S., & Ruddock, H. (2020). Social influences on eating. *Handbook of eating and drinking: Interdisciplinary perspectives*, 277-291.
- Hopwood, C. J., Piazza, J., Chen, S., & Bleidorn, W. (2021a). Development and validation of the motivations to Eat Meat Inventory. *Appetite*, *163*, 105210.
- Hopwood, C. J., Rosenfeld, D., Chen, S., & Bleidorn, W. (2021b). An investigation of plant-based dietary motives among vegetarians and omnivores. *Collabra: Psychology*, *7*(1), 19010.
- Howard. (2024, April 3). Foods linked to better brainpower. *Harvard Health*. <https://www.health.harvard.edu/healthbeat/foods-linked-to-better-brainpower>

- Huang, H. W., Wu, S. J., Lu, J. K., Shyu, Y. T., & Wang, C. Y. (2017). Current status and future trends of high-pressure processing in food industry. *Food Control*, 72, 1–8.
- Idika, D. O., Owan, V. J., & Agama, V. U. (2023). The application of the nominal scale of measurement in research data analysis.
- Ipsos. (2016, May 16). Vegan Society Poll. *Ipsos*. <https://www.ipsos.com/en-uk/vegan-society-poll>
- Irache, A., Gill, P., & Caleyachetty, R. (2022). The co-occurrence of overweight/obesity and anaemia among adult women, adolescent girls and children living in fifty-two low-and middle-income countries. *Public Health Nutrition*, 25(6), 1595-1606.
- Israel, G. D. (1992). Determining sample size. *University of Florida*.
- Jaeger, S. R., Vidal, L., Ares, G., Chheang, S. L., & Spinelli, S. (2021). Healthier eating: Covid-19 disruption as a catalyst for positive change. *Food Quality and Preference*, 92, 104220.
- Jiang, H., Chen, X., Li, J., Tan, Z., Cheng, W., & Yang, Y. (2019). Predictors of condom use behaviour among men who have sex with men in China using a modified information-motivation-behavioural skills (IMB) model. *BMC public health*, 19, 1-12.
- John, S. A., Walsh, J. L., & Weinhardt, L. S. (2017). The information–motivation–behavioural skills model revisited: A network-perspective structural equation model within a public sexually transmitted infection clinic sample of hazardous alcohol users. *AIDS and Behaviour*, 21, 1208-1218.
- Johnson, S. L. (2016). Developmental and environmental influences on young children's vegetable preferences and consumption. *Advances in Nutrition*, 7(1), 220S-231S.

- Johnston, E. A., Pols, J. C., & Ekberg, S. (2021). Needs, preferences, and experiences of adult cancer survivors in accessing dietary information post-treatment: A scoping review. *European journal of cancer care*, 30(2), 13381.
- Juul, L., Rowlands, G., & Maindal, H. T. (2018). Relationships between health literacy, motivation and diet and physical activity in people with type 2 diabetes participating in peer-led support groups. *Primary care diabetes*, 12(4), 331-337.
- Kabir, S.M.S. (2016). Sample and sampling designs. *Basic Guidelines for Research: An Introductory Approach for All Disciplines*.
- Kaliyadan, F., & Kulkarni, V. (2019). Types of variables, descriptive statistics, and sample size. *Indian dermatology online journal*, 10(1), 82-86.
- Kalnina, I., Straumite, E., Klava, D., Kruma, Z., Bartkiene, E., Isoldi, K. K., ... & Guiné, R. P. (2022). Analysis of factors that influence eating habits in different countries. *Journal of Hygienic Engineering and Design*, 38, 169-179.
- Kalte, D. (2021). Political veganism: An empirical analysis of vegans' motives, aims, and political engagement. *Political Studies*, 69(4), 814-833.
- Kim, G., Oh, J., & Cho, M. (2022). Differences between vegetarians and omnivores in food choice motivation and dietarian identity. *Foods*, 11(4), 539.
- Konttinen, H., Halmesvaara, O., Fogelholm, M., Saarijärvi, H., Nevalainen, J., & Erkkola, M. (2021). Sociodemographic differences in motives for food selection: results from the LoCard cross-sectional survey. *International Journal of Behavioural Nutrition and Physical Activity*, 18(1), 71.
- Korthals, M. (2017). Ethics of dietary guidelines: Nutrients, processes and meals. *Journal of Agricultural and Environmental Ethics*, 30(3), 413-421.
- Krause, C., Sommerhalder, K., Beer-Borst, S., & Abel, T. (2018). Just a subtle difference? Findings from a systematic review on definitions of nutrition literacy and food literacy. *Health promotion international*, 33(3), 378-389.



- Krippendorff, K., & Craggs, R. (2016). The reliability of multi-valued coding of data. *Communication Methods and Measures*, 10(4), 181-198.
- Kuczmariski, M. F., Adams, E. L., Cotugna, N., Pohlig, R. T., Beydoun, M. A., Zonderman, A. B., & Evans, M. K. (2016). Health literacy and education predict nutrient quality of diet of socioeconomically diverse, urban adults. *Journal of epidemiology and preventive medicine*, 2(1).
- Kwok C, & White K. (2014). Perceived information needs and social support of Chinese-Australian breast cancer survivors. *Support Care Cancer*. 22(10), 2651–2659.
- Lambert, K., Mullan, J., Mansfield, K., Koukomous, A., & Mesiti, L. (2017). Evaluation of the quality and health literacy demand of online renal diet information. *Journal of human nutrition and dietetics*, 30(5), 634-645.
- Landt, M. C. S. -O., van Furth, E. F., van Beijsterveldt, C. E., Bartels, M., Willemsen, G., de Geus, E. J., ... & Boomsma, D. I. (2017). Prevalence of dieting and fear of weight gain across ages: A community sample from adolescents to the elderly. *International journal of public health*, 62, 911-919.
- Lane, S. R., & Fisher, S. M. (2015). The influence of celebrity chefs on a student population. *British Food Journal*, 117(2), 614-628.
- Lavery, M. R., Acharya, P., Sivo, S. A., & Xu, L. (2019). Number of predictors and multicollinearity: What are their effects on error and bias in regression?. *Communications in Statistics-Simulation and Computation*, 48(1), 27-38.
- Lazada. (2023, June 5). Wellness and health supplement trends - How Malaysian business can benefit. *Sell with Lazada*. <https://www.sellwithlazada.com.my/wellness-and-health-supplement-trends-how-malaysian-business-can-benefit/>
- Lee, Y. Y., & Muda, W. A. M. W. (2019). Dietary intakes and obesity of Malaysian adults. *Nutrition research and practice*, 13(2), 159-168.

- Leeds, J., Keith, R., & Woloshynowych, M. (2020). Food and Mood: Exploring the determinants of food choices and the effects of food consumption on mood among women in Inner London. *World Nutrition, 11*(1), 68-96.
- Leroy, F., & Praet, I. (2015). Meat traditions. The co-evolution of humans and meat. *Appetite, 90*, 200-211.
- Li, A. S. W., Figg, G., & Schuez, B. (2019a). Socioeconomic status and the prediction of health promoting dietary behaviours: A systematic review and meta-analysis based on the theory of planned behaviour. *Applied Psychology: Health and Well-Being, 11*(3), 382-406.
- Li, M., & Zhu, H. (2022). Application of intervention of information motivation behaviour skill (IMB) model in the cardiac rehabilitation of patients with coronary heart disease. *Pakistan Journal of Medical Sciences, 38*(6), 1627.
- Li, T., Higgins, J. P. T., & Deeks, J. J. (2021). Chapter 5: Collecting data: Cochrane handbook for systematic reviews of interventions. *Higgins JPT, Thomas J, Chandler J, Cumpston M, Li T, Page MJ, et al., editors. <https://training.cochrane.org/handbook/current/chapter-05>*
- Li, Y. J., Zhang, F. Y., Wan T. L. (2019b). Status Quo of dietary knowledge and attitudes and influencing factors of dietary health literacy among adult residents in China, 2015. *Chinese Journal of Public Health. 35*, 1267–1270.
- Lindeman, M., & Väänänen, M. (2000). Measurement of ethical food choice motives. *Appetite, 34*(1), 55-59.
- Lipowska, M., & Lipowski, M. (2015). Narcissism as a moderator of satisfaction with body image in young women with extreme underweight and obesity. *PLoS One, 10*(5), e0126724.
- Liu, C., Wang, D., Liu, C., Jiang, J., Wang, X., Chen, H., ... & Zhang, X. (2020). What is the meaning of health literacy? A systematic review and qualitative synthesis. *Family medicine and community health, 8*(2).

- Liu, S., & Xiao, L. (2018, June). Research on the influence of website characteristics on consumers' impulsive purchase intention. In *2018 2nd International Conference on Education, Economics and Management Research (ICEEMR 2018)*, 743-748. Atlantis Press.
- Liu, S., Zeng, H., Ma, Y., Zhou, Y., & Wang, D. (2023). Path analysis of current status and influencing factors of nutritional literacy among community-dwelling older adults. *Geriatric Nursing*, *54*, 264-271.
- Lockyer, S., & Spiro, A. (2020). The role of bread in the UK diet: An update. *Nutrition Bulletin*, *45*(2), 133-164.
- Lorensia, A., Setiawan, B., Maranatha, D., & Yudianto, A. (2017). Effectiveness of education based information-motivation-behavioural skill (IMB) model of improving knowledge, motivation, and performance demonstration metered-dose inhaler (MDI) to community pharmacists in Surabaya. *International Journal of Pharmaceutical and Clinical Research*, *9*(7), 485-495.
- Luo, Y. F., Yang, S. C., Chiang, C. H., & Lu, C. M. (2018). Development and validation of a food literacy self-report inventory and investigation of the relationships between food literacy and dietary behaviour among college students. *Taiwan Gong Gong Wei Sheng Za Zhi*, *37*(407), 10-6288.
- MacInnis, C. C., & Hodson, G. (2017). It ain't easy eating greens: Evidence of bias toward vegetarians and vegans from both source and target. *Group Processes & Intergroup Relations*, *20*(6), 721-744.
- Malaysian Investment Development Authority (2022, June). Presenting delicious and health-conscious. *Malaysian Investment Development Authority*. <https://www.mida.gov.my/presenting-delicious-and-health-conscious/>
- Malek, L., & Umberger, W. J. (2021). How flexible are flexitarians? Examining diversity in dietary patterns, motivations and future intentions. *Cleaner and Responsible Consumption*, *3*, 100038.
- Marchi, E. D., Caputo, V., Nayga Jr, R. M., & Banterle, A. (2016). Time preferences and food choices: Evidence from a choice experiment. *Food Policy*, *62*, 99-109.

- Martina, M. and Vacirca, S. (2017), The celebrity factory: New modes of fashion entrepreneurship. *ZoneModa Journal*, 7(1), 37-53.
- Martínez-Mesa, J., González-Chica, D. A., Duquia, R. P., Bonamigo, R. R., & Bastos, J. L. (2016). Sampling: how to select participants in my research study?. *Anais brasileiros de dermatologia*, 91, 326-330.
- Martinho, V. J., Bartkiene, E., Djekic, I., Tarcea, M., Barić, I. C., Černelič-Bizjak, M., ... & Guiné, R. P. (2022). Determinants of economic motivations for food choice: Insights for the understanding of consumer behaviour. *International Journal of Food Sciences and Nutrition*, 73(1), 127-139.
- Mason-D'Croz, D., Bogard, J. R., Sulser, T. B., Cenacchi, N., Dunston, S., Herrero, M., & Wiebe, K. (2019). Gaps between fruit and vegetable production, demand, and recommended consumption at global and national levels: an integrated modelling study. *The Lancet Planetary Health*, 3(7), 318-329.
- Mathieu, H. (2023, February 24). Health to remain stronger influence than price despite financial crisis, analysts predict. *Just Food*. <https://www.just-food.com/news/food-trends-health-more-influential-on-behaviour-than-price/?cf-view>
- Maxfield, A., Patil, S., & Cunningham, S. A. (2016). Globalization and food prestige among Indian adolescents. *Ecology of food and nutrition*, 55(4), 341-364.
- McCuen-Wurst, C., Ruggieri, M., & Allison, K. C. (2018). Disordered eating and obesity: Associations between binge-eating disorder, night-eating syndrome, and weight-related comorbidities. *Annals of the New York Academy of Sciences*, 1411(1), 96-105.
- McCully, S. N., Don, B. P., Updegraff, J. A. (2013). Using the Internet to help with diet, weight, and physical activity: Results from the Health Information National Trends Survey (HINTS). *Journal of Medical Internet Research*. 15(8), 148.
- McKinsey & Company. (2022, September 19). The Next Normal – The future of wellness. *McKinsey & Company*. <https://www.mckinsey.com/featured-insights/the-next-normal/wellness>

- Melesse, M. B., & Berg, M. V. D. (2021). Consumer nutrition knowledge and dietary behaviour in urban Ethiopia: A comprehensive study. *Ecology of Food and Nutrition*, 60(2), 244-256.
- Meyer, S. B., Coveney, J., & Ward, P. R. (2014). A qualitative study of CVD management and dietary changes: Problems of 'too much' and 'contradictory' information. *BMC family practice*, 15, 1-4.
- Meyn, S., Blaschke, S., & Mess, F. (2022). Food literacy and dietary intake in German office workers: A longitudinal intervention study. *International Journal of Environmental Research and Public Health*, 19(24), 16534.
- Micha, R., Karageorgou, D., Bakogianni, I., Trichia, E., Whitsel, L. P., Story, M., ... & Mozaffarian, D. (2018). Effectiveness of school food environment policies on children's dietary behaviors: A systematic review and meta-analysis. *PloS one*, 13(3), 0194555.
- Middleton, J. (2017). Public health in England in 2016—The health of the public and the public health system: A review. *British Medical Bulletin*, 121(1).
- Milfont, T. L., Satherley, N., Osborne, D., Wilson, M. S., & Sibley, C. G. (2021). To meat, or not to meat: A longitudinal investigation of transitioning to and from plant-based diets. *Appetite*, 166, 105584.
- Miller, L. M. S., & Cassady, D. L. (2015). The effects of nutrition knowledge on food label use. A review of the literature. *Appetite*, 92, 207-216.
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of cardiac anaesthesia*, 22(1), 67-72.
- Mohamad, M. M., Sulaiman, N. L., Sern, L. C., & Salleh, K. M. (2015). Measuring the validity and reliability of research instruments. *Procedia-Social and Behavioral Sciences*, 204, 164-171.
- Mohsin, A. (2016). A manual for selecting sampling techniques in research. *Munich Personal RePEc Archive*, 2016, 1-56.

- Moniuszko, S. (2023, December 28). What wellness trends will be big in 2024? The Ozempic “ripple effect” and more expert predictions. *CBS News*. <https://www.cbsnews.com/news/expert-predictions-health-wellness-trends-2024/>
- Morze, J., Danielewicz, A., Hoffmann, G., & Schwingshackl, L. (2020). Diet quality as assessed by the healthy eating index, alternate healthy eating index, dietary approaches to stop hypertension score, and health outcomes: A second update of a systematic review and meta-analysis of cohort studies. *Journal of the Academy of Nutrition and Dietetics*, 120(12), 1998-2031.
- Moussavi, A., & Mander, J. (2019). Global Trends among Gen Z. *Global Web Index*.
- Mpofu, J. J., Underwood, J. M., Thornton, J. E., Brener, N. D., Rico, A., Kilmer, G., ... & Roberts, A. M. (2023). Overview and methods for the Youth Risk Behaviour Surveillance System—United States, 2021. *MMWR supplements*, 72(1), 1.
- Munt, A. E., Partridge, S. R., & Allman-Farinelli, M. (2017). The barriers and enablers of healthy eating among young adults: A missing piece of the obesity puzzle: A scoping review. *Obesity reviews*, 18(1), 1-17.
- Murugesan, M. (2021, April 8). A shift towards plant-based foods. *New Straits Times*. <https://www.nst.com.my/lifestyle/health/2021/04/680500/shift-towards-plant-based-foods>
- Nations, U. (2015). *Youth*. United Nations. <https://www.un.org/en/global-issues/youth>
- Naughton, P., McCarthy, S. N., & McCarthy, M. B. (2015). The creation of a healthy eating motivation score and its association with food choice and physical activity in a cross sectional sample of Irish adults. *International Journal of Behavioural Nutrition and Physical Activity*, 12, 1-10.
- Neelakantan, N., Park, S. H., Chen, G. C., & van Dam, R. M. (2022). Sugar-sweetened beverage consumption, weight gain, and risk of type 2 diabetes and cardiovascular diseases in Asia: A systematic review. *Nutrition reviews*, 80(1), 50-67.

- Nölke, L., Mensing, M., Krämer, A., & Hornberg, C. (2015). Sociodemographic and health-(care-) related characteristics of online health information seekers: A cross-sectional German study. *BMC public health*, *15*, 1-12.
- North, M., Klas, A., Ling, M., & Kothe, E. (2021). A qualitative examination of the motivations behind vegan, vegetarian, and omnivore diets in an Australian population. *Appetite*, *167*, 105614.
- Nutbeam, D., McGill, B., & Premkumar, P. (2018). Improving health literacy in community populations: A review of progress. *Health promotion international*, *33*(5), 901-911.
- O’Callaghan, C., Schofield, P., Butow, P., Nolte, L., Price, M., Tsintziras, S., ... & Jefford, M. (2016). “I might not have cancer if you didn’t mention it”: A qualitative study on information needed by culturally diverse cancer survivors. *Supportive care in cancer*, *24*, 409-418.
- Oberne, A., Vamos, C., Wright, L., Wang, W., & Daley, E. (2022). Does health literacy affect fruit and vegetable consumption? An assessment of the relationship between health literacy and dietary practices among college students. *Journal of American College Health*, *70*(1), 134-141.
- Okoro, C., Musonda, I., & Agumba, J. (2019). Validity and reliability of a questionnaire developed to explore nutrition determinants among construction workers in Gauteng, South Africa. *South African Journal of Clinical Nutrition*, *32*(2), 32-39.
- Oke, J., Akinkunmi, W. B., & Etebefia, S. O. (2019). Use of correlation, tolerance and variance inflation factor for multicollinearity test. *GSI*, *7*(5), 652-659.
- Omidvar, N., Amini, M., Zahedi-Rad, M., & Khatam, A. (2016, September). Content analysis of school textbooks in a view of improving nutritional knowledge and skills of primary school children. *The 2th international and the 14th Iranian nutrition congress*, 4-7.
- Oppotus. (2020, June 10). *Revealing Malaysia’s Biggest Food Trends*. (2020, June 10). Oppotus.com. <https://www.oppotus.com/revealing-malaysias-food-trends/>

- Osei-Kwasi, H. A., Nicolaou, M., Powell, K., Terragni, L., Maes, L., Stronks, K., ... & DEDIPAC consortium. (2016). Systematic mapping review of the factors influencing dietary behaviour in ethnic minority groups living in Europe: A DEDIPAC study. *International Journal of Behavioural Nutrition and Physical Activity*, *13*, 1-17.
- Palumbo, R. (2016). Sustainability of well-being through literacy. The effects of food literacy on sustainability of well-being. *Agriculture and Agricultural Science Procedia*, *8*, 99-106.
- Pan, Y. (2023). Analysis of the causes of appearance anxiety of contemporary college students and its countermeasures. *Journal of Medical and Health Studies*, *4*(4), 45-53.
- Paradis, E., O'Brien, B., Nimmon, L., Bandiera, G., & Martimianakis, M. A. (2016). Design: Selection of data collection methods. *Journal of graduate medical education*, *8*(2), 263-264.
- Parker, C., Scott, S., & Geddes, A. (2019). Snowball sampling. *SAGE research methods foundations*.
- Paroche, M. M., Caton, S. J., Vereijken, C. M., Weenen, H., & Houston-Price, C. (2017). How infants and young children learn about food: A systematic review. *Frontiers in Psychology*, *8*, 258758.
- Perez-Cueto, F. J. (2019). An umbrella review of systematic reviews on food choice and nutrition published between 2017 and-2019. *Nutrients*, *11*(10), 2398.
- Perloff, R. M. (2014) Social media effects on young women's body image concerns: Theoretical perspectives and an agenda for research. *Sex Roles*. *71*(11-12), 363–77.
- Perneger, T. V., Courvoisier, D. S., Hudelson, P. M., & Gayet-Ageron, A. (2015). Sample size for pre-tests of questionnaires. *Quality of life Research*, *24*, 147-151.



- Pollard, C. M., Pulker, C. E., Meng, X., Kerr, D. A., & Scott, J. A. (2015). Who uses the internet as a source of nutrition and dietary information? An Australian population perspective. *Journal of medical Internet research*, *17*(8), 209.
- Pope, L., Latimer, L., & Wansink, B. (2015). Viewers vs. Doers. The relationship between watching food television and BMI. *Appetite*, *90*, 131-135.
- Popkin, B. M., Corvalan, C., & Grummer-Strawn, L. M. (2020). Dynamics of the double burden of malnutrition and the changing nutrition reality. *The Lancet*, *395*(10217), 65-74.
- Precedence Statistics. (2023) Health and Wellness Market Size to Reach USD 8,945.3 Bn by 2032. *Precedence Research*. <https://www.precedenceresearch.com/health-and-wellness-market>
- Proesmans, V. L. J., Vermeir, I., De Backer, C., & Geuens, M. (2022). Food media and dietary behaviour in a belgian adult sample: How obtaining information from food media sources associates with dietary behaviour. *International Journal of Public Health*, *67*, 1604627.
- Puhl, R. M., Himmelstein, M. S., & Quinn, D. M. (2018). Internalizing weight stigma: Prevalence and sociodemographic considerations in US adults. *Obesity*, *26*(1), 167-175.
- Pula, K., Parks, C. D., & Ross, C. F. (2014). Regulatory focus and food choice motives. Prevention orientation associated with mood, convenience, and familiarity. *Appetite*, *78*, 15-22.
- Quaidoo, E. Y., Ohemeng, A., & Amankwah-Poku, M. (2018). Sources of nutrition information and level of nutrition knowledge among young adults in the Accra metropolis. *BMC public health*, *18*, 1-7.
- Quinn, E. M., Corrigan, M. A., McHugh, S. M., Murphy, D., O'Mullane, J., Hill, A. D., & Redmond, H. P. (2013). Who's talking about breast cancer? Analysis of daily breast cancer posts on the internet. *The Breast*, *22*(1), 24–27.

- Rah, J. H., Chalasani, S., Oddo, V. M., & Sethi, V. (2017). Adolescent Health and Nutrition. *Nutrition and Health in a Developing World*, 559-577.
- Rahardja, C. T. (2022). Enhancing physical appearance on self esteem: The intensity of learning as a moderation. *Wahana: Jurnal Ekonomi, Manajemen dan Akuntansi*, 25(1), 1-11.
- Rahman, M. S. (2020). The advantages and disadvantages of using qualitative and quantitative approaches and methods in language “testing and assessment” research: A literature review. *University of Plymouth*.
- Ramachandran, D., Kite, J., Vassallo, A. J., Chau, J. Y., Partridge, S., Freeman, B., & Gill, T. (2018). Food trends and popular nutrition advice online—implications for public health. *Online Journal of Public Health Informatics*, 10(2).
- Ramadas, A., Tham, S. M., Lalani, S. A., & Shyam, S. (2021). Diet quality of Malaysians across lifespan: A scoping review of evidence in a multi-ethnic population. *Nutrients*, 13(4), 1380.
- Ramlan, A. F., Ridzuan, A. R., & Ilyas, I. Y. (2023). Impact of social media influencers to promote healthy lifestyle behaviour: A review from the self-determination approach. *Journal of Business and Social Review in Emerging Economies*, 9(1), 1-10.
- Rankin, A., Bunting, B. P., Poínhos, R., van der Lans, I. A., Fischer, A. R., Kuznesof, S., ... & Stewart-Knox, B. J. (2018). Food choice motives, attitude towards and intention to adopt personalised nutrition. *Public health nutrition*, 21(14), 2606-2616.
- Reicks, M., Kocher, M., & Reeder, J. (2018). Impact of cooking and home food preparation interventions among adults: A systematic review (2011–2016). *Journal of nutrition education and behaviour*, 50(2), 148-172.
- Ridzuan, F., & Zainon, W. M. N. W. (2019). A review on data cleansing methods for big data. *Procedia Computer Science*, 161, 731-738.

- Ritchie, H., Rosado, P., & Roser, M. (2017). Meat and dairy production. *Our world in data*. <https://ourworldindata.org/meat-production>
- Rizvi, R. F., Wang, Y., Nguyen, T., Vasilakes, J., Bian, J., He, Z., & Zhang, R. (2019). Analyzing social media data to understand consumer information needs on dietary supplements. *Studies in health technology and informatics*, 264, 323.
- Ronto, R., Ball, L., Pendergast, D., & Harris, N. (2016). Adolescents' perspectives on food literacy and its impact on their dietary behaviours. *Appetite*, 107, 549-557.
- Rosas, R., Pimenta, F., Leal, I., & Schwarzer, R. (2022). FOODLIT-tool: Development and validation of the adaptable food literacy tool towards global sustainability within food systems. *Appetite*, 168, 105658.
- Rosenfeld, D. L. (2018). The psychology of vegetarianism: Recent advances and future directions. *Appetite*, 131, 125-138.
- Rosenfeld, D. L., & Burrow, A. L. (2017). Vegetarian on purpose: Understanding the motivations of plant-based dieters. *Appetite*, 116, 456-463.
- Rubio, F. D. (2014). Self-esteem and self-concept in foreign language learning. *Multiple perspectives on the self in SLA*, 4158.
- Russell, C., Grimes, C., Baker, P., Sievert, K., & Lawrence, M. A. (2021). The drivers, trends and dietary impacts of non-nutritive sweeteners in the food supply: A narrative review. *Nutrition Research Reviews*, 34(2), 185-208.
- Sadan, V. (2017). Data collection methods in quantitative research. *Indian Journal of Continuing Nursing Education*, 18(2), 58-63.
- Saghafi-Asl, M., Aliasgharzadeh, S., & Asghari-Jafarabadi, M. (2020). Factors influencing weight management behaviour among college students: An application of the Health Belief Model. *PloS one*, 15(2), e0228058.
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). England: FT Prentice Hall.

- Schachter, J., Martel, J., Lin, C. S., Chang, C. J., Wu, T. R., Lu, C. C., ... & Young, J. D. (2018). Effects of obesity on depression: A role for inflammation and the gut microbiota. *Brain, Behaviour, and Immunity*, *69*, 1-8.
- Schouten, A. P., Janssen, L., & Verspaget, M. (2021). Celebrity vs. influencer endorsements in advertising: The role of identification, credibility, and product-endorser fit. *Leveraged marketing communications*, 208-231. Routledge.
- Schulze, M. B., Martínez-González, M. A., Fung, T. T., Lichtenstein, A. H., & Forouhi, N. G. (2018). Food based dietary patterns and chronic disease prevention. *bmj*, *361*.
- Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. Online readings in Psychology and Culture, *2*(1), 11.
- Scientific Advisory Committee on Nutrition. (2015, July 17). SACN Carbohydrates and Health Report. *Scientific Advisory Committee on Nutrition*. <https://www.gov.uk/government/publications/sacn-carbohydrates-and-health-report>
- Sekaran, U. & Bougie, R. (2019). *Research methods for business – A skill building approach* (8th ed.). U.S: John Wiley & Sons.
- Senaviratna, N. A. M. R., & A Cooray, T. M. J. (2019). Diagnosing multicollinearity of logistic regression model. *Asian Journal of Probability and Statistics*, *5*(2), 1-9.
- Shah. V. (2023, January). Impact of social media food trends on the audience. *ET Hospitality World*. <https://hospitality.economictimes.indiatimes.com/news/speaking-heads/impact-of-social-media-food-trends-on-the-audience/97016869>
- Shangguan, S., Afshin, A., Shulkin, M., Ma, W., Marsden, D., Smith, J., ... & Price, F. (2019). A meta-analysis of food labeling effects on consumer diet behaviours and industry practices. *American journal of preventive medicine*, *56*(2), 300-314.

- Si, M., Su, X., Jiang, Y., Wang, W., Zhang, X., Gu, X., ... & Qiao, Y. (2022). Effect of an IMB model-based education on the acceptability of HPV vaccination among college girls in Mainland China: A cluster RCT. *Cancer Control*, *29*, 10732748211070719.
- Sileyew, J. K. (2020). Research Design and Methodology. Semantic Scholar, Cyberspace.
- Singer, P., Richter, V., Singer, K., & Löhlein, I. (2021). Analyses and declarations of omega-3 fatty acids in canned seafood may help to quantify their dietary intake. *Nutrients*, *13*(9), 2970.
- Singh, R., & Singh, S. P. (2022). Cognitive And Non-Cognitive Skills: Meaning, Nature, Types and Uses in Daily Life. *Webology*, *19*(4).
- Slater, J., Falkenberg, T., Rutherford, J., & Colatruglio, S. (2018). Food literacy competencies: A conceptual framework for youth transitioning to adulthood. *International Journal of Consumer Studies*, *42*(5), 547-556.
- Sloan, E. (2021, April). The top 10 food trends of 2021. *Food Technol.* <https://www.ift.org/news-and-publications/food-technology-magazine/issues/2021/april/features/top-10-food-trends-of-2021>
- Sonoda, Y., Oishi, K., Chomei, Y., & Hirooka, H. (2018). How do human values influence the beef preferences of consumer segments regarding animal welfare and environmentally friendly production?. *Meat science*, *146*, 75-86.
- Springmann, M., Godfray, H. C. J., Rayner, M., & Scarborough, P. (2016). Analysis and valuation of the health and climate change cobenefits of dietary change. *Proceedings of the National Academy of Sciences*, *113*(15), 4146-4151.
- Spronk, I., Kullen, C., Burdon, C., & O'Connor, H. (2014). Relationship between nutrition knowledge and dietary intake. *British journal of nutrition*, *111*(10), 1713-1726.
- Stanley, J., & Williamson, T. (2017). Skill. *Noûs*, *51*(4), 713-726.

- Steptoe, A., Pollard, T. M., & Wardle, J. (1995). Development of a measure of the motives underlying the selection of food: The food choice questionnaire. *Appetite*, *25*(3), 267-284.
- Stevens, S. S. (1946). On the theory of scales of measurement. *Science*, *103*(2684), 677-680.
- Stok, F. M., Renner, B., Allan, J., Boeing, H., Ensenaer, R., Issanchou, S., ... & Hoffmann, S. (2018). Dietary behaviour: An interdisciplinary conceptual analysis and taxonomy. *Frontiers in psychology*, *9*, 1689.
- Strien, T.V, Frijters, J. E., Bergers, G. P., & Defares, P. B. (1986). The Dutch Eating Behaviour Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behaviour. *International journal of eating disorders*, *5*(2), 295-315.
- Sutton, J., & Austin, Z. (2015). Qualitative research: Data collection, analysis, and management. *The Canadian journal of hospital pharmacy*, *68*(3), 226.
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in science education*, *48*, 1273-1296.
- Taherdoost, H. (2017). Determining sample size; how to calculate survey sample size. *International Journal of Economics and Management Systems*, *2*.
- Taillie, L. S. (2018). Who's cooking? Trends in US home food preparation by gender, education, and race/ethnicity from 2003 to 2016. *Nutrition journal*, *17*, 1-9.
- Talagala, I. A., & Arambepola, C. (2016). Use of food labels by adolescents to make healthier choices on snacks: A cross-sectional study from Sri Lanka. *BMC public health*, *16*, 1-11.
- Tan, H. S. G., Tibboel, C. J., & Stieger, M. (2017). Why do unusual novel foods like insects lack sensory appeal? Investigating the underlying sensory perceptions. *Food Quality and Preference*, *60*, 48-58.

- Tan, S. T., Tan, C. X., & Tan, S. S. (2022). Changes in dietary intake patterns and weight status during the COVID-19 lockdown: a cross-sectional study focusing on young adults in Malaysia. *Nutrients*, *14*(2), 280.
- Teng, C. C., & Chih, C. (2022). Sustainable food literacy: A measure to promote sustainable diet practices. *Sustainable production and consumption*, *30*, 776-786.
- Tapsell, L. C. (2017). Dietary behaviour changes to improve nutritional quality and health outcomes. *Chronic diseases and translational medicine*, *3*(3), 154-158.
- The Portugal News. (2017, October 12). Number of vegetarians in Portugal rises by 400 percent in 10 years. *The Portugal News*. <https://www.theportugalnews.com/news/number-of-vegetarians-in-portugal-rises-by-400-percent-in-10-years/43482>
- The Star (2022, January 28). Taking health matters to heart. *The Star*. <https://www.thestar.com.my/news/nation/2022/01/28/taking-health-matters-to-heart>
- The Star. (2023, July 20). *Obesity*: Brunei ranks second in South-East Asia after Malaysia. *The Star*. <https://www.thestar.com.my/aseanplus/aseanplus-news/2023/07/20/obesity-brunei-ranks-second-in-south-east-asia-after-malaysia>
- Titova, J., Cottis, G., & Allman-Farinelli, M. (2023). Using social media analysis to study population dietary behaviours: A scoping review. *Journal of Human Nutrition and Dietetics*.
- Tripathi, S., & Foued, B. E. N. (2023). Significant trends in asia's wellness tourism and research agenda: A systematic literature review analysis. *Journal of Tourismology*, *9*(2), 97-112.
- Trott, N., Aziz, I., Rej, A., & Surendran Sanders, D. (2019). How patients with IBS use low FODMAP dietary information provided by general practitioners and gastroenterologists: A qualitative study. *Nutrients*, *11*(6), 1313.

- Truman, E., Lane, D., & Elliott, C. (2017). Defining food literacy: A scoping review. *Appetite, 116*, 365-371.
- Turner, C., Kalamatianou, S., Drewnowski, A., Kulkarni, B., Kinra, S., & Kadiyala, S. (2020). Food environment research in low-and middle-income countries: A systematic scoping review. *Advances in Nutrition, 11*(2), 387-397.
- Tyrer, S., & Heyman, B. (2016). Sampling in epidemiological research: Issues, hazards and pitfalls. *BJPsych bulletin, 40*(2), 57-60.
- Unilever PLC. (2023, March 9). Menu trends 2023: Look what's cooking. *Unilever PLC*. <https://www.unilever.com/news/news-search/2023/menu-trends-2023-look-whats-cooking/>
- Vaitkeviciute, R., Ball, L. E., & Harris, N. (2015). The relationship between food literacy and dietary intake in adolescents: A systematic review. *Public health nutrition, 18*(4), 649-658.
- Vaterlaus, J. M., Patten, E. V., Roche, C., & Young, J. A. (2015). Getting healthy: The perceived influence of social media on young adult health behaviors. *Computers in Human Behavior, 45*, 151-157.
- Vaughan J.H., Victoria, C., & Chowdhury, A. M. R. (2021). Data Processing and Analysis. *Practical Epidemiology: Using Epidemiology to support Primary Health Care, 147-159*.
- Velardo, S. (2015). The nuances of health literacy, nutrition literacy, and food literacy. *Journal of nutrition education and behaviour, 47*(4), 385-389.
- Vettori, V., Lorini, C., Milani, C., & Bonaccorsi, G. (2019). Towards the implementation of a conceptual framework of food and nutrition literacy: Providing healthy eating for the population. *International journal of environmental research and public health, 16*(24), 5041.
- Vidgen, H. A., & Gallegos, D. (2014). Defining food literacy and its components. *Appetite, 76*, 50-59.



- Villani, A. M., Egan, T., Keogh, J. B., & Clifton, P. M. (2015). Attitudes and beliefs of Australian adults on reality television cooking programmes and celebrity chefs. Is there cause for concern? Descriptive analysis presented from a consumer survey. *Appetite*, *91*, 7-12.
- Vischers, V. H., Hartmann, C., Leins-Hess, R., Dohle, S., & Siegrist, M. (2013). A consumer segmentation of nutrition information use and its relation to food consumption behaviour. *Food Policy*, *42*, 71-80.
- Wagner, H. S., Ahlstrom, B., Redden, J. P., Vickers, Z., & Mann, T. (2014). The myth of comfort food. *Health Psychology*, *33*(12), 1552.
- Walizada, S. (2021). International Journal of Multidisciplinary Research and Growth Evaluation. *Significance*, *2*(6).
- Wang, S., Yang, Y., Hu, R., Long, H., Wang, N., Wang, Q., & Mao, Z. (2020). Trends and associated factors of dietary knowledge among Chinese older residents: Results from the China Health and Nutrition Survey 2004–2015. *International Journal of Environmental Research and Public Health*, *17*(21), 8029.
- Wang, X., & Cheng, Z. (2020). Cross-sectional studies: strengths, weaknesses, and recommendations. *Chest*, *158*(1), S65-S71.
- Wang, Y., & He, X. (2017). Consumer's seeking behaviour and its determinants of nutrition and health information—based on the survey of consumers in Beijing, China. *MDPI*. *34*, 94–105.
- Wetherill, M. S., Williams, M. B., Hartwell, M. L., Salvatore, A. L., Jacob, T., Cannady, T. K., ... & Jernigan, V. B. B. (2018). Food choice considerations among American Indians living in rural Oklahoma: The THRIVE study. *Appetite*, *128*, 14-20.
- Whitehead, A. L., Julious, S. A., Cooper, C. L., & Campbell, M. J. (2016). Estimating the sample size for a pilot randomised trial to minimise the overall trial sample size for the external pilot and main trial for a continuous outcome variable. *Statistical methods in medical research*, *25*(3), 1057-1073.

- Wijayarathne, S. P., Reid, M., Westberg, K., Worsley, A., & Mavondo, F. (2018). Food literacy, healthy eating barriers and household diet. *European Journal of Marketing*, 52(12), 2449-2477.
- Worku, I. H., Dereje, M., Minten, B., & Hirvonen, K. (2017). Diet transformation in Africa: The case of Ethiopia. *Agricultural economics*, 48(S1), 73-86.
- World Health Organization. (2015, March 4). WHO calls on countries to reduce sugars intake among adults and children. *World Health Organization*. <https://www.who.int/news/item/04-03-2015-who-calls-on-countries-to-reduce-sugars-intake-among-adults-and-children>
- World Health Organization. (2020a). Spotlight on adolescent health and well-being. Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report: summary. *International report: summary*.
- World Health Organization. (2020b, April 29). Healthy diet. *World Health Organization*. <https://www.who.int/news-room/fact-sheets/detail/healthy-diet>
- World Obesity. (2023). World Obesity Atlas 2023. *World Obesity*. [https://www.worldobesityday.org/assets/downloads/World\\_Obesity\\_Atlas\\_2023\\_Report.pdf](https://www.worldobesityday.org/assets/downloads/World_Obesity_Atlas_2023_Report.pdf)
- Worsley, A., Wang, W. C., & Burton, M. (2015). Food concerns and support for environmental food policies and purchasing. *Appetite*, 91, 48-55.
- Wu, H., & Leung, S. O. (2017). Can Likert scales be treated as interval scales?—A simulation study. *Journal of social service research*, 43(4), 527-532.
- Yang, S. C., Luo, Y. F., & Chiang, C. H. (2019). Electronic health literacy and dietary behaviours in Taiwanese college students: Cross-sectional study. *Journal of medical Internet research*, 21(11), e13140.
- Yang, Y., He, D., Wei, L., Wang, S., Chen, L., Luo, M., & Mao, Z. (2020). Association between diet-related knowledge, attitudes, behaviours, and self-rated health in Chinese adult residents: A population-based study. *BMC public health*, 20, 1-8.

- Yee, A. Z., Lwin, M. O., & Ho, S. S. (2017). The influence of parental practices on child promotive and preventive food consumption behaviours: A systematic review and meta-analysis. *International Journal of Behavioural Nutrition and Physical Activity*, *14*(1), 1-14.
- Yilmazel, G., & Bozdogan, S. (2021). Nutrition literacy, dietary habits and food label use among Turkish adolescents. *Prog Nutr*, *23*(1), e2021007.
- Yoshida, Y., Iwasa, H., Kumagai, S., Suzuki, T., & Yoshida, H. (2014). Limited functional health literacy, health information sources, and health behaviour among community-dwelling older adults in Japan. *International Scholarly Research Notices*, *2014*.
- Yuen, E. Y., Thomson, M., & Gardiner, H. (2018). Measuring nutrition and food literacy in adults: A systematic review and appraisal of existing measurement tools. *HLRP: Health Literacy Research and Practice*, *2*(3), 134-160.
- Zemser, R. (2015, March). A clean label challenge for product developers. *Food Processing*. <https://www.foodprocessing.com/product-development/rd/article/11326386/a-clean-label-challenge-for-product-developers>
- Zhang, Y., Zhang, Z., Xu, M., Aihemaitijiang, S., Ye, C., Zhu, W., & Ma, G. (2022). Development and validation of a food and nutrition literacy questionnaire for Chinese adults. *Nutrients*, *14*(9), 1933.
- Zhou, H., Deng, Z., Xia, Y., & Fu, M. (2016). A new sampling method in particle filter based on Pearson correlation coefficient. *Neurocomputing*, *216*, 208-215.
- Zingone, F., Swift, G. L., Card, T. R., Sanders, D. S., Ludvigsson, J. F., & Bai, J. C. (2015). Psychological morbidity of celiac disease: A review of the literature. *United European Gastroenterology Journal*, *3*(2), 136-145.
- Zopiatis, A., & Melanthiou, Y. (2019). The celebrity chef phenomenon: A (reflective) commentary. *International Journal of Contemporary Hospitality Management*, *31*(2), 538-556.

Zou, P., Dennis, C. L., Lee, R., & Parry, M. (2017). Hypertension prevalence, health service utilization, and participant satisfaction: Findings from a pilot randomized controlled trial in aged Chinese Canadians. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 54, 0046958017724942.

Žukauskas, P., Vveinhardt, J., & Andriukaitienė, R. (2018). Philosophy and paradigm of scientific research. *Management culture and corporate social responsibility*, 121(13), 506-518.

## **APPENDICES**

### **APPENDIX A**

#### **QUESTIONNAIRE**

#### **QUESTIONNAIRE**

#### **The Impact of Dietary Trends on the Health and Wellness Food Consumption in Malaysia**

---

Dear **respondents**,

The purpose of this study is to identify the impact of dietary trends on the health and wellness food consumption in Malaysia.

There are two (3) sections in this questionnaire.

We would greatly appreciate if you could spend 5-10 minutes to complete this questionnaire. Your responses are highly valuable and will certainly contribute to our study. Please rest assured that all the information and the statements provided will be used only for educational purposes and will be treated with the utmost confidentiality.

Thank you.

This study is conducted by:

**CHEW XIN YEE**

**Section A: SCREENING**

1. Are you a Malaysian?

Yes

No (Thank you for your participation. Based on your responses, you do not need to proceed with the survey. We appreciate your time and understanding.)

**Section B: DEMOGRAPHIC DATA**

1. Gender

Male

Female

2. Age

15 to 24

25 to 34

35 to 44

45 to 54

55 to 64

65 or above

3. Ethnicity

Chinese

Malay

Indian

Others

3. Highest Education Background (graduated)

Secondary School

Diploma

Bachelor's Degree

Master's Degree

Doctor of Philosophy (PhD)

Others

4. Monthly Income

Below RM 4,000

RM 4,000 – RM 7,999

RM 8,000 – RM 11,999

Above RM 12,000

**Section C:**

Please indicate your agreement or disagreement by circle one of the scales below.

Strongly Disagree (SD)	Disagree (D)	Neutral (N)	Agree (A)	Strongly Agree (SA)
1	2	3	4	5

**IV1: Dietary Information**

No.		SD	D	N	A	SA
1.	I know that having a proper diet will give me adequate or sufficient energy per day.	1	2	3	4	5
2.	I know which food provide different nutrients, such as proteins, carbohydrates, vitamins, and minerals.	1	2	3	4	5
3.	I understand what will happen to my health if I eat or don't eat certain food.	1	2	3	4	5
4.	I recognize what an adult should eat in a day.	1	2	3	4	5

## IV2: Dietary Motivation

It is important that what I eat:

No.		SD	D	N	A	SA
Health						
1.	Keeps me healthy.	1	2	3	4	5
2.	Contains no additives.	1	2	3	4	5
3.	Contains a lot of vitamins and minerals.	1	2	3	4	5
4.	Is good for my skin/teeth/hair/nails, etc.	1	2	3	4	5
5.	Contains natural ingredients.	1	2	3	4	5
6.	Is nutritious.	1	2	3	4	5
7.	Is high in fibre.	1	2	3	4	5
Mood						
8.	Keeps me awake/alert.	1	2	3	4	5
9.	Helps me to cope with life.	1	2	3	4	5
10.	Cheers me up.	1	2	3	4	5
11.	Makes me feel good.	1	2	3	4	5
12.	Helps me cope with stress.	1	2	3	4	5
Weight Control						
13.	Is low in calories.	1	2	3	4	5
14.	Helps me control my weight.	1	2	3	4	5
15.	Is low in fat.	1	2	3	4	5
Ethical Concern						
16.	Has been produced in a way that animals' rights have been respected.	1	2	3	4	5
17.	Has been produced in a way that animals have not experienced pain.	1	2	3	4	5
18.	Has been prepared in an environmentally friendly way.	1	2	3	4	5
19.	Comes from a country in which human rights are not violated.	1	2	3	4	5
20.	Has been produced in a way which has not shaken the balance of nature.	1	2	3	4	5
21.	Is packaged in an environmentally friendly way.	1	2	3	4	5



22.	Has been prepared in a way that does not conflict with my political values.	1	2	3	4	5
Convenience and Price						
23.	Is easy to prepare.	1	2	3	4	5
24.	Can be cooked very simply.	1	2	3	4	5
25.	Takes no time to prepare.	1	2	3	4	5
26.	Is easily available in shops and supermarkets.	1	2	3	4	5
27.	Is not expensive.	1	2	3	4	5
28.	Can be bought in shops close to where I live or work.	1	2	3	4	5
29.	Is cheap.	1	2	3	4	5
Sensory Appeal						
30.	Smells nice.	1	2	3	4	5
31.	Has a pleasant texture.	1	2	3	4	5
32.	Looks nice.	1	2	3	4	5
33.	Tastes good.	1	2	3	4	5

### IV3: Dietary Health Literacy

No.		SD	D	N	A	SA
1.	I pay attention to nutrition and health information, identifying and applying correct information.	1	2	3	4	5
2.	I learn to estimate the amount of food and mix food reasonably.	1	2	3	4	5
3.	I learn to read food nutrition labels and choose food reasonably.	1	2	3	4	5
4.	I can make rational use of nutritious fortified foods or nutrient supplements and with the help of nutritionists and doctors.	1	2	3	4	5
5.	I pay attention to food hygiene and learn to make rational use of surplus meals.	1	2	3	4	5

**DV: Dietary Behaviour**

No.		SD	D	N	A	SA
1.	I eat a variety of foods, with an average of more than 12 types of food per day.	1	2	3	4	5
2.	I eat soft food, chewing carefully and swallowing slowly, eating smaller amount and more frequent meals, eating regularly and having a nutritious breakfast.	1	2	3	4	5
3.	I increase the intake of whole grains and miscellaneous beans.	1	2	3	4	5
4.	I ensure I consume adequate high-quality protein, including fish, poultry, eggs, and meat.	1	2	3	4	5
5.	I prioritize consuming sufficient fruits and vegetables daily.	1	2	3	4	5
6.	I reasonably select high calcium food to ensure milk product and bean product intake.	1	2	3	4	5
7.	I strive to reduce my intake of salt, oil, and sugar in my meals.	1	2	3	4	5
8.	I take the initiative to drink enough water, especially warm boiled water.	1	2	3	4	5

## APPENDIX B

### SPSS OUTPUT (PILOT TEST)

Reliability Analysis: Dietary Information

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.784	.796	4

Reliability Analysis: Dietary Motivation

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.952	.954	33

Reliability Analysis: Dietary Health Literacy

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.766	.780	5

Reliability Analysis: Dietary Behaviour

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.789	.767	8

## APPENDIX C

### SPSS OUTPUT (ACTUAL TEST)

#### Descriptive Analysis

##### Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	156	37.7	37.7	37.7
	Female	258	62.3	62.3	100.0
Total		414	100.0	100.0	

##### Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15 to 24	109	26.3	26.3	26.3
	25 to 34	94	22.7	22.7	49.0
	35 to 44	79	19.1	19.1	68.1
	45 to 54	55	13.3	13.3	81.4
	55 to 64	41	9.9	9.9	91.3
	65 or above	36	8.7	8.7	100.0
	Total	414	100.0	100.0	

##### Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Chinese	232	56.0	56.0	56.0
	Malay	144	34.8	34.8	90.8
	Indian	38	9.2	9.2	100.0
	Total	414	100.0	100.0	

##### HighestEducationBackground

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Secondary School	64	15.5	15.5	15.5
	Diploma	30	7.2	7.2	22.7
	Bachelor's Degree	253	61.1	61.1	83.8
	Master's Degree	56	13.5	13.5	97.3
	Doctor of Philosophy (PhD)	5	1.2	1.2	98.6
	Others	6	1.4	1.4	100.0
	Total	414	100.0	100.0	

**MonthlyIncome**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below RM 4,000	271	65.5	65.5	65.5
	RM 4,000 – RM 7,999	106	25.6	25.6	91.1
	RM 8,000 – RM 11,999	24	5.8	5.8	96.9
	RM 12,000 or above	13	3.1	3.1	100.0
	Total	414	100.0	100.0	

Reliability Analysis: Dietary Information

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.780	.777	4

Reliability Analysis: Dietary Motivation

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.943	.945	33

Reliability Analysis: Dietary Health Literacy

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.876	.876	5

## Reliability Analysis: Dietary Behaviour

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.860	.861	8

## Normality Test

### Descriptive Statistics

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Dietary Information	414	1	5	4.47	.694	-1.275	.120	1.810	.239
Dietary Motivation	414	1	5	4.25	.645	-.563	.120	.917	.239
Dietary Health Literacy	414	1	5	4.03	.917	-.861	.120	.387	.239
Dietary Behaviour	414	1	5	3.93	.861	-.364	.120	-.519	.239
Valid N (listwise)	414								

## Pearson's Correlation Analysis

### Correlations

		Dietary Information	Dietary Motivation	Dietary Health Literacy	Dietary Behaviour
Dietary Information	Pearson Correlation	1	.554**	.523**	.434**
	Sig. (2-tailed)		<.001	<.001	<.001
	N	414	414	414	414
Dietary Motivation	Pearson Correlation	.554**	1	.530**	.473**
	Sig. (2-tailed)	<.001		<.001	<.001
	N	414	414	414	414
Dietary Health Literacy	Pearson Correlation	.523**	.530**	1	.653**
	Sig. (2-tailed)	<.001	<.001		<.001
	N	414	414	414	414
Dietary Behaviour	Pearson Correlation	.434**	.473**	.653**	1
	Sig. (2-tailed)	<.001	<.001	<.001	
	N	414	414	414	414

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Multiple Regression Analysis for Hypothesis 2, 4, and 5

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.673 <sup>a</sup>	.452	.448	.639	.452	112.918	3	410	<.001

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	138.363	3	46.121	112.918	<.001 <sup>b</sup>
	Residual	167.463	410	.408		
	Total	305.826	413			

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.658	.234		2.805	.005	.197	1.119
	Dietary Information	.086	.058	.069	1.496	.135	-.027	.199
	Dietary Motivation	.200	.062	.150	3.217	.001	.078	.323
	Dietary Health Literacy	.504	.043	.538	11.801	<.001	.420	.588

a. Dependent Variable: Dietary Behaviour

## Multiple Regression Analysis for Hypothesis 1 and 3

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.597 <sup>a</sup>	.356	.353	.738	.356	113.811	2	411	<.001

a. Predictors: (Constant), Dietary Motivation, Dietary Information

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.868	2	61.934	113.811	<.001 <sup>b</sup>
	Residual	223.659	411	.544		
	Total	347.527	413			

a. Dependent Variable: Dietary Health Literacy

b. Predictors: (Constant), Dietary Motivation, Dietary Information

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-.012	.271		-.046	.964	-.544	.520
	Dietary Information	.437	.063	.331	6.955	<.001	.313	.560
	Dietary Motivation	.493	.068	.347	7.289	<.001	.360	.626

a. Dependent Variable: Dietary Health Literacy

### Multicollinearity Test for Hypothesis 2, 4, and 5

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Dietary Information	.620	1.613
	Dietary Motivation	.613	1.630
	Dietary Health Literacy	.644	1.554

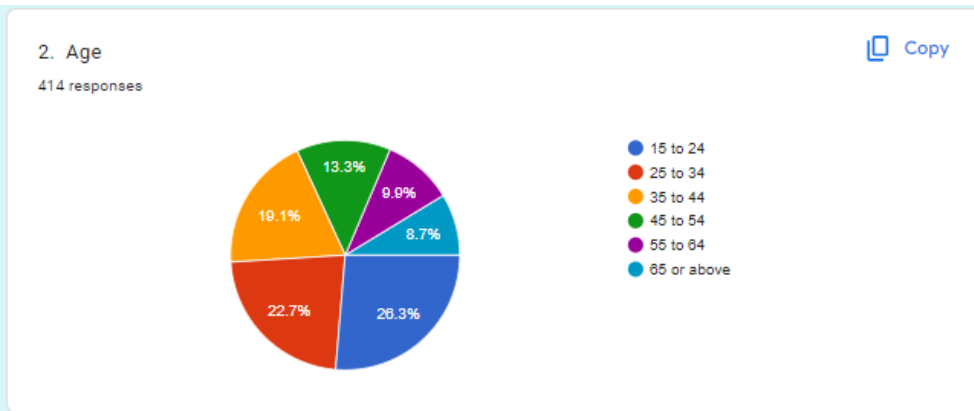
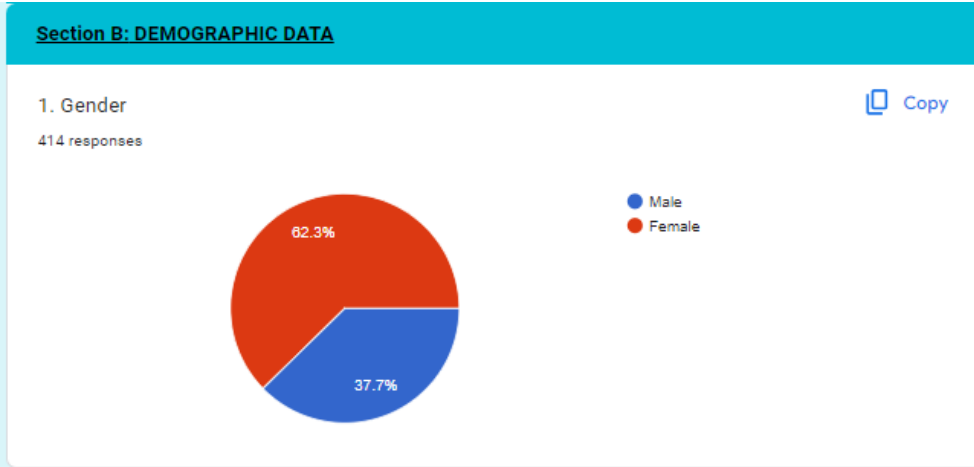
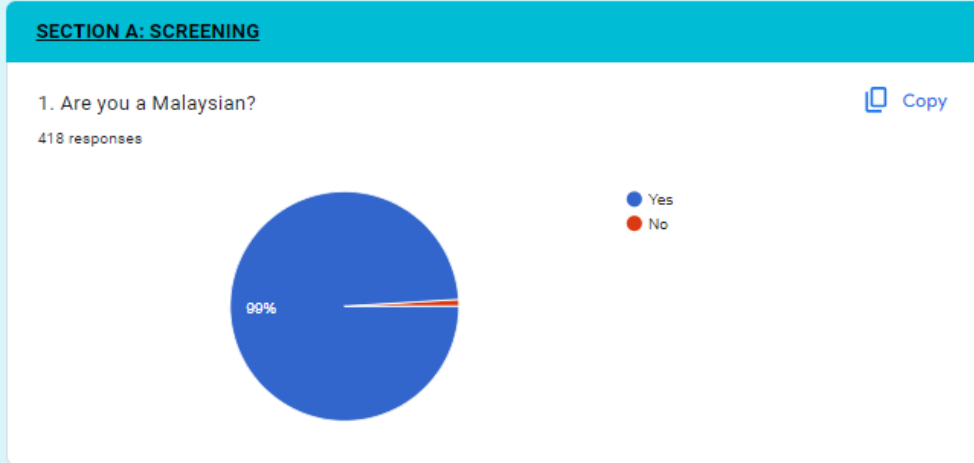
### Multicollinearity Test for Hypothesis 1 and 3

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Dietary Information	.693	1.443
	Dietary Motivation	.693	1.443



# APPENDIX D

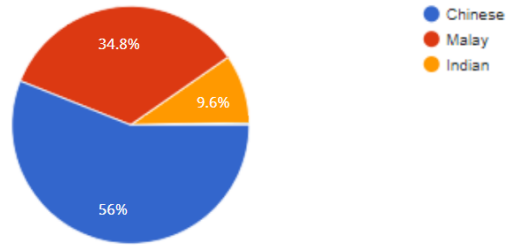
## QUESTIONNAIRE RESPONSES SUMMARY



### 3. Ethnicity

414 responses

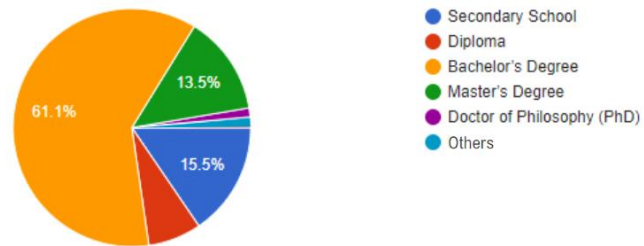
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### 4. Highest (Graduated) Education Background

414 responses

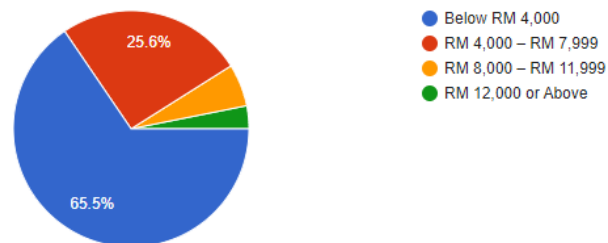
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### 5. Monthly Income

414 responses

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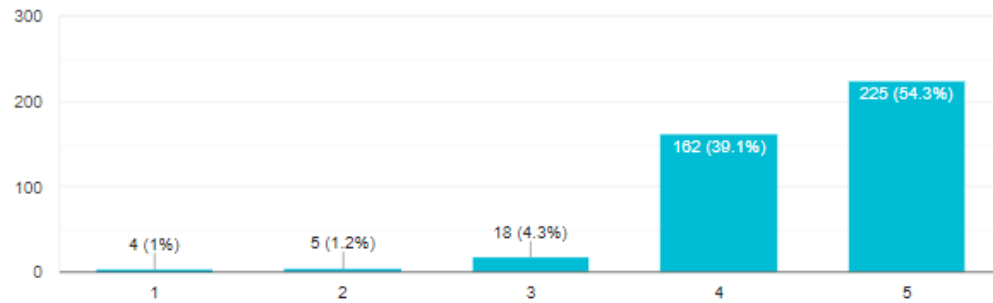


### Section C(i): Dietary Information

1. I know that having a proper diet will give me adequate or sufficient energy per day.

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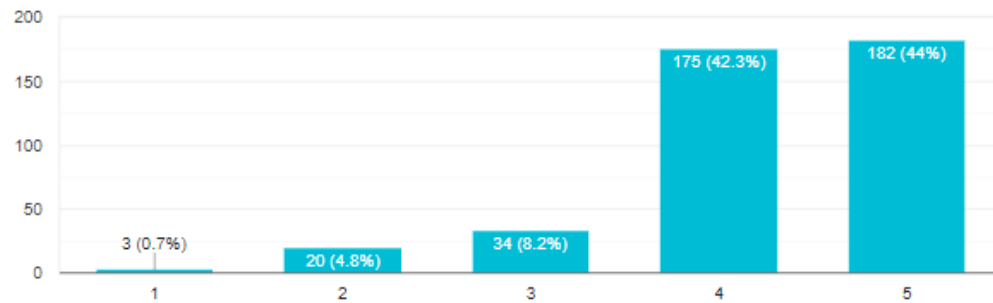
414 responses



2. I know which food provide different nutrients, such as proteins, carbohydrates, vitamins, and minerals.

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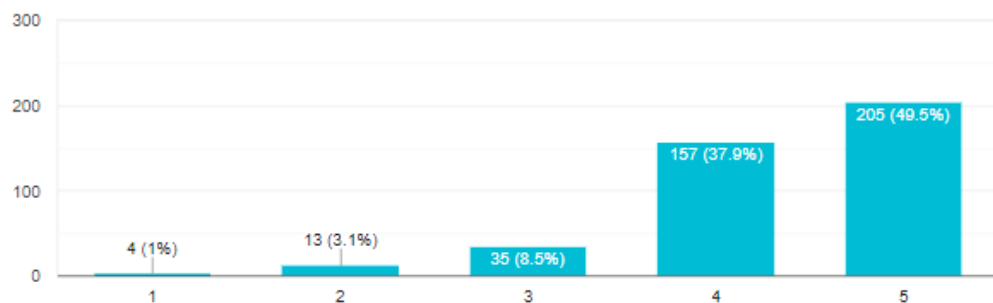
414 responses



3. I understand what will happen to my health if I eat or don't eat certain food.

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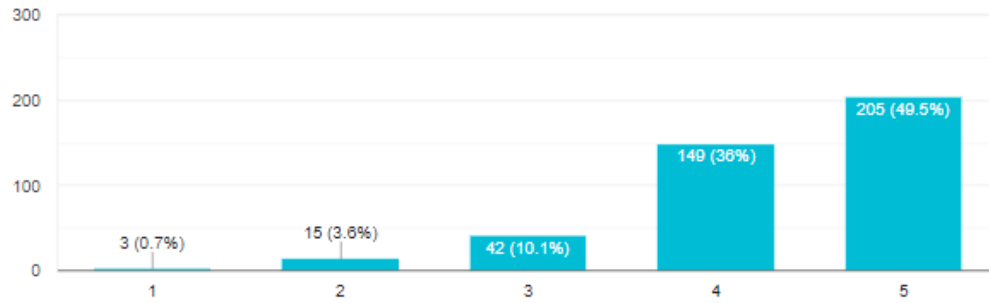
414 responses



4. I recognize what an adult should eat in a day.

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414 responses

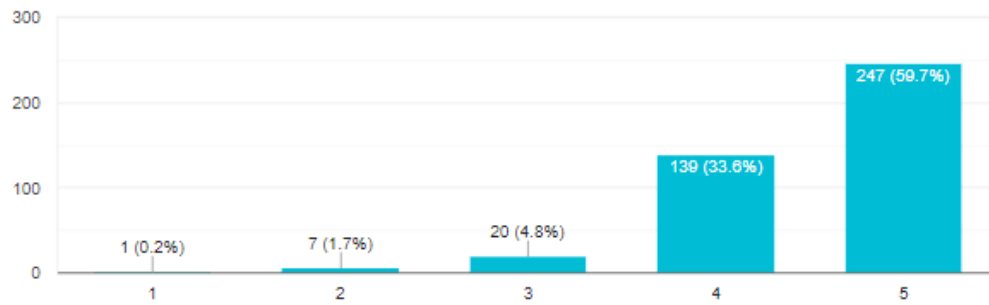


### Section C(ii): Dietary Motivation

1. Keeps me healthy.

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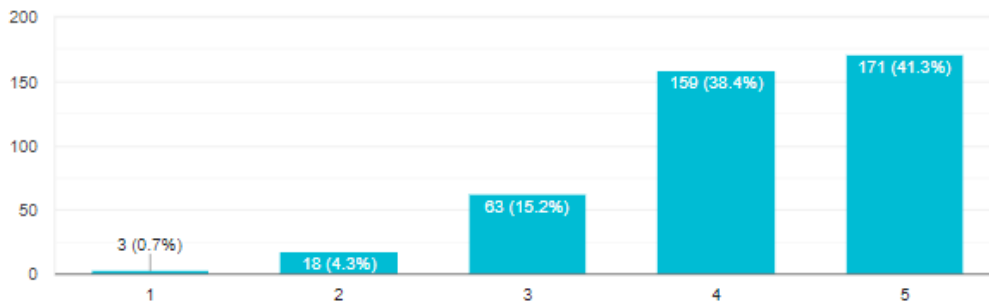
414 responses



2. Contains no additives.

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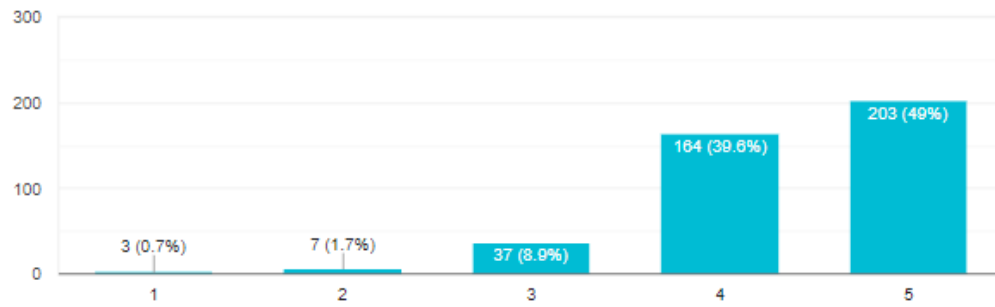
414 responses



### 3. Contains a lot of vitamins and minerals.

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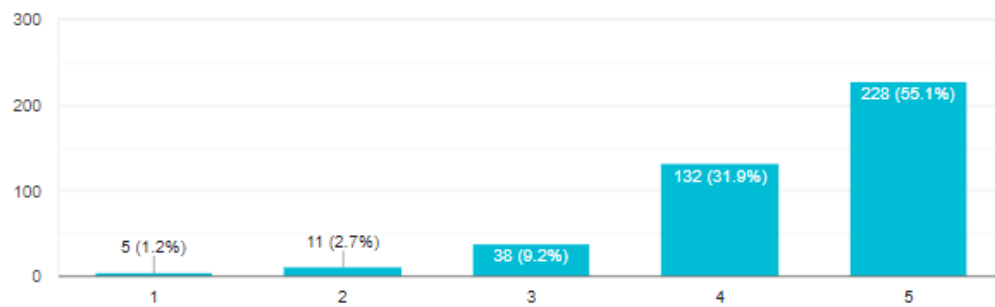
414 responses



### 4. Is good for my skin/teeth/hair/nails, etc.

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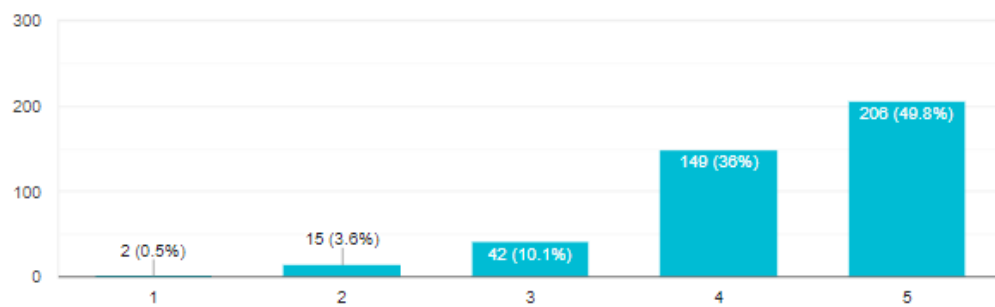
414 responses



### 5. Contains natural ingredients.

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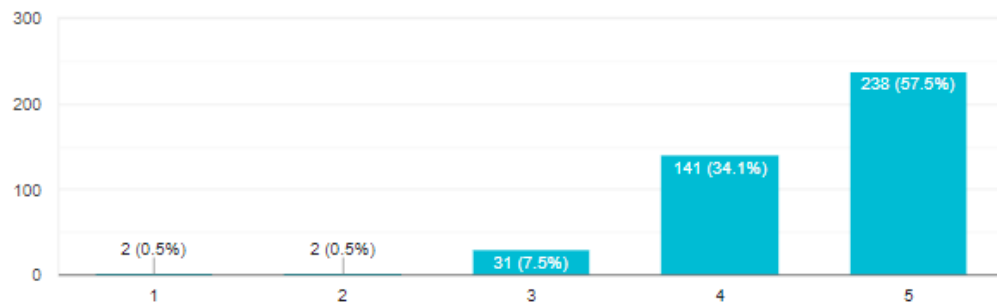
414 responses



6. Is nutritious.

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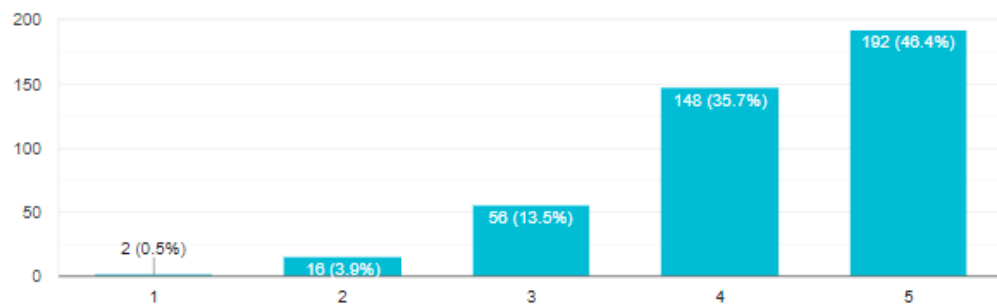
414 responses



7. Is high in fibre.

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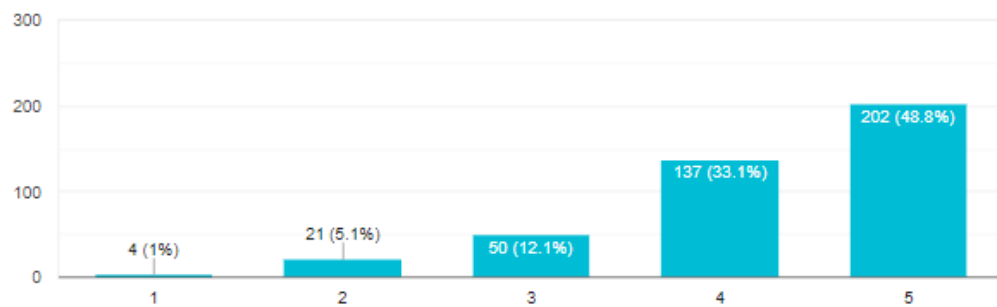
414 responses



8. Keeps me awake/alert.

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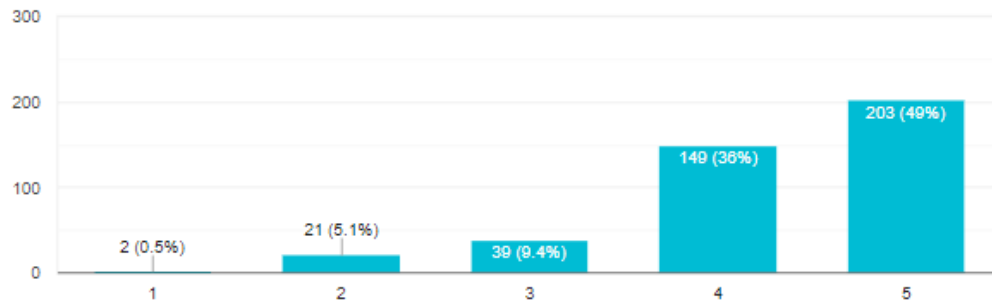
414 responses



9. Helps me to cope with life.

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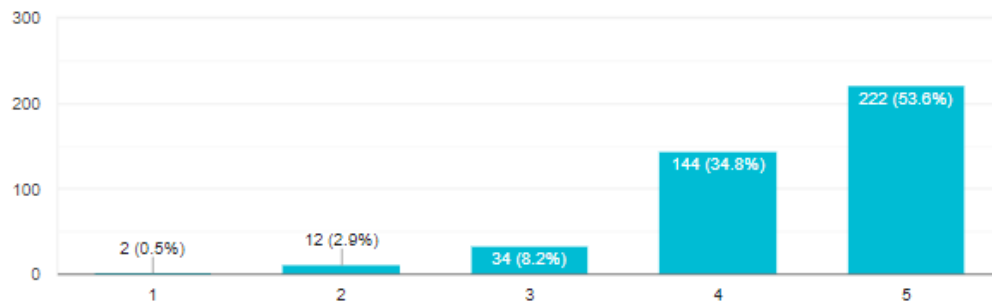
414 responses




10. Cheers me up.

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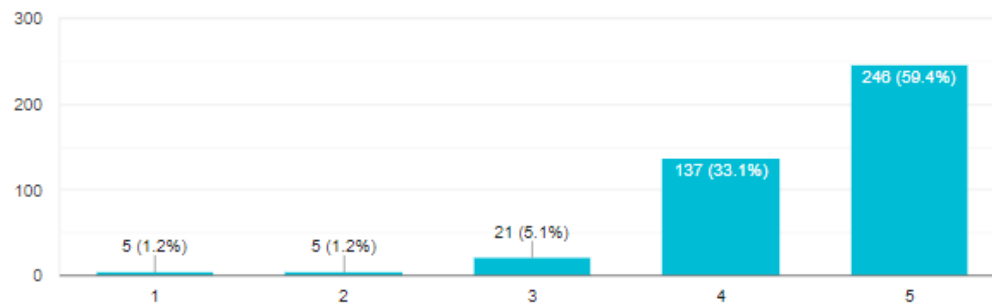
414 responses



11. Makes me feel good.

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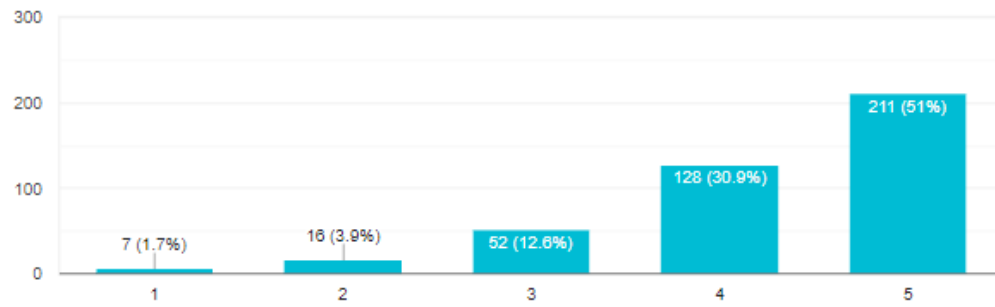
414 responses



12. Helps me cope with stress.

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414 responses

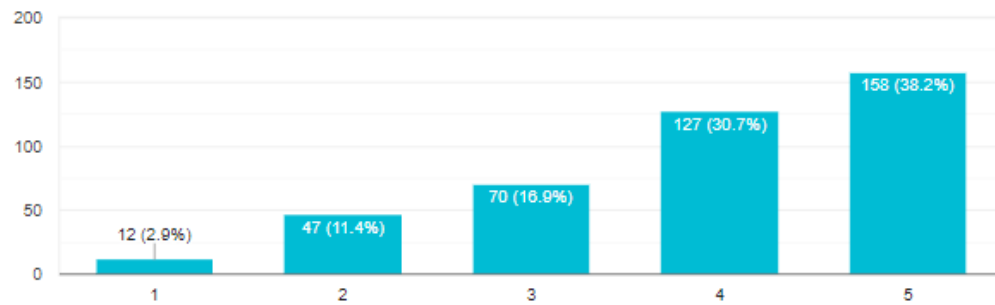


**It is important that what I eat:**

13. Is low in calories.

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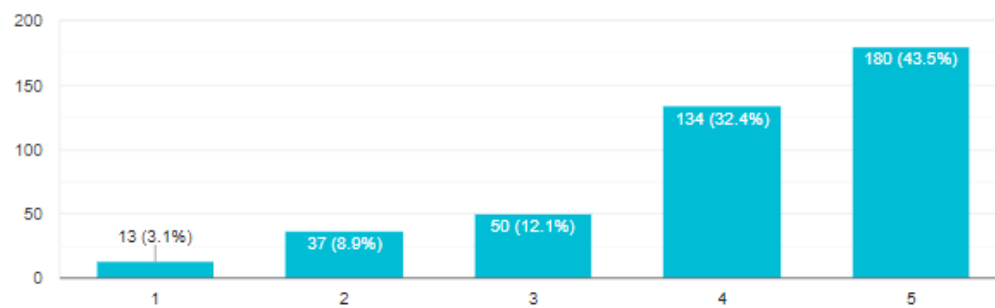
414 responses



14. Helps me control my weight.

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414 responses

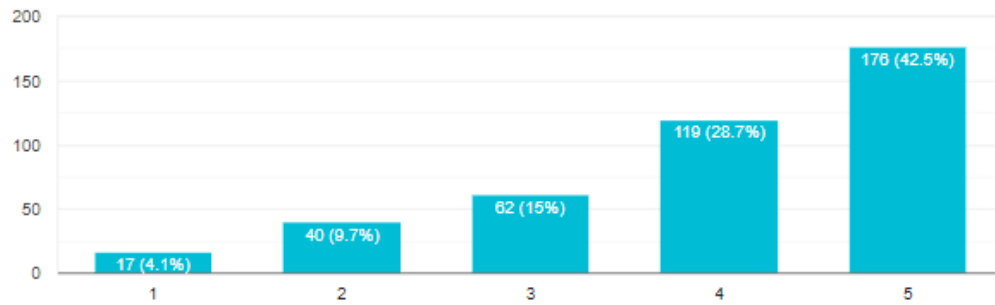




15. Is low in fat.

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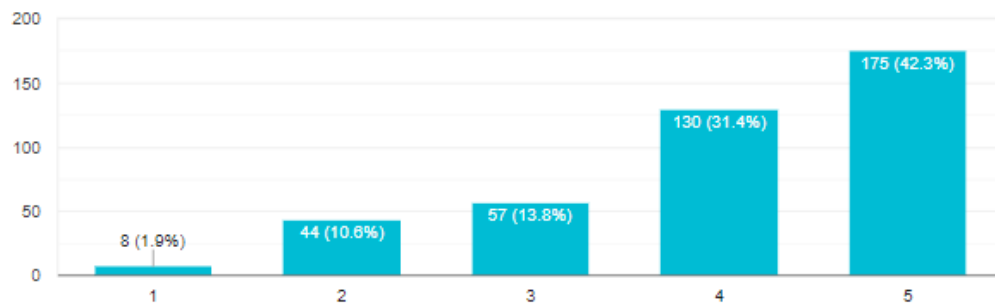
414 responses



16. Has been produced in a way that animals' rights have been respected.

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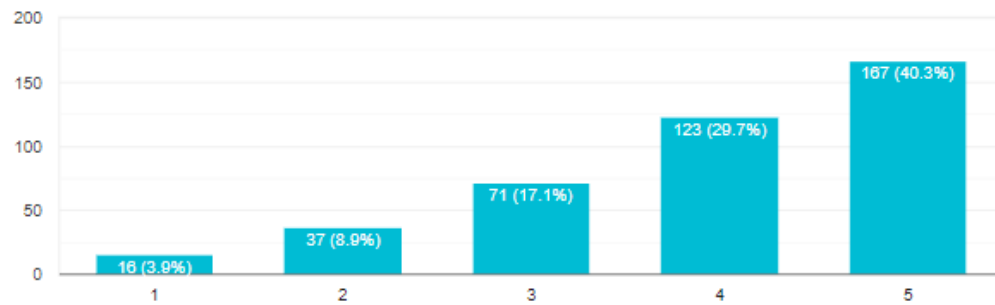
414 responses



17. Has been produced in a way that animals have not experienced pain.

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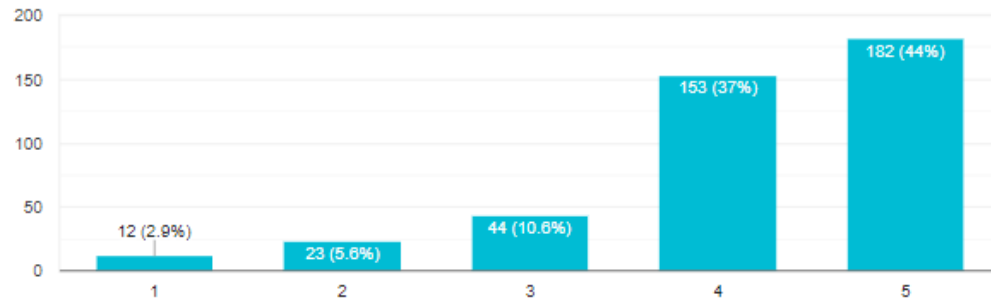
414 responses



18. Has been prepared in an environmentally friendly way.

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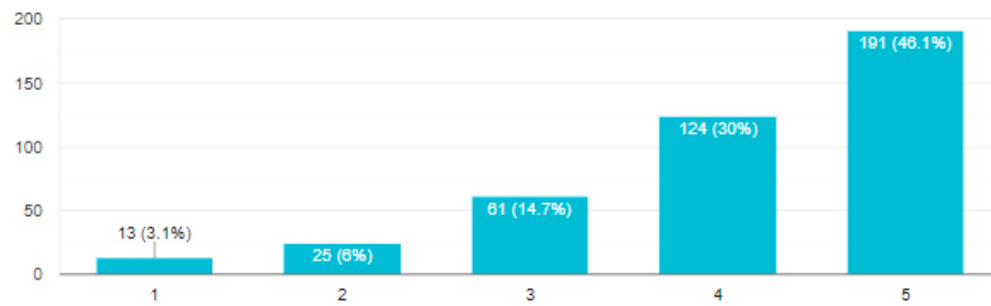
414 responses



19. Comes from a country in which human rights are not violated.

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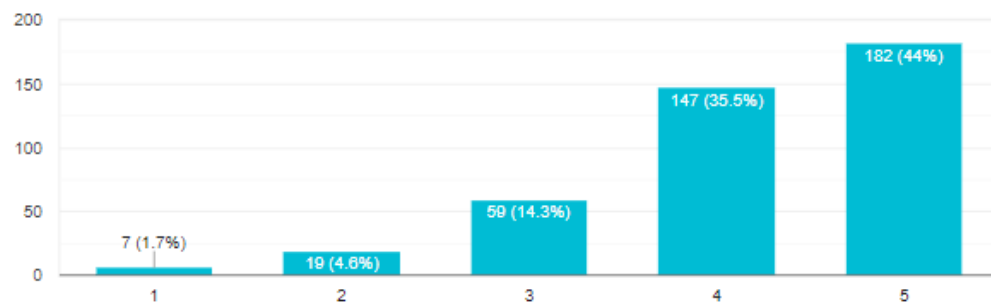
414 responses



20. Has been produced in a way which has not shaken the balance of nature.

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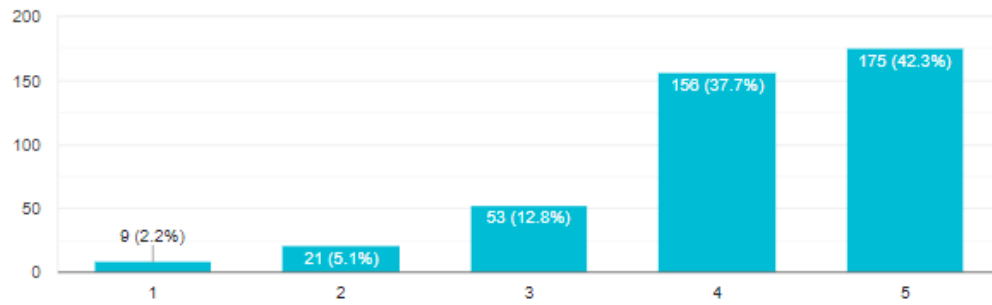
414 responses



21. Is packaged in an environmentally friendly way.

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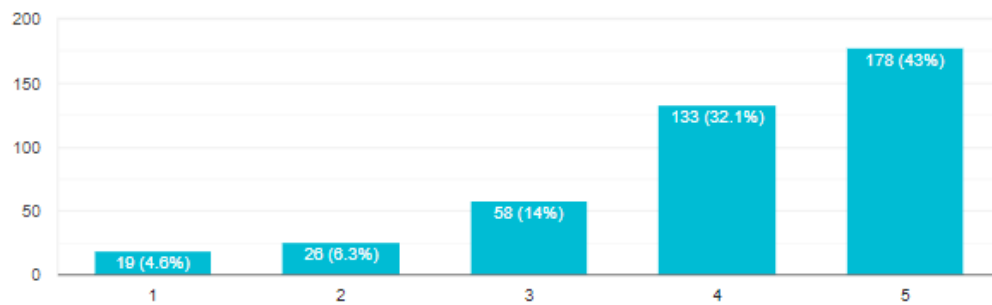
414 responses



22. Has been prepared in a way that does not conflict with my political values.

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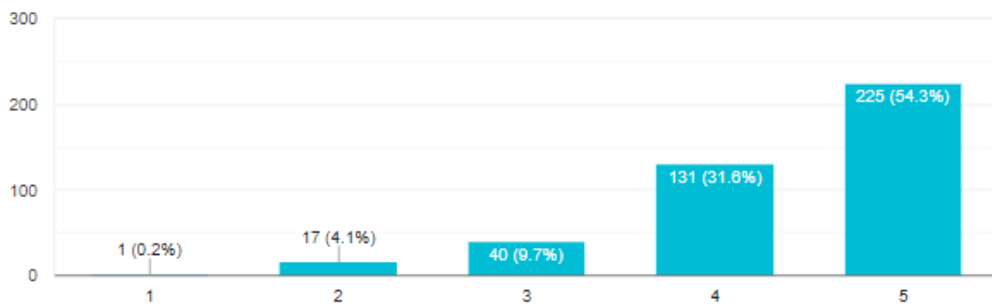


**It is important that what I eat:**

23. Is easy to prepare.

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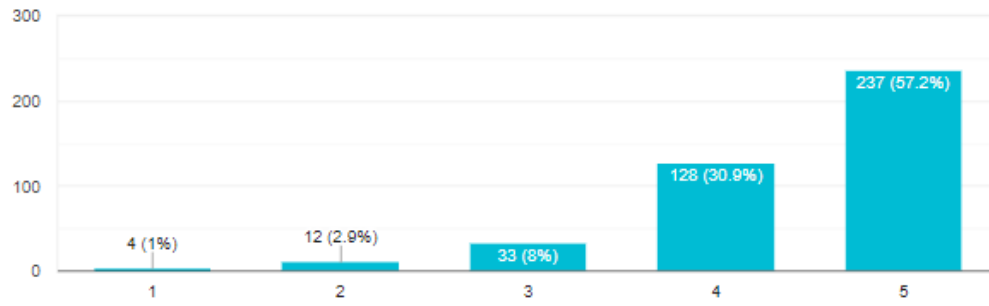
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24. Can be cooked very simply.

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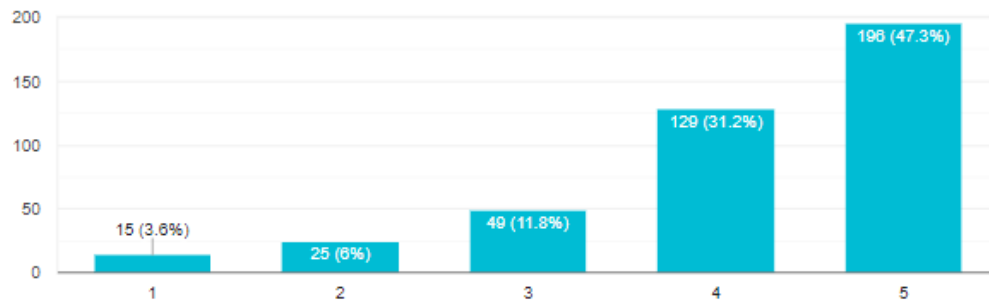
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25. Takes no time to prepare.

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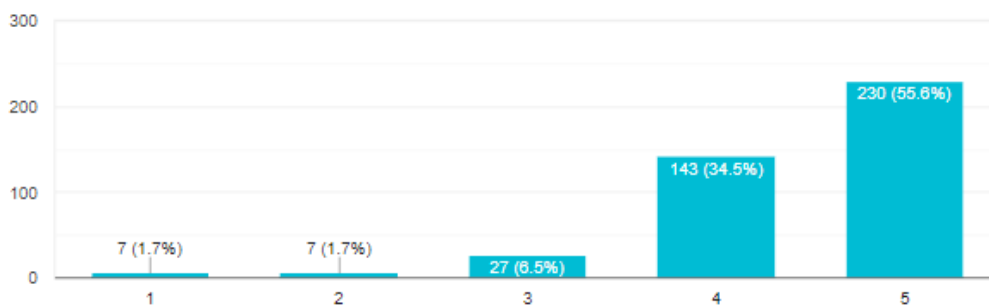
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26. Is easily available in shops and supermarkets.

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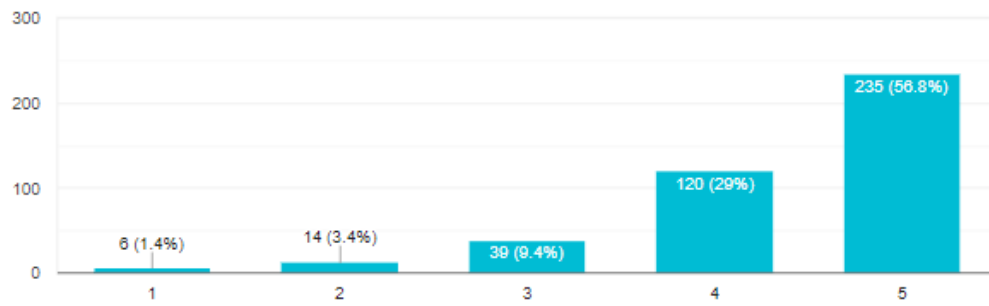
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27. Is not expensive.

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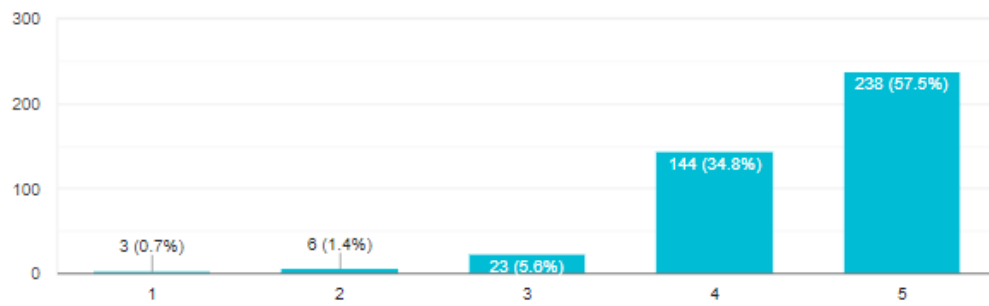
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28. Can be bought in shops close to where I live or work.

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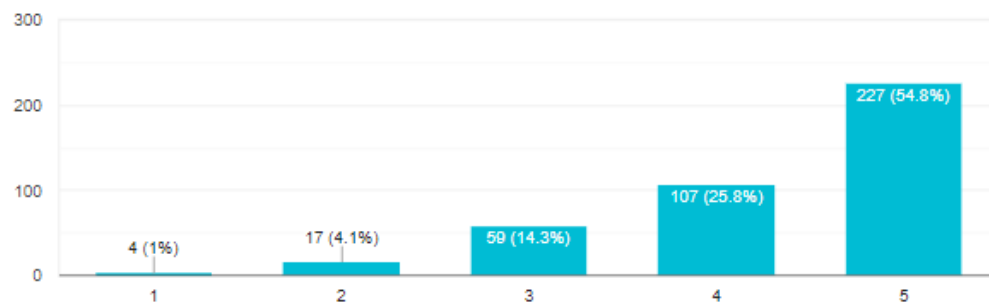
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29. Is cheap.

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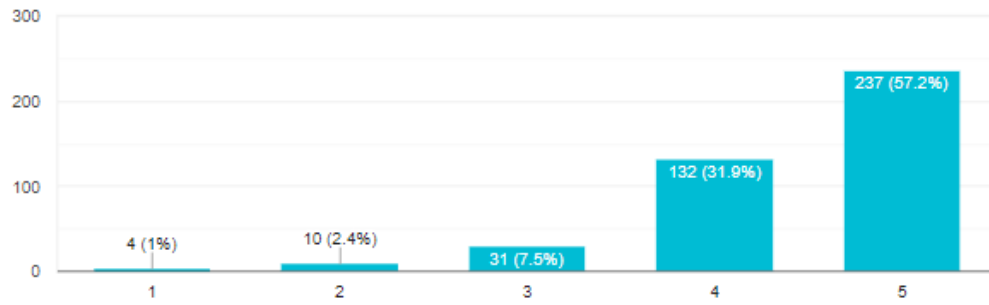
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30. Smells nice.

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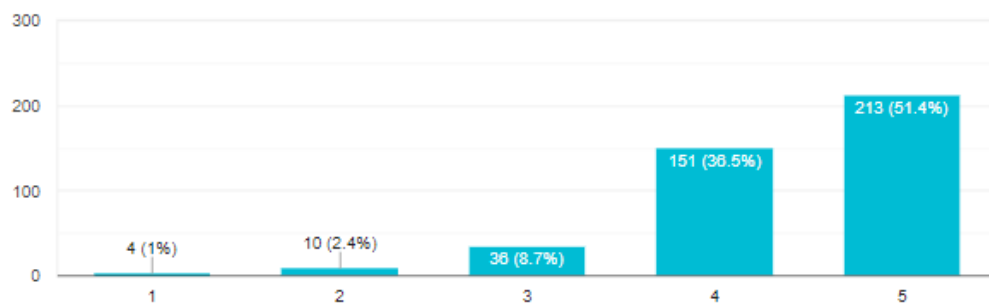
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31. Has a pleasant texture.

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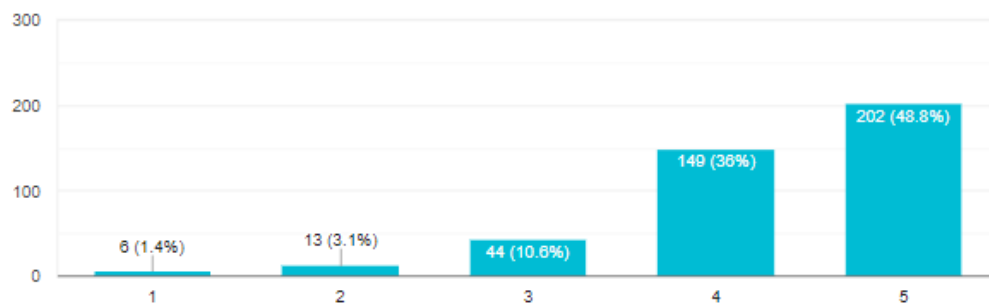
414 responses



32. Looks nice.

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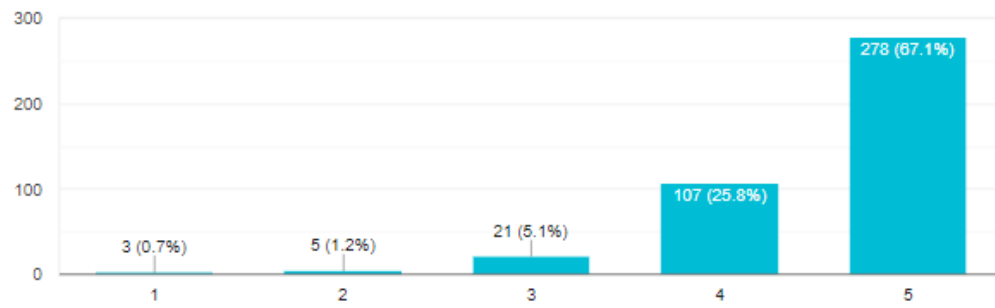
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### 33. Tastes good.

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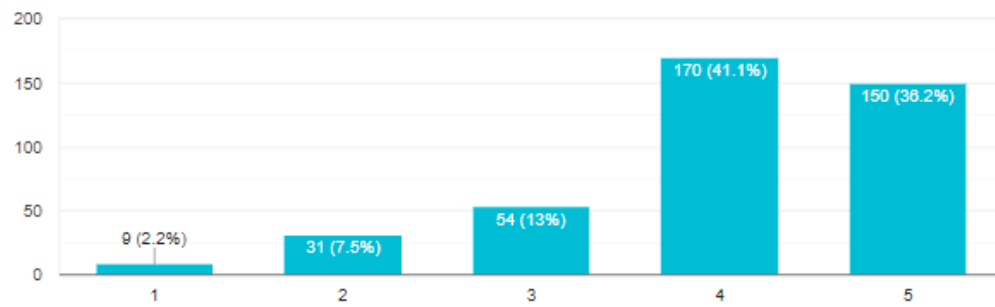


## Section C(iii): Dietary Health Literacy

### 1. I pay attention to nutrition and health information, identifying and applying correct information.

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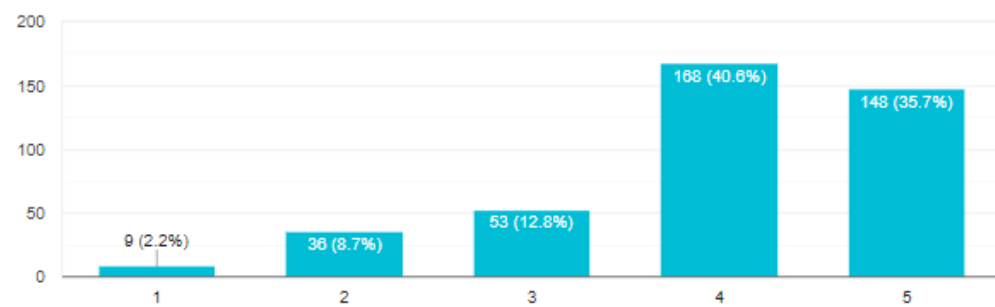
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### 2. I learn to estimate the amount of food and mix food reasonably.

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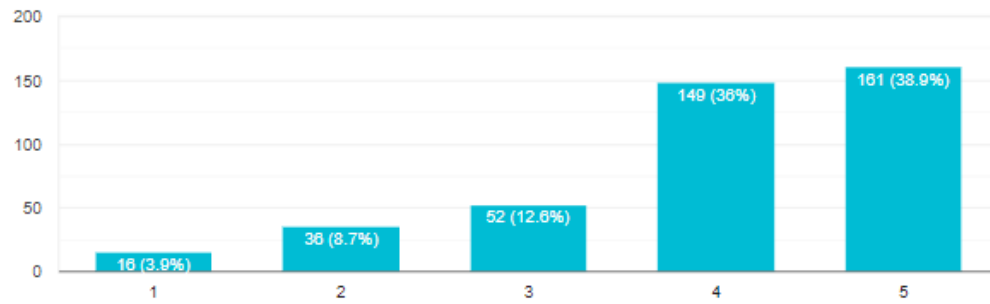
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3. I learn to read food nutrition labels and choose food reasonably.

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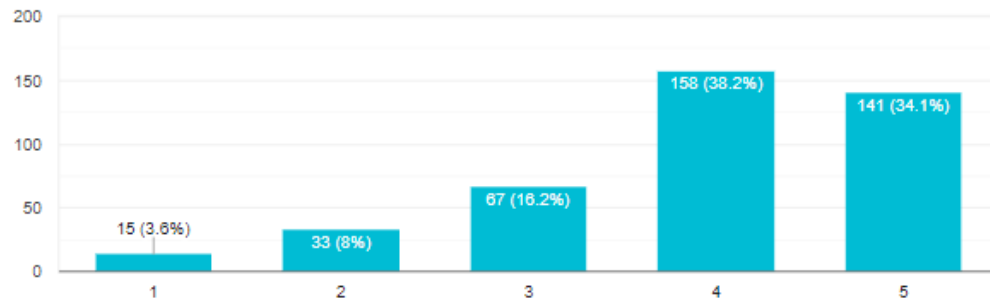
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4. I can make rational use of nutritious fortified foods or nutrient supplements and with the help of nutritionists and doctors.

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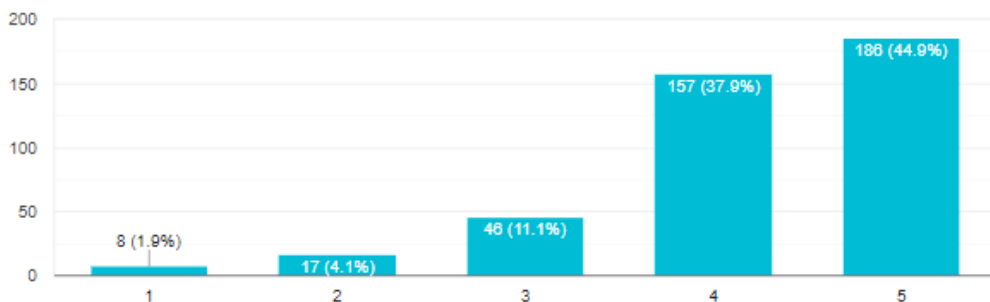
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5. I pay attention to food hygiene and learn to make rational use of surplus meals.

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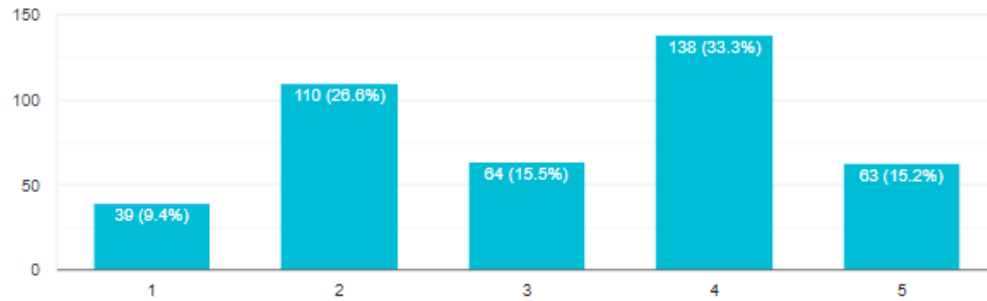


### Section C(iv): Dietary Behaviour

1. I eat a variety of foods, with an average of more than 12 types of food per day.

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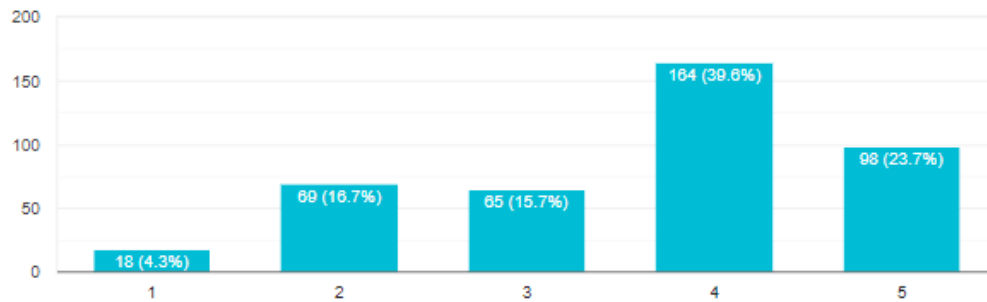
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2. I eat soft food, chewing carefully and swallowing slowly, eating smaller amount and more frequent meals, eating regularly and having a nutritious breakfast.

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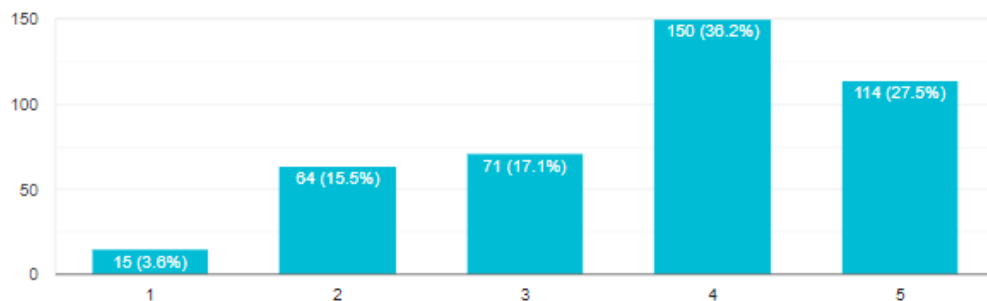
414 responses



3. I increase the intake of whole grains and miscellaneous beans.

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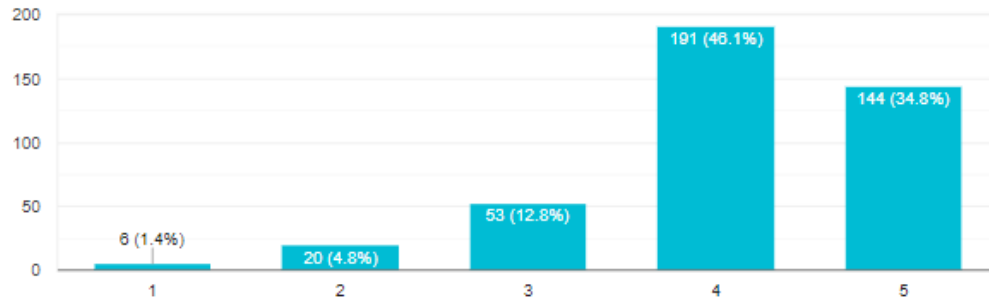
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4. I ensure I consume adequate high-quality protein, including fish, poultry, eggs, and meat.

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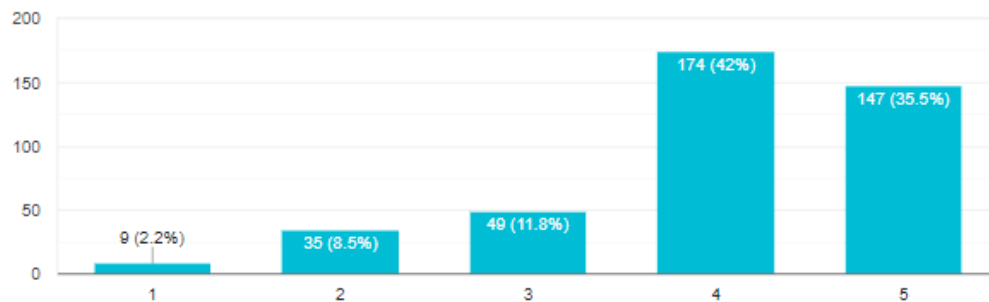
414 responses



5. I prioritize consuming sufficient fruits and vegetables daily.

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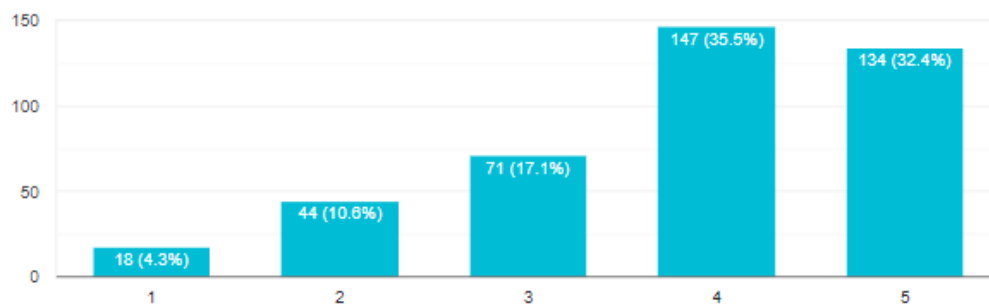
414 responses



6. I reasonably select high calcium food to ensure milk product and bean product intake.

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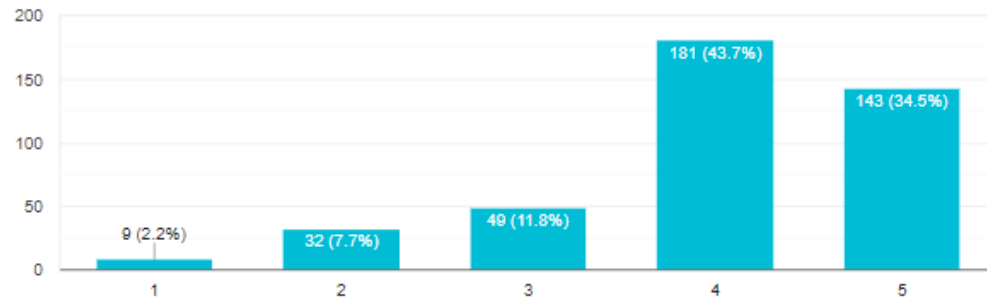
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7. I strive to reduce my intake of salt, oil, and sugar in my meals.

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8. I take the initiative to drink enough water, especially warm boiled water.

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