Factors Influencing Malaysian Readiness towards the Adoption of Plant-Based Diet

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Abstract
In recent decades, plant-based diets have garnered increased attention for their potential to improve health outcomes and mitigate environmental impact. This study scrutinizes the effects of Knowledge, Attitude, and Practice (KAP) as they relate to the adoption of plant-based diets among working adults within the dynamic, urban milieu of Klang Valley, Malaysia. The research adopts a robust quantitative methodology, leveraging a meticulously designed self-administered questionnaire, administered to 440 Malaysian citizens aged 18 and above. The questionnaire intricately scales the intricate dimensions of the respondents' health consciousness, sense of well-being, and perceived barriers to adopting a plant-based diets. To ensure empirical robustness, a reliability analysis was orchestrated, yielding consistently solid Cronbach's alpha values, reinforcing the integrity of the survey instrument. Statistical examinations of the compiled data were rigorously conducted using IBM's SPSS software. This included a comprehensive suite of normality tests and correlation analyses to mine deeper into the underlying patterns of the data. Results highlighted that while knowledge and attitude about plant-based diets correlate with willingness to adopt them, these factors do not predict a significant shift in actual dietary practices. Barriers such as limited availability of relevant information, lack of appealing and convenient food choices, self-perception biases, and information gaps were identified as primary factors hindering diet adoption. These findings suggest that targeted interventions are necessary to bridge the divide knowledge and increase plant-based diet appeal. Such efforts require coordinated marketing campaigns by government, health sectors, and food industries alongside consumer advocacy groups. The study not only informs intervention strategies but also provides a foundation for future research to navigate the challenges in the transition towards plant-based diets.
Keywords: Readiness, Adoption of Plant-Based Diet, Benefits and Barriers, Health-Consciousness, State of Well-Being

Introduction Plant-based diet is defined as an eating habit focusing primarily on plants which includes, not only fresh vegetables and fruits, but also seeds and nuts, variety types of grains, beans and seed-extracted oils. Reduced processed food consumption, cut the meat intake and lesser dairy products, choosing our food proportionately more from plant sources. Plant-based diet, that is having a greater proportion of daily meal from plant sources, are increasingly being acknowledged by health authorities globally. The prime reason for consuming plant-based diets is to gain nutrients from plants. By and large, plant-based eaters consume whole foods or foods that have undergone minimal industrial processing and have retained their natural state. Plant-based dietary patterns provide more health benefits by decreasing risk of disease, such as chronic heart diseases and several types of cancers (Maximova et al., 2020). Research revealed that low meat and non-meat eaters have a lower risk of diabetes, partly because of their lower body mass index (BMI). A note to emphasize is that non-meat eaters are generally having healthier lifestyles than meat eaters (Papier et. al., 2019). By employing a well-balanced and well-constructed diet, cardiovascular illnesses, which predominantly occur as a result of obesity or risk factors leading to obesity, could be averted (Gibbs & Cappuccio, 2022).

Plant-based diet is able to lower risk factors leading to the development of diseases, which is a great health benefit (Weinrich, 2019). This plant-based diet is gaining popularity these days, owing to the fact that, the general population has become more health concerned aside from the rising cost and expenditures on health care, medical expenses and medical insurance. Aside from health's concern, we may also need to think about the ethical considerations on animal welfare (reduce the killing) and its impact on climate change globally (World Health Organization, 2021). According to WHO's review (2021), the plant-based diet had the benefits that not only improve human's health status, but also reduce environmental issues that are associated with high consumption of animal-produce foods like dairy products and meat. This shift to plant-based dietary plan could be of great help in reducing global land usage for agriculture purposes, by reducing the amount of required land for animal grazing and growing crops for animal feed (Poore & Nemecek, 2018).

According to the review of International Diabetes Federations (2021), Table 1 indicates the Diabetes Atlas of Malaysia, it shown that, there are approximately 4.43 million Malaysian living with diabetes, the reported diabetes cases are increasing in an alarming rate compares to a decade ago, giving Malaysia the title of "Sweetest Nation in Asia" (AstraZeneca, 2021). According to CodeBlue (2021) a survey conducted by the Ministry of Health (MOH) found that the prevalence of overweight and obesity among Malaysian adults grew from 50.1 percent in year 2019 to 54.2 percent in year 2020. Thus, one in every two Malaysian adults is either overweight or obese. The Ministry of Health (MOH) recently stated that Malaysia's obesity rate has reached the "red alert" level.

Table 1
IDF Diabetes Atlas of Malaysia 2000-2045

Diabetes Estimates (20–79-Year-Old)	2000	2011	2021	2030	2045
People with diabetes, in 1,0005	596.7	2,029.9	4,431.5	5,024.9	6,465.4
Age-adjusted comparative prevalence of diabetes, %	-	12.1	19.0	18.9	19.6
People with undiagnosed diabetes, in 1,0005	-	-	2,175.6	-	-
Proportion of people with undiagnosed diabetes, %	-	-	49.0	-	-

Source: International Diabetes Federation (2021)

The New Standardized Malaysian Healthy Eating Index made the same recommendation. It urges Malaysians to consume an adequate number of fruits and vegetables daily, nuts and seeds on a weekly basis, and whole grains for at least half of their daily cereal intake (Jailani et. al., 2021). According to a WHO analysis published in 2021, plant-based diets are associated with a lower risk of early death and provide protection against a variety of non-communicable diseases (NCDs). Likewise, Malaysia has the highest prevalence of obesity among adults in South-East-Asia. According to the National Health and Morbidity Survey conducted in Year 2015, 50.1 percent of the adult population were reported to be overweight (30.4 percent) or obese (19.7 percent). Obesity is a risk factor for non-communicable diseases (NCDs) such type 2 diabetes, cardiovascular diseases, and numerous cancers initiators, include: breast cancer, large intestine cancer, pancreatic and kidney cancers. Obesity raises the risks of type 2 diabetes by 7-fold in men, and 12-fold in women compared with normal-weight adults (Jailani et. al., 2021).

Transitioning away from unhealthy ingredients in food consumption and toward more natural plant-based sources is critical for addressing the importance of an individual's health and future sustainability. However, because the evidence for the transitions is scattered, it impairs our capacity to establish and design collaborative efforts to solve the associated difficulties (Grac et. al., 2019). Recent Malaysian-based healthcare research have emphasized the importance of personal hygiene in relation to nutrition and disease. However, investigations on knowledge, attitude, and behavior with a focus on an individual's healthy lifestyle are uncommon (Hiew et. al., 2015).

There is no published data on the percentage of vegetarians (vegetarians) in Malaysia (Gan, et. al., 2018). There is insufficient public evidence to determine the real number of vegetarians in Malaysia and their attitudes toward a vegetarian diet (plant-based diet), as Islam claims Islam (2018), although prior studies have been undertaken, they were limited to a specific population in Malaysia. Mohamed, Z. et. al., (2017) surveyed Chinese consumers' attitudes about vegetarian cuisine and diets, whereas Gan et al (2018) compare the nutritional values of Buddhist organizations. As a result, we would like to focus this research

study on gaining additional insights to promote the adoption of plant-based diets, thereby contributing to individual health and sustainable food choices.

Methodology
Research Design and Sampling
An online questionnaire is carefully designed to collect the primary and quantitative data from the targeted group in order to gather more information about their current knowledge, attitude and practices about plant-based diet. The questionnaire took an estimated 10 mins to complete. It helps to examine respondents' health-consciousness, state of well-being status and their personal barriers towards the adoption of plant-based diet. According to Department of Statistics Malaysia, the employment work force populations at Federal Territory of Kuala Lumpur in Year 2020 is 910,600 (Department of Statistics Malaysia Official Portal, 2021). The researchers sourced the sample size based on the review by Krejcie & Morgan (1970), the sample size of respondent for such populations in Klang Valley would be 384 Malaysian citizens that is under employment, working and staying at Klang Valley, with age of 18 and above.

Questionnaire
Questionnaire via google form is designed to collect the primary and quantitative information from the respondent. It is an online, web-based survey form with 15 items used to gather the knowledge, attitude, and practice from the respondents with 5 items in each section by using Simple Random Sampling. The questionnaire is divided into four main categories, namely Section A, B, C and D as described:

Section A was designed mainly to collect demographic information from the targeted respondents. There are five statements compulsory to be filled, namely gender, ethnicity, age, educational background and working location. Section B measures respondents health-consciousness towards the food they choose daily, the correct portions to consume and the cooking method. It consists of 5 statements. Section C measures respondents' perception on how well they seen plant-based diet could bring more positive or negative impacts to his or her health status. It consists of 5 statements to assess if the respondent is willing to shift their dietary pattern to improve their optimal health status. Section D measures respondents' practices in changing their dietary pattern. It helps to assess if they are willing to overcome the mental and practical challenges that arise by shifting their diet plans. It consists of 5 statements in total. Section E measures the outcome, it is made up of 5 statements to assess the tendency and frequency of the change in the gradual rate towards the adoption of plant-based diet in the daily routine. All of the mentioned statements in Sections B, C, D and E were closed ended. There are being measured by using Likert 5-point Scale that carry the values ranging from 1 to 5, which 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=agree and 5=Strongly Agree.

Reliability of the Instrument
A reliability test had been conducted and the findings for both independent and dependent variables indicate consistency free from random errors (Livingston, S. A. et al., 2018). The interpretation of Cronbach's alpha for reliability analysis is as follows: Consumers' health-consciousness (Knowledge) received a value of 0.866. Consumers' state of well-being (Attitude) received a value of 0.902. Consumers' personal barriers (Practice) received a value

of 0.820. Each section contains 5 statements respectively, the obtained value is between $0.80 \leq \alpha < 0.90$ which considered having very good reliability of coefficient as illustrated in Table 2.

Table 2
Reliability Analysis of Factors Influencing the Adoptions of Plant-Based Diet for Actual Data Collection

Dependent Variables

Variable	Case Processing Summary	n	%	Cronbach's Alpha	No. of Statements
Adoption of plant-based diet	Valid	391	100		
	Excluded	0	0	0.899	5
	Total	391	100		

Independent Variables - Influencing Factors

Variables	Case Processing Summary	n	%	Cronbach's Alpha	No. of Statements
Consumers' health-consciousness	Valid	391	100		
	Excluded	0	0	0.866	5
	Total	391	100		
Consumers' state of well-being	Valid	391	100		
	Excluded	0	0	0.902	5
	Total	391	100		
Consumers' personal barriers	Valid	391	100		
	Excluded	0	0	0.820	5
	Total	391	100		

Data Collection
The survey link was being posted into the biggest social network platform in Malaysia, Facebook. According to Bernama, we have approximately 28 million face-bookers in Malaysia as of January 2021. In Facebook, people can join certain groups by their interest and lifestyle. By providing a link with such description of the survey to that specific group, the members in such group will be able to take part in the research. Apart from this, the questionnaire link was given within some private chat group via WhatsApp, Messager and Telegram platform, with that, the responders are urged to participate and share the connection with others as well. Around 150 responses were obtained within the first week, to catch up with the required respondent rate, second and third rounds of questionnaire blasts were produced and being posted. Several follow up and reminders were sent to the targeted audiences for better and faster responses. There are a total of 440 returned questionnaires received, with 49 being eliminated owing to its null information and incompleteness. Hence, 391 responses were measured and analyzed in this study (89 percent).

Statistical Analysis

All of the collected data from the total of 391 respondents are to be imported and analyzed by using IBM's SPSS version 29 (Statistical Package for the Social Sciences) Software program. Results were represented mainly by frequencies and percentages. Two (2) types of statistical methods are being employed, namely descriptive and inferential statistics. With the interest of examining the correspondence relationship between independent and dependent variables towards the outcome, the correlation analysis on statistics was adopted in this study. The normality test was being performed before determining the decision on using Pearson Product-Moment Correlation Coefficient or Spearman's Rank-Order Correlation.

Results

Demographic Profile

A brief demographic analysis was made on the 391 respondents' data, which were gathered from Section A of the questionnaires. This is a self-constructed statement to collect basic demographics data of the participants such as gender, race, age, educational level and working locations. Related socio-demographic information was presented in Table 3. There's total of 61.9 percent female respondents participated in the research study as compares to 38.1 percent of male respondents. This analysis indicates that, female respondents had higher participation rate as compared to male respondents. Majority, 54.7 percent, are Chinese, followed by Malays at 28.4 percent, Indians at 15.1 percent, and others at 1.8 percent, primarily Dusun and Kadasan. The greatest reply rate overall is 24 percent, which was supplied by individuals aged 21 to 30 years and 41 to 50 years, respectively. 18.7 percent of respondents were between the ages of 31 and 40, 20.5 percent were between the ages of 51 and 60, and 8.2 percent were under the age of 21. The majority of respondents (50.1 percent) were degree holders, with degrees ranging from Bachelor to PhD. Diploma holders made up the remaining 25.1 percent of the total. SPM graduates accounted for 23 percent of the total, with others accounting for 1.8 percent (UEC holder). Every single one of the 391 respondents is employed and lives in the Klang Valley region.

Table 3
Demographic Profile of the Respondents n=391

Variables		N=391	Percentage (%)
Gender	Male	149	38.1
	Female	242	61.9
Ethnicity	Malay	111	28.4
	Chinese	214	54.7
	Indian	59	15.1
	Others	7	1.8
Age	Below 21 years old	32	8.2
	21-30 years old	94	24.0
	31-40 years old	73	18.7
	41-50 years old	94	24.0
	51-60 years old	80	20.5
	Above 60 years old	18	4.6
Educational Background	SPM	90	23.0
	Diploma	98	25.1
	Bachelor's degree	144	36.8

	Master's degree	50	12.8
	PHD	2	0.5
	Other	7	1.8
Working Location	Klang Valley	391	100.0

Analysis of Influencing Factors
Consumers' Health-Consciousness (Knowledge)
This section of the research investigation has identified five claims. It typically covers food selections, the notion of menu planning, food preparation methods, and the eating habits of the individual. According to the findings presented in Table 4, 315 respondents agreed that following a plant-based diet entails consuming a greater proportion of their food from plant sources. 285 respondents agreed that two and three servings of fruits and vegetables per day, respectively, should be the optimal serving mix for fruits and vegetables. 221 respondents agreed that steaming food is preferable rather than deep-frying it, and the vast majority of them (307 respondents) agreed that eating healthy means minimizing the amount of artificial food additives in our regular meals. 326 of those who answered agreed that, in addition to eating healthier, exercising regularly to maintain an optimum body weight is essential for staying healthy.

Table 4
Demographic Profile of the Respondents n=391

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Plant-based diet means eating varieties of fruits and vegetables, seeds, grains, nuts, and beans. Choosing our food proportionately more from plant sources.	2	8	66	100	215
Healthy Lifestyles include exercising regularly, a healthy diet, and healthy body weight.	2	5	58	82	244
The right mix is eating 2 (two) servings of fruit and 3 (three) servings of vegetables per day	4	18	84	117	168
I would choose to steam my food than deep-frying them.	8	36	126	88	133
Eating a more "clean & natural" diet means reducing artificial food additives	1	11	72	83	224

Consumers' State of Well-Being (Attitude)

This section of the research investigation has identified five claims. A total of 5 statements were prepared for the questionnaire in order to determine whether or not consumers were willing to change their present diet in order to adopt a healthy lifestyle in order to achieve optimal health. A Likert scale with five points was used to evaluate each item. According to the data in Table 5, 323 respondents believed that increasing the consumption of fruits and vegetables can assist to alleviate the constipation problem. In contrast, 297 respondents believed that a plant-based diet can aid in the prevention of high blood pressure and high cholesterol levels. In order to obtain optimal health status, 315 respondents decided to begin practicing good living habits immediately. 286 respondents agreed to adopt a plant-based diet, with 267 respondents willing to alter their dietary habits in order to improve their health status.

Table 5
Consumers' state of Well-Being (Attitude) n=391

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Consuming more fruits and vegetables can help me to overcome constipation	1	11	56	95	228
I feel that plant-based eating can help me reduce my high blood pressure and cholesterol level.	1	9	84	103	194
I feel that plant-based eating can help me for optimal health status	2	20	83	92	194
I am willing to change my current diet to improve my health status.	5	17	102	106	161
I can obtain optimal health if I start to practice healthy lifestyle now.	2	6	68	102	213

Consumers' Personal Barriers (Practice)

This research study element had identified 5 statements Items included in this section, were about daily practices in choosing and consuming plant-based diet, to eat "clean & natural". The main purpose is to find out if there's any personal challenges that stop them from adopting the plant-based diet, ranging from meat attachment, less delicious plant-based eating, limited choices when eat out, cooking tips are too limited, or meal preparations are too complicated to handle. From the findings illustrated in Table 6, 162 respondents agreed it's hard to access the relevant information on plant-based meal preparation and hence 126 respondents agreed getting a plant-based meal prepared is complicated. 127 respondents agreed plant-based diet is tasteless while 134 respondents agreed that they cannot go without meat. There are 221 respondents who agreed there's limited choice of plant-based diet when eating out.

Table 6
Consumers' Personal Barriers (Practice) n=391

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I've tried plant-based, to eat "clean & natural", I find it tasteless and less delicious.	88	84	92	66	61
I've tried plant-based, to eat "clean & natural", but I am not able to let go meat.	98	69	90	65	69
Relevant information on plant-based meal preparation is limited.	61	52	116	109	53
I find plant-based meal preparation steps are too complicated	62	62	141	84	42
I have limited choices of plant-based meals when I eat out.	24	35	111	97	124

The Adoption of Plant-Based Diet

As a result of the observations shown in Table 7, 298 respondents agreed to increase the number of servings of fruits and vegetables consumed daily, and 287 respondents agreed to eat a variety of fruits and vegetables, seeds, grains, nuts, and beans. 253 respondents agreed to consume fewer dairy products, while 212 respondents agreed to eliminate meat from their daily diets, according to the survey results. Only 192 respondents indicated that they will continue to follow a plant-based diet for the next six months.

Table 7
The Adoption of Plant-Based Diet n=391

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I will start to increase fruits and vegetables serving into my daily meal.	9	11	73	107	191
I will start to eat varieties of fruits and vegetables, seeds, grains, nuts, and beans.	8	13	83	108	179
I will choose my food proportionately more from plant sources and lesser dairy consumption.	14	35	89	134	119
I will choose my food proportionately more from plant	24	55	100	95	117

sources, lesser dairy consumption and cut out meat intake.					
I am confident to maintain plant-based diet in the next 6 months	36	45	118	83	109

Normality Test by Q-Q Plot

When comparing the two probability distributions, the Q-Q Plot was used as evidence for normality tests, which allowed the researchers to determine if there were any extreme outliers for the adoption of a plant-based diet, with its influencing factors, in terms of Consumers' health-consciousness, Consumers' state of well-being, and Consumers' personal barriers, in this research study. On the basis of the overall findings, which are depicted in Figures 1 to 4 in the Supplementary Material. It was determined that all variables investigated showed signs of non-parametric distribution. This is either getting a specified distribution in unspecified parameters or getting a defined distribution in unspecified parameters. Consequently, the Spearman's Rank Correlation Coefficient was used to determine the correlations between the variables in the analysis.

Correlation Analysis

Table 8 indicates a moderate to strong correlation between consumers' health consciousness and their willingness to adopt a plant-based diet. Additionally, the fact that the correlation p-value varies from 0.311 to 0.599 suggests that the tested two variables have moderate to high correlations with one another; in other words, when one variable changes, the other variable has a moderate or strong propensity to increase as well.

Table 8
Correlation Analysis-Consumers' Health Consciousness Towards the Adoption of Plant-Based Diet

Spearman's Rho Correlations						
Consumers' health consciousness towards the adoption of plant-based diet		I will start to increase fruits and vegetables serving into my daily meal	I will start to eat varieties of fruits and vegetables, seed, grains, nuts, and beans	I will choose my food proportionately more from plant sources and lesser dairy consumption	I will choose my food proportionately more from plant sources, lesser dairy consumption and cut out meat intake	I am confident to maintain plant-based diet in the next 6 months
Plant-based diet means eating varieties of fruits and vegetables, seeds, grains,	Correlation Coefficient	0.539	0.545	0.456	0.343	0.326
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391

nuts, and beans. Choosing our food proportionately more from plant sources						
Healthy lifestyles include exercising regularly, a healthy diet, and healthy body weight	Correlation Coefficient	0.521	0.514	0.387	0.313	0.311
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
The right mix is eating two servings of fruit and three servings of vegetables per day	Correlation Coefficient	0.599	0.576	0.448	0.296	0.364
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
I would choose to steam my food than deep-frying them	Correlation Coefficient	0.494	0.562	0.525	0.518	0.494
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
Eating a more "clean & natural" diet means reducing artificial food additives	Correlation Coefficient	0.599	0.598	0.495	0.413	0.411
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391

Table 9 illustrated the Correlation Analysis between Consumers' state of well-being towards the adoption of plant-based diet, its correlation p value is ranging from 0.342 to 0.624, it represents the tested 2 variables are having moderate to strong correlations to each other, in other word, when one variable change, the other variable has a moderate to strong tendency to increase as well.

Table 9

Correlation Analysis-Consumers' State of Well-Being Towards the Adoption of Plant-Based Diet

Spearman's Rho Correlations						
Consumers' state of well-being towards the adoption of plant-based diet		I will start to increase fruits and vegetables serving into my daily meal	I will start to eat varieties of fruits and vegetables, seed, grains, nuts, and	I will choose my food proportionately more from plant sources and lesser	I will choose my food proportionately more from plant sources, lesser dairy	I am confident to maintain plant-based diet in the next 6 months
Consuming more fruits and vegetables can help me to overcome constipation	Correlation Coefficient	0.626	0.598	0.445	0.314	0.313
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
I feel that plant-based eating can help me reduce my high blood pressure and cholesterol level	Correlation Coefficient	0.608	0.624	0.505	0.471	0.459
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
I feel that plant-based eating can help me for optimal health status	Correlation Coefficient	0.620	0.591	0.492	0.449	0.419
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
I am willing to change my current diet to improve my health status	Correlation Coefficient	0.575	0.628	0.561	0.540	0.565
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
I can obtain optimal health if I start to practice healthy lifestyle now	Correlation Coefficient	0.598	0.590	0.428	0.342	0.411
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	391	391	391	391	391

Table 10 illustrated the Correlation Analysis between Consumers' personal barriers towards the adoption of plant-based diet, its correlation p value is in negative value, ranging from -0.420 to 0.240, it represents the tested 2 variables have moderate negative correlations to each other, the negative value represents, when one variable change, the other variable has the tendency to decrease.

Table 10

Correlation Analysis-Consumers' Personal Barriers Towards the Adoption of Plant-Based Diet

Spearman's Rho Correlations

Consumers' personal barries towards the adoption of plant-based diet		I will start to increase fruits and vegetables serving into my daily meal	I will start to eat varieties of fruits and vegetables, seed, grains, nuts, and beans	I will choose my food proportionately more from plant sources and lesser dairy consumption	I will choose my food proportionately more from plant sources, lesser dairy consumption and cut out meat intake	I am confident to maintain plant-based diet in the next 6 months
I've tried plant-based to eat "clean & natural". I find it tasteless and less delicious	Correlation Coefficient	-0.092	-0.198	-0.223	-0.284	-0.308
	Sig. (2-tailed)	0.070	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
I've tried plant-based, to eat "clean & natural", but I am not able to let go meat	Correlation Coefficient	-0.092	-0.235	-0.297	-0.408	-0.420
	Sig. (2-tailed)	0.070	0.000	0.000	0.000	0.000
	N	391	391	391	391	391
Relevant information on plant-based meal preparation is limited	Correlation Coefficient	-0.026	-0.062	-0.136	-0.211	-0.230
	Sig. (2-tailed)	0.614	0.224	0.007	0.000	0.000
	N	391	391	391	391	391
I find plant-based meal preparation steps are too complicated	Correlation Coefficient	-0.064	-0.111	-0.186	-0.322	-0.264
	Sig. (2-tailed)	0.205	0.028	0.000	0.000	0.000
	N	391	391	391	391	391
I have limited choices of plant-based meal when I eat out	Correlation Coefficient	0.240	0.237	0.163	0.082	0.055
	Sig. (2-tailed)	0.000	0.000	0.001	0.107	0.275
	N	391	391	391	391	391

Discussion

The results of this research study have showed a major association between Consumers' health consciousness, Consumers' state of well-being, Consumers' personal barriers towards the adoption of plant-based diet. Most of the respondents understand that consuming a plant-based diet involves eating types of fruits and vegetables, seeds, grains, nuts, and legumes. Choosing food proportionately more from plant sources. They agreed that gaining healthy Lifestyles include exercising regularly, having a healthy diet, and healthy body weight with the proper combination of consuming 2 (two) portions of fruit and 3 (three) servings of vegetables each day. Choosing a healthier manner of cooking and reducing the artificial ingredients in their regular food. Most of the participants reported ingesting more fruits and vegetables aids to overcome constipation, lowered blood pressure and cholesterol level. They feel consuming plant-based food assists for optimal health and agreed to shift the present diet and practice healthy living.

Most of the participants feel eating more "clean and natural" is insipid and less pleasant. Though, majority of the participants are eager to let go meat attachment, but they think the relevant information of plant-based diet preparation is restricted and the methods are complicated on top of the limited alternatives available when they choose to dine out. Most of the survey respondents agreed to consume plant-based diet by increasing the portion and types of fruits and vegetables, incorporate seeds, grains, nuts, and legumes into their daily meal, decrease their dairy consumption and cut out meat intake. However, they are not confident to sustain and follow the plant-based diet in the coming 6 months' time.

It is interesting to mention that, irrespective of certain educational intervention specifically aimed to increase nutritional knowledge, there is always subtleties identified between information and practices, while attitude often works as stimulating component in nutritional behaviors. Apart from that, knowledge, attitudes, and practices on healthy lifestyle Arnaudova et. al (2022) plays a crucial role in relations to the readiness on current dietary change. For instance, an individual who has sufficient knowledge, but is not willing to change the lifestyle, will not associate to a good attitude towards the practice of healthy lifestyle. The results of the current investigation coincide with these findings. The possible factor associated with this would probably be the consumer's unconscious habitual dietary patterns. The lack of knowledge on the way of producing a magnificent plant-based meal is needed obviously, and consumers are pushing for additional choices in the restaurant menu. However, this study was limited by its geographical coverage as the research study was restricted to those of the working force in Klang Valley which is roughly 910,600. With the gathering of simply 391 replies, it is challenging to generalize and represent the total of the populace in Malaysia. Limited time was allowed for the completion of the complete process. There were only 14 days allocated to conduct the range of actions spanning from questionnaire creation and dissemination, follow up on response rate to data gathering.

Conclusion

The adoption of a healthier food plan plays a vital role in contributing to achieving optimal health. We are what we eat. The findings of this study are relevant to audiences that are keen in supporting sustainable living and health improvements through dietary change, though, industrialization had allowed animal produced to become integral part of our food culture that put on our plate. We are solely responsible for our own as an individual, societal, and

global health while Physicians are ideally advocate the related lifestyle change as a personal health and epidemiologic medium in general (Grant, 2017). Self-perception on health state and an individual's attitude created towards influencing variables of health fluctuate greatly among persons. Aside from a better eating plan, other health habits like regular exercise routine, regular medical check-up and follow-up, and keeping a positive mindset are vital too. To be physically and mentally fit are key factors to keep up with our busy schedule and chaotic lifestyle. By reducing the consumption of meat products, individually and globally, we may advance towards a healthier, greener, and more sustainable future. Having said this, it is a long-term approach that needs initiative and partnerships from all of the stakeholders to make this achievable. Such a great journey starts at the very first step.

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Supplementary Material
See Figures 1-4 in the Supplementary Material for comprehensive analysis of Normality Test by Q-Q Plot.
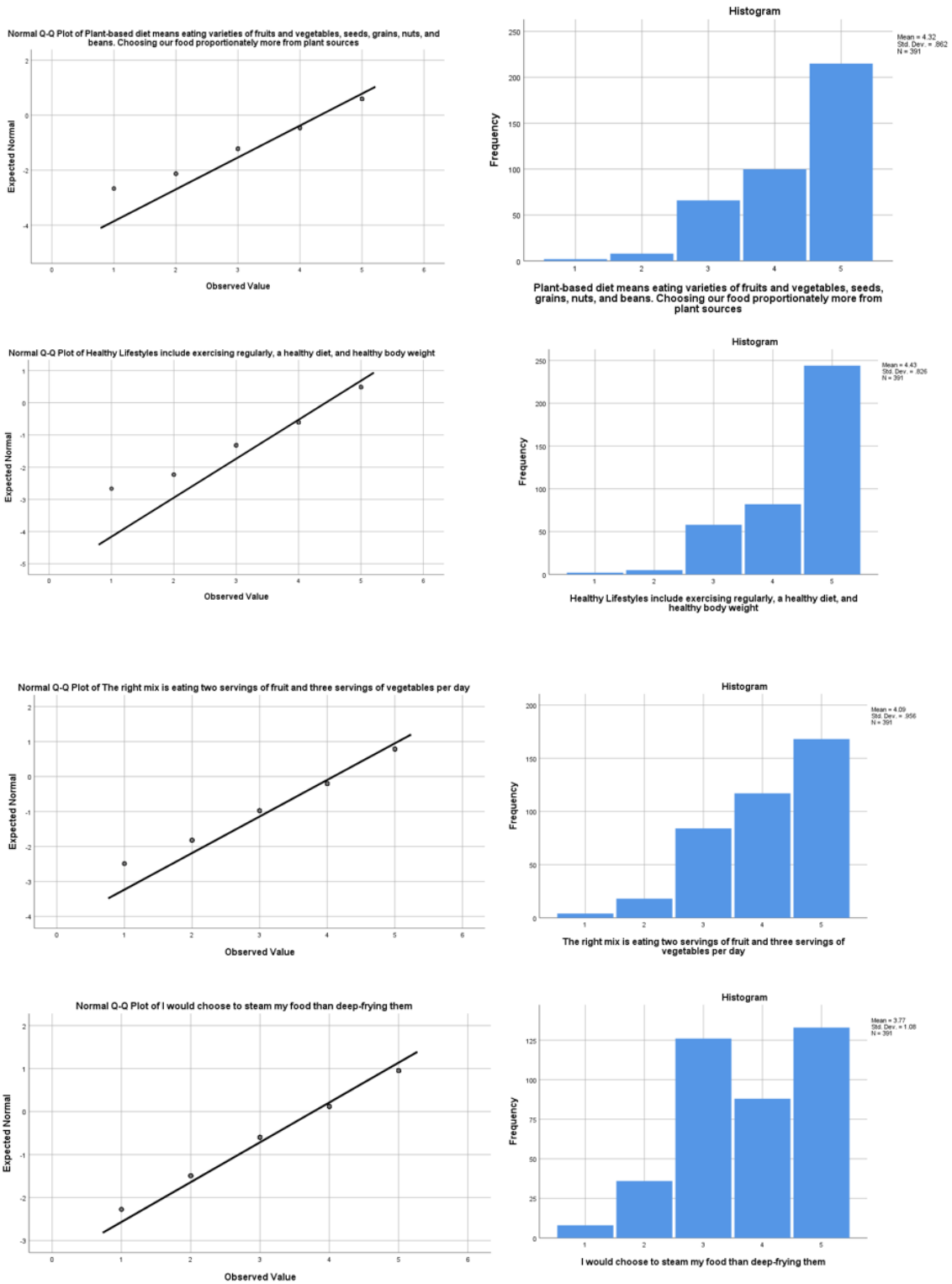
Figure 1: Normal Q-Q Plot for Consumers' Health-Consciousness
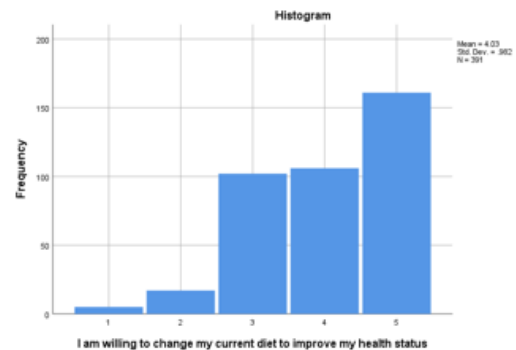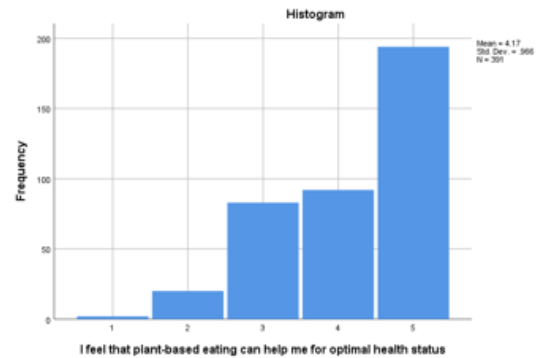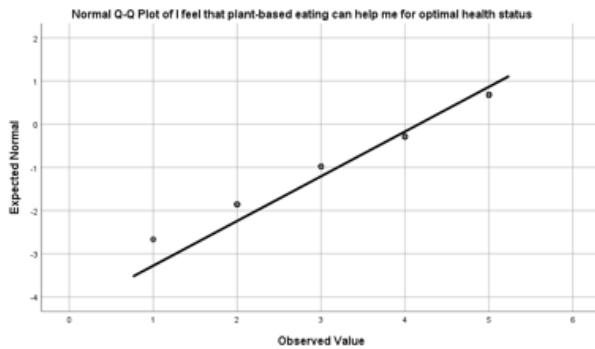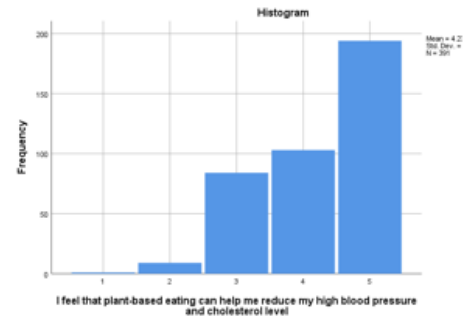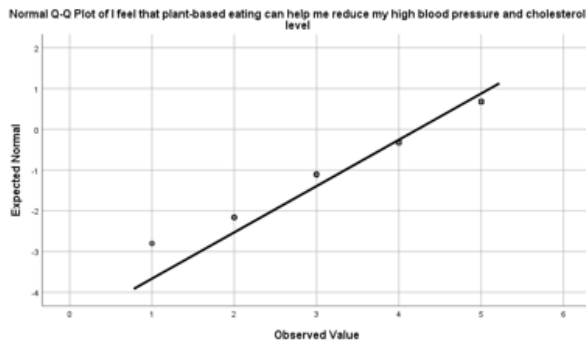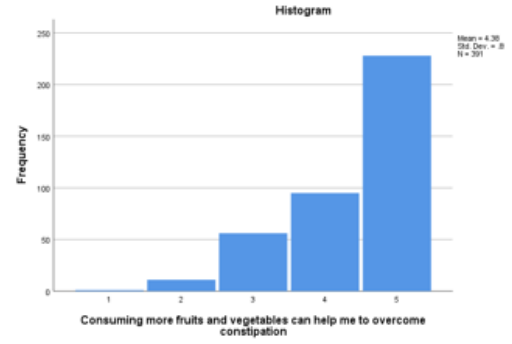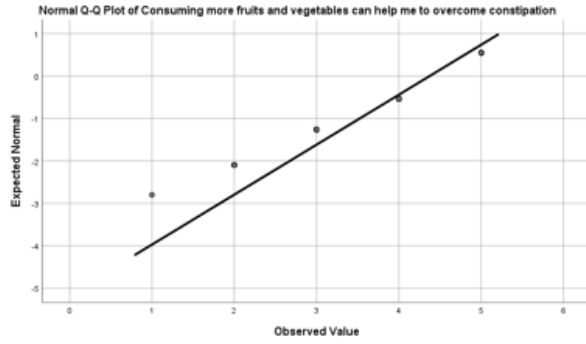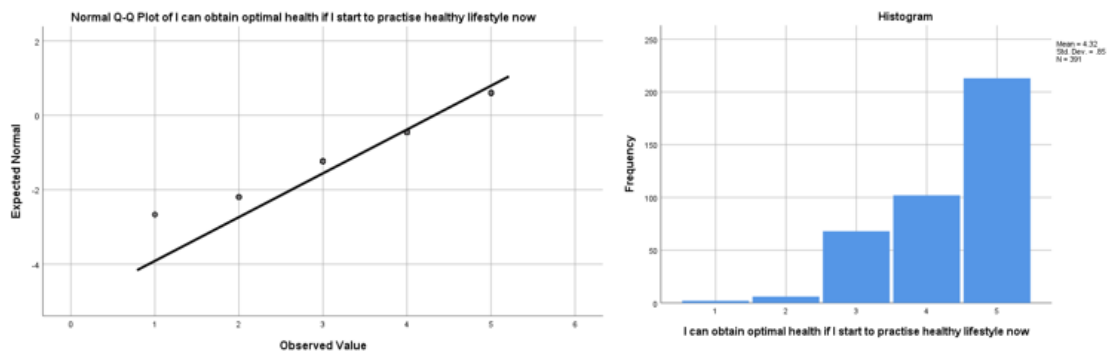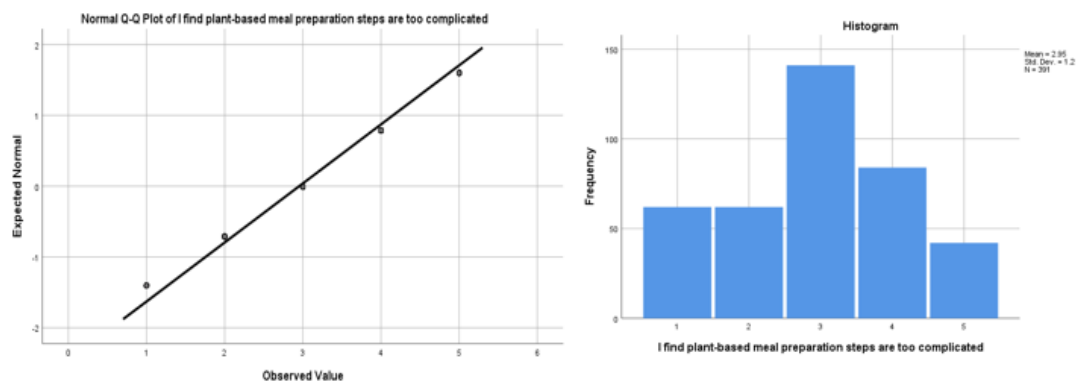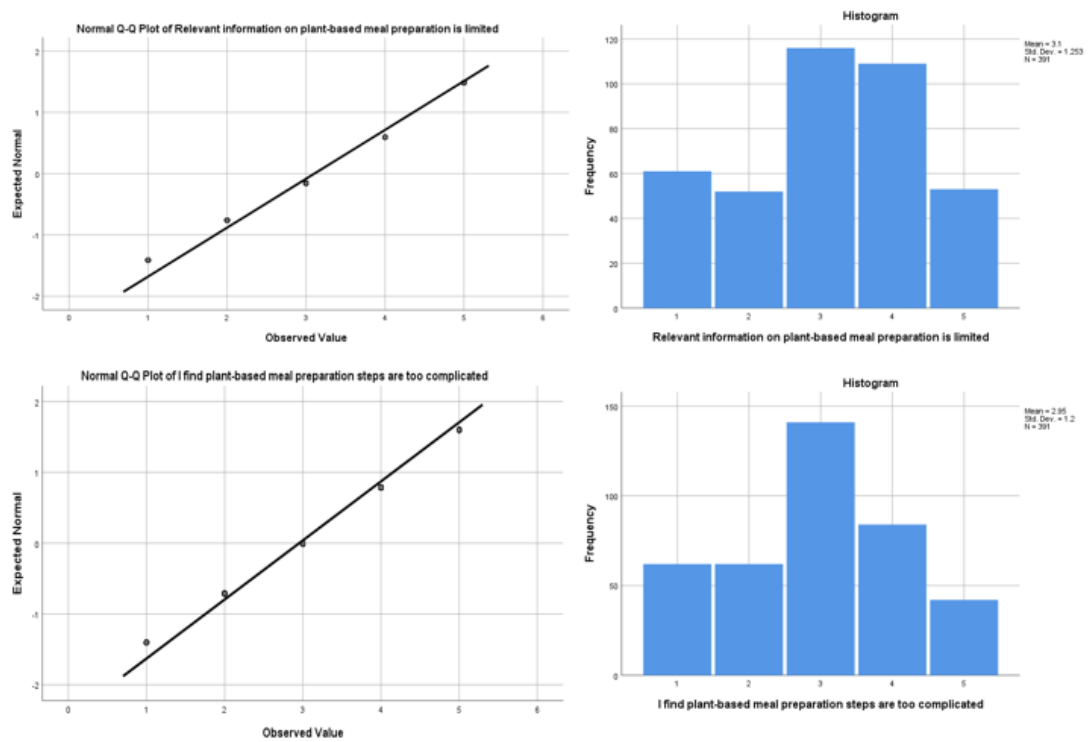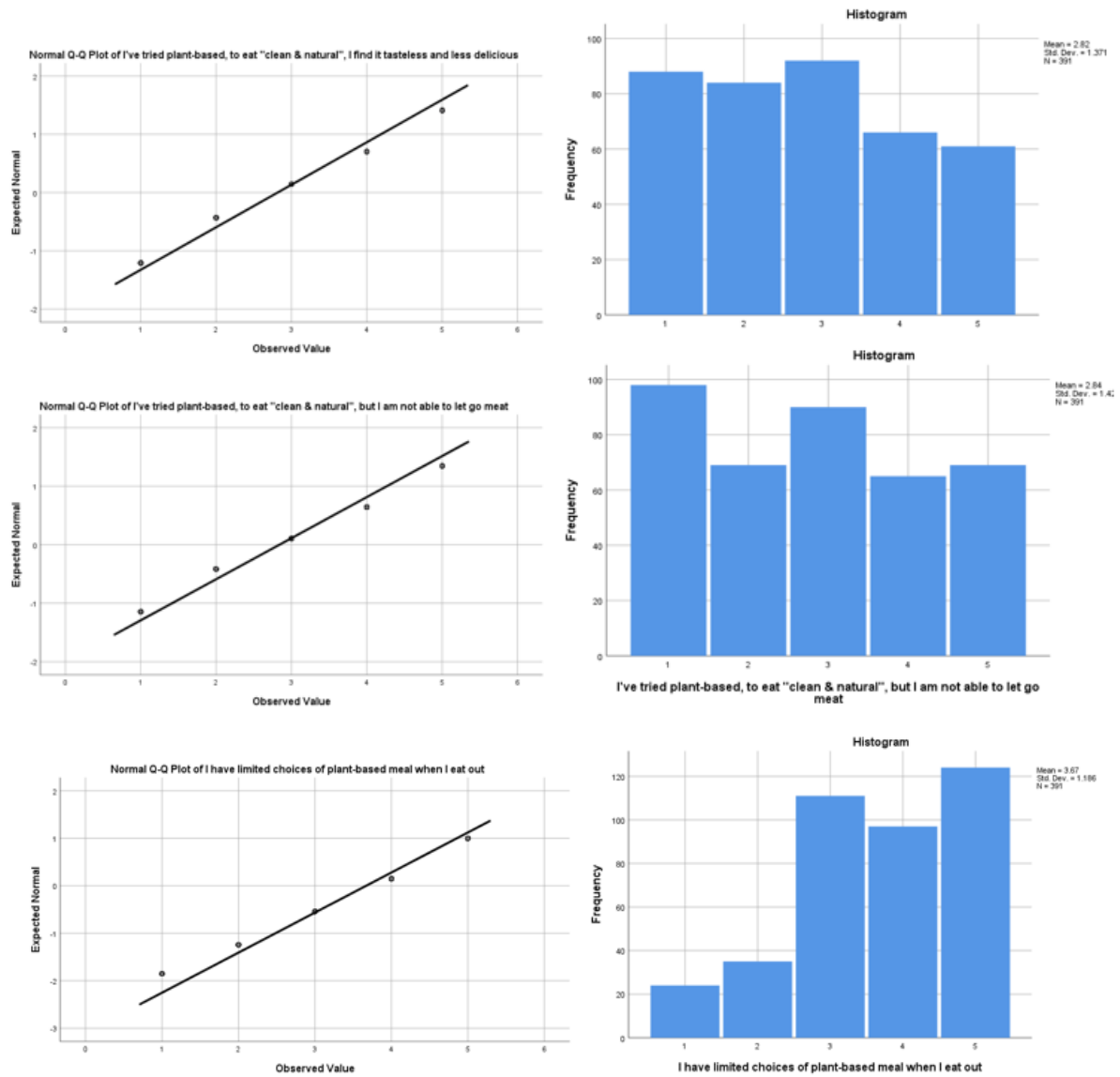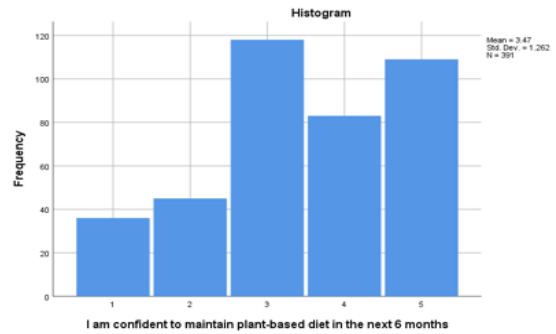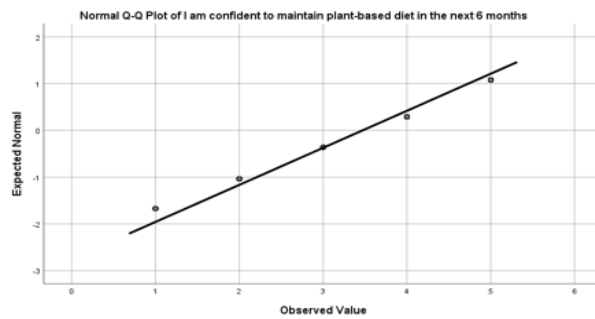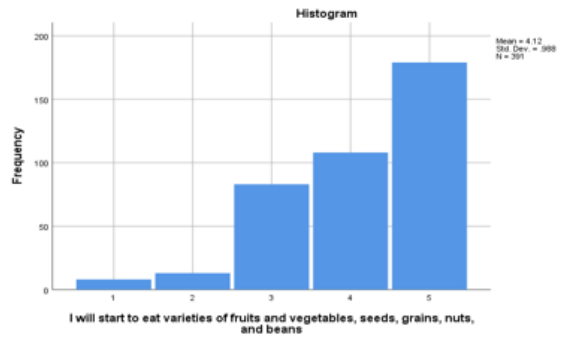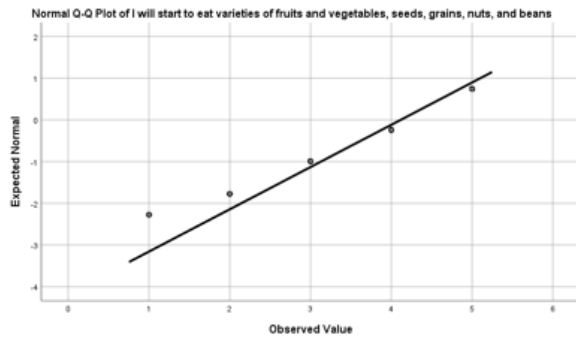
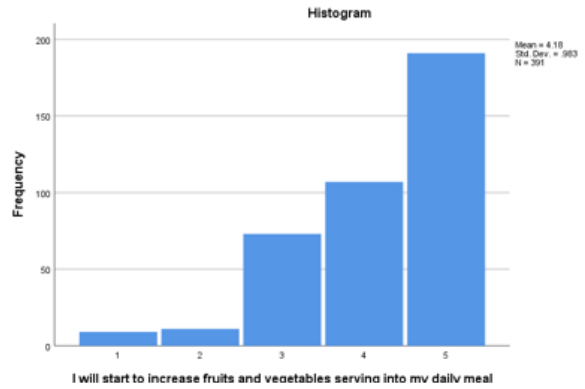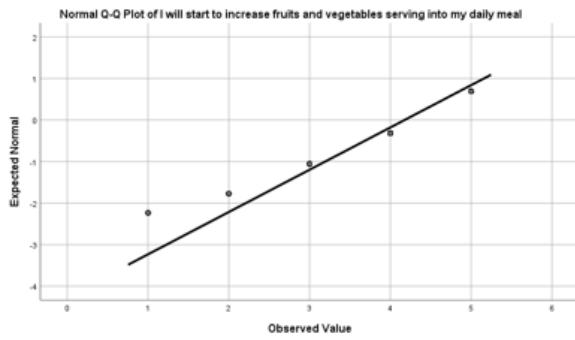Figure 2. Normal Q-Q Plot for Consumers' State of Well-Being

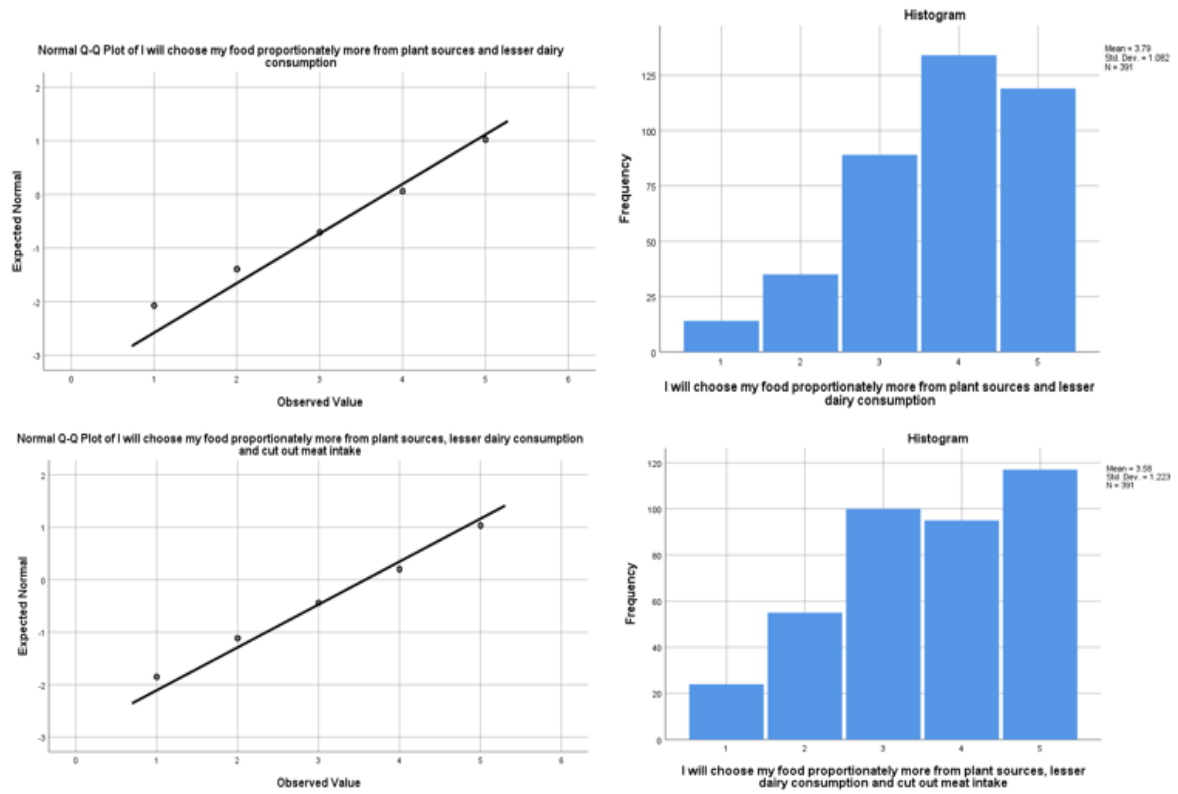Figure 3. Normal Q-Q Plot for Consumers' Personal Barriers

Figure 4. Normal Q-Q Plot for the Adoption of Plant-Based Diet