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**THE RELATIONSHIP BETWEEN HEALTH CONSCIOUSNESS AND THE  
WILLINGNESS TO BUY FUNCTIONAL FOOD IN AZERBAIJAN**

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## INTRODUCTION

Health has always been a significant aspect of humans' life, and currently, people are more inclined to have a healthy lifestyle. According to Poiniski (2019), more humans manage their health in a proactive manner: 58 % more people go on a balanced diet, 46 % more people periodically take medical checkups, and 47 % more people take vitamins and supplements. Apart from this, 65 % of consumers seek additional benefits in beverages and nourishments that they consume (Poiniski, 2019). Besides, Wennstrom (2000) also underlines the growing interest of consumers in health and healthy nutrition and indicates that it will inevitably affect the food market.

Functional food is one of the essential elements of a healthy lifestyle as it contains elements that improve both the mental and physical well-being of people (Menrad, 2003). There are many different definitions of this concept. For instance, according to Cakiroglu & Ucar (2018), functional food should be regarded as food components or food providing additional benefits for the metabolic functions and physiology of humans and as a consequence, preventing diseases and furthering a healthy way of life apart from satisfying the fundamental needs of the human body. Moreover, functional food is also defined as food that has the appearance of conventional food and that decreases the risks of having chronic diseases and provides physiological benefits (Hoque, Alam, & Nahid, 2018).

Different scholars have carried out studies regarding the demand for functional food and its relationship with consumers' habits of a healthy lifestyle. For instance, Vella, Stratton, Sheeshka, & Duncan (2014) devoted a study to the functional food apprehension of Canadian adults over 60 and their health consciousness. Interestingly, the results of the research showed that the vast majority, namely 93,5 % of participants had awareness of health claims which are placed on food labels. Such a high level of awareness is unusual taking into account that similar studies conducted in the United Kingdom, New Zealand, Uruguay, and France came up with results ranging from 27 % to 82 % (Vella, Stratton, Sheeshka, & Duncan, 2014).

Furthermore, according to Lau, Chan, Tan, & Kwek (2012), Malaysians also started to treat food more than something that just feeds their stomachs. Therefore, their living habits together with the attitude towards functional food have started to alter. However, studies show that Malaysians still consume less functional food in comparison with the citizens of developed countries (Lau, Chan, Tan, & Kwek, 2012). It would be also pertinent to emphasize that the main factor that affects Malaysian consumers' willingness to purchase functional food is the naturalness of the offered product.

Landstrom, Hursti, Becker, & Magnusson (2007), in turn, have conducted out similar research among Swedish consumers. Interestingly, at the beginning of the millennium, the vast majority of Swedish consumers were unfamiliar with the concept of a functional food (Landstrom, Hursti, Becker, & Magnusson, 2007). The authors see the main reason in the fact that the Swedish government did not give enough support for the promotion and development of functional food. As a consequence, only manufacturers and producers took the role of informants concerning functional food. Interestingly, the vast majority of Swedish consumers who are aware of and consume different kinds of functional food have certain health issues. To be more precise, they either had diabetes or other problems such as a high level of cholesterol or blood pressure (Landstrom, Hursti, Becker, & Magnusson, 2007).

In addition, the Turkish market of functional food and consumers' attitude towards it have been scrutinized by Cakiroglu & Ucar (2018). One of the main results of this study is that there is an obvious increase in the functional food purchasing decisions of Turkish consumers who are between 56 and 65 (Cakiroglu & Ucar, 2018). This is explained by the increase in age and intensified care about health. Moreover, in Turkey, women are more disposed to buy and use functional food in comparison with men (Cakiroglu & Ucar, 2018).

Even though numerous scholarly articles have been devoted to the relationship between health consciousness and demand for functional food such a relationship has not been examined among Azerbaijani consumers. Therefore, taking into account that fact it was decided to cover this area with the help of our study. The research question of the study will be the following: "Does health consciousness of Azerbaijani consumers positively influence their willingness to buy functional food?" Our study will be devoted to the scrutiny of this question due to both theoretical and practical reasons. First of all, our project will make an academic contribution and fill the existing research gap. In addition, the results of this study will be also beneficial for public policy purposes. To be more specific, consumers will become aware of the benefits of functional food and this project can become their stimulus to begin a healthy lifestyle. Moreover, the results of this study will also be useful for producers and sellers of functional food as they will know to what extent it will be possible to increase demand for their production with the help of promoting a healthy way of life. Hence, the major goal of the study is to determine whether the health consciousness of Azerbaijani consumers has a positive impact on their willingness to use functional food. Furthermore, there are several objectives which the current study has aimed to achieve:

1. To design an appropriate research methodology after highlighting factors which impact functional food from literature review
2. To formulate research hypotheses with the help of previous literature in the domain of functional foods and health consciousness
3. To create a reliable and valid data collection instrument in a form of survey-based questionnaire to gather opinions of Azerbaijani consumers regarding functional foods and its factors
4. To analyze the collected data for testing hypotheses
5. To drive conclusions from data analysis and provide recommendations for policy makers and marketers of functional foods

# **1. THEORETICAL ANALYSIS OF THE RELATIONSHIP BETWEEN HEALTH CONSCIOUSNESS AND WILLINGNESS TO BUY FUNCTIONAL FOOD**

## **1.1 The Concept of Functional Food**

The concept of functional food emerged in the 1980s in Japan. The Ministry of Health and Welfare of Japan had an objective to better the health of the aging citizens of the country and therefore, it was decided to come up with a regulatory system and approve certain kinds of foods that have proven benefits to health (Henry, 2010). However, the term "functional food" appeared in the press a decade later, namely in 1993. More specifically, it was an article in the new magazine named "Nature" that was devoted to the exploration of the boundary between medicine and food by Japan.

One can encounter a number of different definitions of functional food in books and scholarly articles. According to some definition, any food product can be qualified as functional food if it is positioned in an appropriate way (Poinski, 2019). The other scholars indicate that functional food can be only the enhanced, enriched or fortified food products that go beyond basic nutrition and that include a component which is beneficial to health (Vella, Stratton, Sheeshka, & Duncan, 2014). Moreover, there is also an opinion that the possibility to make health claims is sufficient to identify a certain food product as functional (Khatkar, Panwar, Kapoor, & Khatkar, 2016).

Overall, there are four main concepts related to functional food, namely health benefits, the nature of the food, level of function, and consumption pattern (Doyon & Labrecque, 2008). The health benefit notion can be regarded as central taking into consideration that it can be encountered in the vast majority of the definitions of functional food. However, it would be germane to note that only a few authors underline that those health benefits should be proven. Generally, two types of health benefits can be distinguished, namely decreasing the risks to have a certain disease and fortifying target function.

The other significant concept is the nature of the food as it can also be seen in the definitions of functional food. Despite the fact that the word "food" is used in the vast majority of definitions only some authors accentuate that functional food should look like conventional food (Doyon & Labrecque, 2008). Some scholars mention in their definitions the removal of detrimental elements while others either enriched/fortified nature of the food or the addition of a certain ingredient that is beneficial to health.

The primary destination of food has always been its nutritional functions. However, several definitions of functional food indicate that the characteristic feature making a certain food product functional is that it provides additional benefits apart from carrying out the basic function of nutrition. Therefore, it is suggested that the food should be considered through the prism of its functions instead of focusing on its physical attributes (Braun, Watkinson, Hahn, & Schmitt, 2001).

The concept of a consumption pattern can also be encountered in certain definitions of functional food (Doyon & Labrecque, 2008). According to this concept, one of the features of functional food should be that such food should constitute a part of a conventional consumption pattern in a certain culture or a geographic area. Consequently, a certain food product can be identified as a functional food in one territory while the same product is deemed as conventional food in another region (Doyon & Labrecque, 2008).

Functional food can be qualified as a marketing term taking into account that this notion is not acknowledged by law. The only country on the planet that puts functional food in a different category is Japan (Henry, 2010). Therefore, it is no wonder that the most advanced market of functional food in the world is the Japanese one. Functional food in Japan is known as FOSHU and such kinds of food include specific functional ingredients that have an impact on the function and structure of the body and that are useful to regulate or maintain certain health conditions including cholesterol level, blood pressure, and gastrointestinal health. By July of 2008, in Japan, approximately 500 products had been given the status of FOSHU (Henry, 2010).

One of the interesting issues regarding functional food is health claims. More specifically, scholars cannot come to a consensus about whether the existence of a health claim is sufficient to identify a specific food product as functional. The main issue is that various countries have different numbers of health claims. For instance, while China has 24 health claims Canada has more restrictive legislation in this regard and the country has only five health claims. Therefore, the use of health claims is not appropriate if one has an objective to come up with a global definition of functional food.

According to Roberfroid (2000), there are two major dimensions or boundaries which are necessary to define functional food. One of these dimensions is the physiological effects of food products. The best physiological effect of a functional food product can be cured of a certain illness. Furthermore, in order to be able to determine the boundaries of functional food in a due way, it is significant to be able to make a distinction between nutritional deficiency and

other kinds of physiological effects including the reduction of disease risk. Hence, food products that have the objective of the improvement of nutritional equilibrium should not be automatically considered as a functional food.

The other dimension which is also significant is functional intensity. Taking into account the fact that all food products have a certain level of functional intensity the degree of functional intensity in the case of functional food should be at a minimal level. The measurement of functional intensity is based on the concentration of the "active" elements of a food product and its physiological effects. Hence, according to Roberfroid (2000), the simultaneous use of these dimensions is sufficient for establishing that a certain food product belongs to the category of functional foods.

Doyon & Labrecque (2008) suggests a table (see figure 1) which facilitates grasping the essence of functional food. It becomes clear that if a certain food product satisfies at least the basic needs of humans but does not go beyond improving nutritional equilibrium such a product can be categorized in the group of basic foods. The food products which are within the category of improved or enriched foods do not go beyond reducing risks. It would be germane to emphasize that improved or enriched foods should be distinguished from functional foods. In order to be qualified as a functional food, improved or enriched foods should contribute to restoring health. Moreover, there is a subtle difference between functional foods and drug food. Even though both categories of food cure from certain diseases the main difference is that the functional intensity of drug food is high whereas in the case of functional foods, it is low.

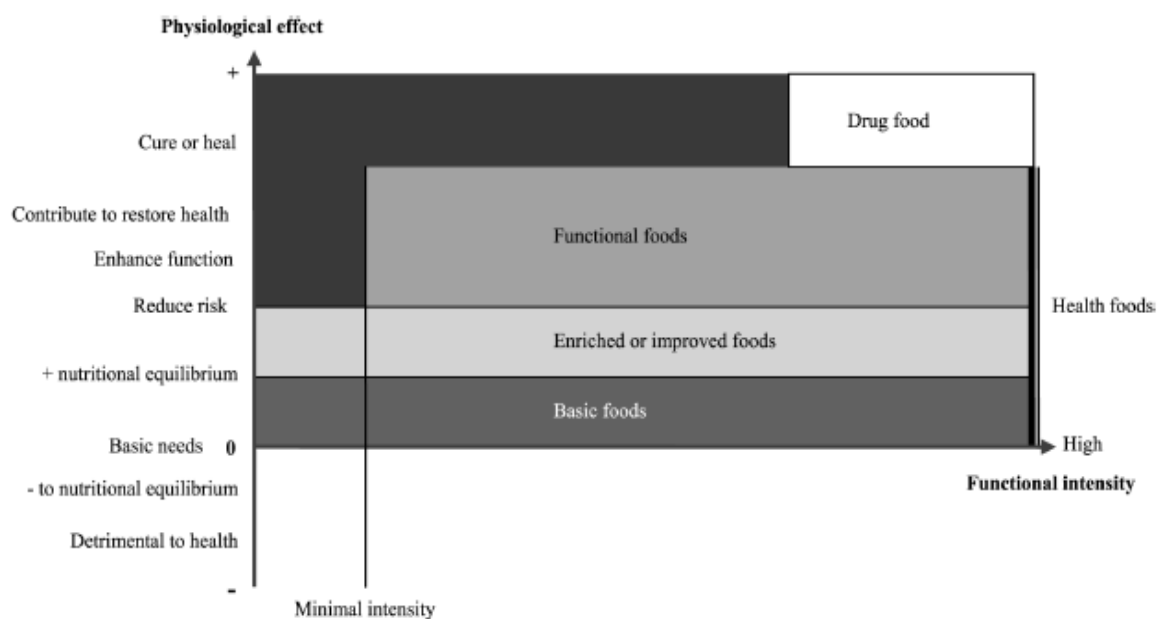


Figure 1. (Doyon & Labrecque, 2008)



Moreover, it would be pertinent to emphasize that functional foods can be divided into three different groups. The first group includes conventional food which contains a certain bioactive substance of a natural origin. For instance, oat bran can be attributed to this group taking into account that it contains  $\beta$ -glucan that decreases blood cholesterol (Henry, 2010). In the second group, there are foods that were exposed to modification with the help of bioactive substances. The third group, in turn, includes synthesized food ingredients that have probiotic impacts.

Khatkar, Panwar, Kapoor, & Khatkar (2016) suggest their own way to differentiate functional food. Their categories are based on the specific functions of functional foods. To be more specific, these categories are early growth and development, regulation of basic metabolic processes, defense against oxidative stress, cardiovascular physiology, gastrointestinal physiology, mental and cognitive performance including alertness and mood, and fitness and physical performance (Khatkar, Panwar, Kapoor, & Khatkar, 2016). Functional foods that enhance early growth and development are baby foods, growth milk, infant formula, cereals, flour, and enriched bakery products. Vitamin D and calcium-rich food skimmed dairy products, and fiber-rich foods can be categorized as functional foods having a positive impact on the regulation of basic metabolic processes. Functional foods, the function of which is a defense against oxidative stress, are foods rich in antioxidants, namely phenols, lycopene, anthocyanins, and vitamin C (Khatkar, Panwar, Kapoor, & Khatkar, 2016). Examples of functional foods that are beneficial to cardiovascular physiology are omega-3 fatty acids and fish oils. Synbiotics, prebiotics, and probiotics, in turn, can be attributed to functional foods that have a positive effect on gastrointestinal physiology. Moreover, balm extracts, ginseng, valerian, caffeine, and foods rich in theobromine are the functional foods that are beneficial to mental and cognitive performance, alertness, and mood. Isotonic beverages, antioxidant beverages, and energy bars can be attributed to the category of functional foods, the effect of which is directed to fitness and physical performance.

When analyzing the global market, the most widespread kinds of functional foods are probiotics, prebiotics, functional cereals, functional drinks, enriched eggs, and functional meat. This sector grows in a rapid way and attracts investments for research and innovation. Suffice it to say that the sales of the market of functional food of the United States which is one of the leading countries of the world in 2012 were equal to approximately 44 billion dollars (Knezevic & Brncic, 2014).

There are five approaches according to which functional food products can be made. The first approach consists in removing a specific component which is known to have a harmful impact when a person consumes it (Lau, Chan, Tan, & Kwek, 2012). The second approach presupposes raising the concentration of a specific element which is contained in the food product anyway to a certain level with the purpose to cause predicted effects (Lau, Chan, Tan, & Kwek, 2012). Moreover, according to the third approach, a component which is naturally absent in the majority of food products is added (Lau, Chan, Tan, & Kwek, 2012). Despite the fact that this component should not necessarily be a micronutrient or a macronutrient its beneficial impacts should have been proven. The fourth approach, in turn, presupposes substituting of a certain component (predominantly macronutrients) with another component having a beneficial impact to the human body (Lau, Chan, Tan, & Kwek, 2012). The main objective of such a replacement is that the intake of the element which is substituted is excessive. Finally, the fifth approach consists in the increase in the stability or bioavailability of a specific element which either reduces the potential of the product to cause a disease or has a functional impact (Lau, Chan, Tan, & Kwek, 2012).

To sum up, functional foods are food products the destination of which goes beyond feeding humans and also presupposes a positive impact on their health condition. More specifically, functional foods make contributions to restore health or even cure certain diseases while having a minimal intensity which is the factor that distinguishes them from drug foods. Functional foods can be both natural or modified, and the modification can have the form of adding certain elements or removing certain elements. The other possible option for making functional food is the substitution of a certain component with the other one that can have specific benefits to the human body. The next subchapter will be devoted to the attitude of consumers towards functional food.

## **1.2. The Attitude Towards Functional Food**

The attitude towards functional food is different in various countries as it depends on a wide range of factors, including geographical location, cultural preferences, and the level of development. However, generally, both the awareness of consumers about functional food and the level of its consumption has risen. In 2015, the size of the world market of functional food was equal to 129.39 billion US dollars (Karelakis, Zevgitis, Galanopoulos, & Mattas, 2019). Japan and the USA have the biggest functional food markets with shares of 38.4 % and 31.1 % of the overall market, respectively (Khatkar, Panwar, Kapoor, & Khatkar, 2016). Thus, Japan, together with the USA, covers approximately three-fourths of the world market of functional

food and the sales of that market in Japan are equal to 24.22 billion dollars (Karelakis, Zevgitis, Galanopoulos, & Mattas, 2019). The share of Europe in the global market of functional food is also significant as it is equal to 27.9 % (Vella, Stratton, Sheeshka, & Duncan, 2014). The largest markets in Europe are in the Netherlands, France, Germany, and the United Kingdom (Karelakis, Zevgitis, Galanopoulos, & Mattas, 2019). In Poland, Russia, and Hungary, in turn, the functional food markets can be qualified as emerging (Karelakis, Zevgitis, Galanopoulos, & Mattas, 2019). Besides, functional components are imported by the developed countries with big functional food markets and China, Kenya, Peru, and Brazil are the main exporters of these functional components (Kuster-Boluda & Vidal-Capilla, 2017).

There are multifarious factors that have an influence and determine the attitude of consumers towards functional food. Vella, Stratton, Sheeshka, & Duncan (2014) differentiate three different kinds of factors that have an influence on the attitude of consumers towards functional food, namely the natural characteristics, sensory properties of food products, and psychological factors. The natural characteristics include the level of appetite of a consumer or the level to what extent he or she is hungry. Examples of sensory properties of food can be the appearance, texture or aroma of food. Psychological factors, in turn, are previous behaviors or beliefs of the consumer. For instance, if a person purchased a certain kind of functional food a week ago and did not like it, they would be likely to opt for the other product.

Moreover, the level of consumption of functional foods also depends on the origin of raw materials and the safety of food (Castillo, 2018). The other significant factor that incites consumers to purchase functional food is disease prevention. It is quite natural that functional food that cures or at least prevents certain diseases is more preferred by consumers. Undoubtedly, taste also plays a significant role when consumers purchase functional foods. Certain products can have a positive impact on human physiology, but the mere fact that a person dislikes its taste can become the reason for avoiding purchasing it. Additionally, consumers even pay attention to details that are not related to the features of food, namely the way of packaging, the presence of colors, and the presence of images (Khatkar, Panwar, Kapoor, & Khatkar, 2016). Interestingly, the most significant factors that determine the choice of consumers who are representatives of the young generation are price and product convenience (Castillo, 2018).

Other factors that also need to be considered are the age of consumers, their level of education, and the presence or absence of children in the family (Karelakis, Zevgitis, Galanopoulos, & Mattas, 2019). Generally, people who are closer to their old age are more like

to purchase and consume functional food (Henry, 2010). It is quite expected taking into account the raising concerns of people at this age. Besides, educated consumers are more interested in buying and consuming functional food as they realize its beneficial effects on health. Consumers who have kids are also more likely to purchase functional foods as such foods contain essential elements for the nutrition of children (Urala & Lahteenmaki, 2007).

One other factor which previous researchers have studied is the level of emotionally intelligence an individual has (Zeidner, Matthews & Roberts, 2012; Bhalerao & Sharma, 2017; Diener & Chan, 2011) that helps him/her to be conscious of their healthy or unhealthy behavior, food consumption, etc. Even though emotional intelligence with respect to physical health has not been studied extensively, but Keefer, Parker & Saklofske (2009) in the past has asserted its importance as a protective factor against modern health risks. The authors explain that the patterns of illness in medical sciences have shifted drastically in modern societies (Keefer et al., 2009). There is no longer a high rate of infectious diseases such as cholera or smallpox resulting in high mortality rates; however, the major causes of mortality in industrial societies are related to chronic stress, unhealthy lifestyle and health-related behaviors that lead to heart attacks and weak immune system (Zeidnar, Matthews & Roberts, 2012). Simultaneously, the concern becomes the widespread use of health risks associated with smoking, alcohol or drug abuse, and obesity. In addition, a number of growing healthcare costs increase other illnesses and become a continuing concern of chronic fatigue or migraine headache. Hence health practitioners believe that the presence of high emotional intelligence can result in better care for health and avoidance of alcohol, drug or consumption of unhealthy, fast foods (Zeidnar et al., 2012).

Overall, it can be said that emotional intelligence facilitates positive health practices as individuals who have high EI are more likely to maintain proactive self-care practices (i.e., conscious consumption of healthy foods, regular exercise, etc.) (Johnson, Batey & Holdsworth, 2009). Therefore, high emotional intelligence, in theory, leads to efficient and more effective self-regulation through healthy physical practices, thereby encouraging help-seeking behaviors and maintenance of health regimes. These include taking health appointments, taking medications, avoiding unhealthy or fattening foods. This theoretical framework underpinning EI with physical health is introduced by Zeidnar, Matthews and Roberts (2012), as shown below.

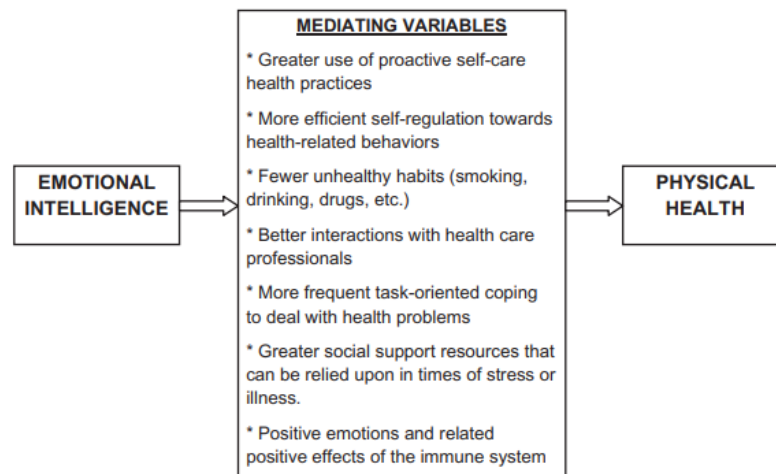


Figure 2. Relationship between EI and Physical Health. Source: Zeidnar et al., (2012)

In a similar strand of literature concerning EI, Espinosa & Kadic-Maglajlic (2018) also stresses that the factor of emotional intelligence has an impact on health behaviors of people. To be more specific, it is underscored that people with high level of emotional intelligence are more health conscious which, in turn, has a direct influence on the choice of food they consume. As to Espinosa & Kadic-Maglajlic (2018), health-conscious consumers prefer functional foods taking into account that such foods are a necessary component of healthy nourishment which is a crucial precondition to remain healthy.

The factor of the gender of consumers is also noteworthy. On the one hand, the results of several studies show that there is no significant difference in gender factor in terms of functional food preferences (Urala & Lahteenmaki, 2007). However, on the other hand, some scholars claim that there are certain differences in the attitudes of men and women towards functional foods (Kuster-Boluda & Vidal-Capilla, 2017). For instance, according to Wennstrom (2000), the food choice of females is more likely to be based on the issues of animal protection or ecological protection. Additionally, females are more willing to pay more money for a certain food product if that product has all the desired characteristics (Kuster-Boluda & Vidal-Capilla, 2017). Poinski (2019), in turn, argues that for the vast majority of men, the foundation for healthy eating is traditional cooking.

Kuster-Bolluda & Vidal-Capilla (2017) underline several differences in the attitudes of men and women towards functional foods. First of all, it is emphasized that generally, female consumers are more emotional when they purchase certain products. Furthermore, the concerns of women regarding the safety of food products are higher in comparison with men (Kuster-Boluda & Vidal-Capilla, 2017). The other difference is that females are more concerned about their diet and more importantly, their behavior is more consistent when they are on a diet. More

clearly, in comparison with men, women are more likely to comply with all the dietary regulations (Kuster-Boluda & Vidal-Capilla, 2017). It is also noteworthy that males are less likely to go on a diet with the purpose to lose their weight. All these factors together lead to the tendency according to which women are more likely to consume food products which are low in fat and which have more beneficial components. Thus, female consumers are more likely to opt for functional foods taking into account that such food has positive impacts on human physiology.

It should be born in mind that the attitude of consumers towards functional food alters depending on the type of these foods. According to Karelakis, Zevgitis, Galanopoulos, & Mattas (2019), the choice of Danish consumers is impacted both by the component that enriches functional foods and by the kind of functional food. Hence, it would be more appropriate to carry out the analysis of the attitude of consumers towards different groups of functional foods separately.

In their study, Cakiroglu and Ucar (2018) focused on the analysis of the attitude of Turkish consumers towards functional food. The results of the study confirmed the common perception that female consumers are more interested in buying and using functional foods in comparison with males. The reason can be the fact that generally, women are the persons who take responsibility for the food market. Moreover, it was established the interest of Turkish consumers who are educated is higher. To be more precise, consumers who have higher education are prone to search for products that have more health benefits (Cakiroglu & Ucar, 2018).

When considering the category of dairy products, the most popular functional foods in Turkey are fat-reduced yogurt and kefir (Cakiroglu & Ucar, 2018). The main cause is that the homeland of kefir and yogurt is the territory where the country is located. Furthermore, the most consumed cereal products in Turkey are breakfast cereals while the most purchased beverage is herbal tea. The most popular functional food amongst other products is margarine which is free of cholesterol.

Vella, Stratton, Sheeshka, & Duncan (2014), in turn, scrutinized the attitude towards functional foods of a certain segment of Canadian consumers, namely people who are older than 60. Interestingly, apart from being aware of the concept of functional foods the vast majority of Canadian consumers above 60 states that they are familiar with health claims of functional foods. The level of education and high awareness of functional food also has a positive relationship in the case of the analyzed segment of Canadian consumers. Besides, it

would be pertinent to emphasize that 63.5 % of participants of the study wanted to obtain more information regarding functional foods and their health benefits (Vella, Stratton, Shessshka, & Duncan, 2014). 68.5 % of participants agree that more information about functional food should be included in books, magazines, and newspapers while 66.1 % of them agree that such information should be placed on food labels (Vella, Stratton, Shessshka, & Duncan, 2014). Moreover, 48.8 % of them think that more such data should be available on the Internet as well (Vella, Stratton, Shessshka, & Duncan, 2014). The major factors that caused the promotion of functional foods are increased knowledge and awareness and influence of a specialist in the sphere of healthcare which was indicated by 85.5 % and 71 % of participants respectively (Vella, Stratton, Shessshka, & Duncan, 2014). Apart from this, the fifth important factor is the price of functional foods. It was established that the participants of the study whose annual income is 50000 US dollars or more are more likely to opt for functional foods in comparison with the consumers whose annual income is less than 50000 US dollars (Vella, Stratton, Shessshka, & Duncan, 2014).

Besides, the attitude of Malaysian consumers towards functional food has been studied by Lau, Chan, Tan, & Kwek (2012). Malaysians who are under 40 are more likely to buy and consume functional food. According to Lau, Chan, Tan, & Kwek (2012), the main reason is that these consumers are more educated and better informed about the distinctive features of functional foods in comparison with other consumers. The other reason is that usually, there is no label "functional" on functional foods and therefore, citizens and especially the ones who do not have due education cannot distinguish functional foods from other kinds of foods (Lau, Chan, Tan, & Kwek, 2012). Moreover, there is no differentiation between conventional food products and functional foods in terms of distribution as both kinds of food are distributed with the help of retail channels (Lau, Chan, Tan, & Kwek, 2012).

Landstrom, Hursti, Becker, & Magnusson (2007) has examined the attitudes of Swedish consumers towards functional foods with the help of survey conducted amongst 972 citizens of the country whose age were between 17 and 75. First and foremost, it should be noted that 84 % of respondents were familiar with the concept of a functional food (Landstrom, Hursti, Becker, & Magnusson, 2007). Such a high percentage is no wonder taking into account that functional foods have emerged in the market of Sweden in the 1990s and that the government has started to actively promote these foods since the beginning of the new millennium. Moreover, 83 % of the respondents have purchased and consumed functional food at least once in their life (Landstrom, Hursti, Becker, & Magnusson, 2007). Interestingly, only 25 % of Swedish consumers have perceived the positive impact of functional food after consuming it

(Landstrom, Hursti, Becker, & Magnusson, 2007). However, it does not mean that functional foods sold in Sweden are ineffective. There can be several reasons for such statistical data. One of the possibilities is that people are unable to perceive positive effects even though they are present. Besides, it should be born in mind that some kinds of functional foods have the function of prevention of disease apart from nutrition which cannot be felt by a consumer.

The study of Karelakis, Zevgitis, Galanopoulos, & Mattas (2019) has had the objective to determine the attitudes of Greek citizens towards functional foods. The results of the study showed that people in Greece are familiar with the concept of functional foods and are able to recognize different types of such foods. More importantly, it was determined that Greek consumers are ready to pay 20 % more for functional foods. Their readiness to pay more is explained by the fact that people realize the positive impact on their health. On the other hand, some citizens of Greece are not fully convinced with the health benefits of functional foods and therefore, the producers of such foods are highly recommended to inform consumers with the help of labeling (Karelakis, Zevgitis, Galanopoulos, & Mattas, 2019).

Vattem (2016) champions the idea of the necessity to promote functional foods in order to raise the awareness of consumers. It can be carried out with the help of the illustration of the health benefits of functional foods. Currently, the most widespread way to do this is by making health claims. However, not all these claims are true and therefore, the information provided by producers of functional food can be misleading. As a consequence, the trust of consumers is automatically impaired. Therefore, it is significant to pay attention to providing consumers with truthful and reliable information. In addition, this information should be precise i.e. it should underline the specific effect on the suggested functional food. Due communication of information is also a significant aspect taking into account that the main objective is to convey the message to consumers (Vattem, 2016). Thus, the promotion of functional foods has a double benefit: on the one hand, consumers are offered healthy foods that positively influence their wellbeing while on the other hand, the producers of functional foods are also gain advantage as they generate profit from selling these foods.

Overall, a number of multifarious factors including the features of a functional food (taste, flavor, appearance, package, color, image) and the features of consumers (beliefs, behaviors, the level of education, gender, age) that have an influence on the attitude of people towards functional food. All of the mentioned studies agree that people whose education level is higher are more likely to prefer functional foods over other foods taking into account their benefits. Regarding the factor of gender, there are different opinions, but the arguments of



scholars who consider that female consumers are more likely to purchase and use functional foods are more convincing. Apart from this, it is also possible to state that people who are older (especially those who are above 60) are more likely to purchase and consume functional foods. The studies devoted to finding out the attitude of Turkish, Greek, Swedish and Canadian (over 60) consumers showed that in these countries, citizens are familiar with the concept of functional food. Moreover, the vast majority of elderly consumers in Canada are even aware of health claims. The other noteworthy inference is that Greek consumers agree to pay for functional foods 20 % more. There are no studies devoted to the examination of the attitude of Azerbaijani consumers which one more time indicates the existence of a gap. Thus, our study will be beneficial to analyze the attitude of citizens of Azerbaijan towards functional food and compare the obtained results with the results of the studies conducted in other countries. The next subchapter will focus on the examination of health consciousness trends.

### **1.3. Health Consciousness Trends**

#### *1.3.1. The Concept of Health Consciousness*

Health consciousness of an individual can be defined as one's response to health data (Mesanovic, Kadic-Maglajlic, & Cicic, 2013). Health consciousness is the factor that determines the health behaviors and health attitudes of consumers and therefore, this notion requires special attention. Overall, it is believed that the health consciousness of people has risen in comparison with previous generations. More specifically, Gustafson (2017) and Snyder (2018) underline the increase in the health consciousness of consumers which, in turn, had an impact on the beverage and food industry.

The notion of health consciousness can be scrutinized through four dimensions. The first dimension presupposes that the more health conscious an individual is the more he or she will become concerned when encountering any health danger. Health-conscious people can also be characterized as more health-responsible or in other words, more involved in dealing with their stress management, nutrition, and fitness. The second dimension presupposes that health consciousness is a psychological state that can be described as independent and that has a direct impact on the behavior of an individual regarding his or her health care. The third dimension, in turn, is about examining the relationship between health consciousness and harnessing health data. The opinions of scholars regarding harnessing health information differ: while some of them consider searching for and using health data as an element of health consciousness other specialists believe that searching for and using health data is a specific behavior which is caused by health consciousness (Cojocar, Gavrilica, Dima-Cozma, & Mitrea, 2014). Finally, the

fourth dimension presupposes health self-monitoring that is the indicator of the level of intensity with which people value healthy conditions (Mesanovic, Kadic-Magljalic, & Cicic, 2013).

### *1.3.2. Modern Trends of Health Consciousness*

According to Gustafson (2017), younger consumers are more health conscious in comparison with previous generations. To be more specific, the representatives of youth are more prone to take preventive measures in order to avoid diseases which indicates the shift in behavior and awareness. Undoubtedly, the treatment of an illness is a regular practice, but the preventive initiative is a positive sign of the increase in health awareness (Gustafson, 2017). For instance, there representatives of generation Z (people who were born between 2000 and 2019) who constitute approximately 23 % of the population of the USA can be characterized as proactive participants in wellness and health (The Hartman Group, 2015). Even though they are impacted by the digital environment where they grow up kids of generation Z pay enough attention to being "balanced" (The Hartman Group, 2015).

Moreover, Afable (2019) underscores nutrition knowledge is one of the characteristic features of health-conscious consumers. Approximately 64 % of consumers agree that healthfulness is an intrinsic factor when making a choice between different food products and beverages (Afable, 2019). Moreover, Afable (2019) comes up with an interesting statement according to which health-conscious consumers are not only the ones who purchase and use healthy beverages and foods but simultaneously care about ethical issues. The attitude of mindfulness is peculiar to them. For instance, they will opt for products of companies that carry out measures directed to the preservation of the environment.

Mandzy (2017) also underlines the proactive approach of modern consumers. The availability of information makes consumers aware of the significance of health practices and as a consequence, it is reflected in the behavior. In addition, dissemination of healthy lifestyle culture with the help of various social media platforms also raises awareness of consumers about the significance of having healthy habits. The promotion is also carried out by the governments of different states and non-governmental organizations (Yap & Othman, 2010).

As to Gribble (2013), chemophobia can be considered as one of the manifestations of health consciousness. Chemophobia is defined as a biased attitude towards or fear of chemicals. People with chemophobia are the ones who are afraid to consume artificially synthesized products or in a broader sense, of everything unnatural. However, Saleh, Bearth, & Siegrist

(2019) underline that such a fear is irrational in the majority of cases taking into account that it is based on stereotypes about the harm of chemicals and that most of the chemicals added to foods can be found in organisms of humans. What is more, it is stressed that chemophobia can entail a decrease in the tempo of economic and technological development; however, it increases an individual's concern for self-health. This relationship is evidenced by the study of Saleh, Bearth and Siegrist (2019) conducted on German-speaking parts of Switzerland, who explained the perception of chemicals and consumers' knowledge regarding chemophobia. Accordingly, the authors asserted that, in general, consumers have a negative perception of chemicals in their minds, which is derived from misconceptions and fear of side effects from the chemicals (Saleh et al., 2019). Consequently, people with chemophobia are said to prefer natural or organic products and avoid processed foods or those which are high in chemicals. Hence, this negative perception of chemicals could lead consumers to avoid certain beneficial innovations of medicines such as vaccines or other cleaning products with eco-labeled in fear of putting their own bodies and immune systems at risk (Bearth et al., 2017; Ropeik, 2012). However, there is limited research in the domain of chemophobia which drives the current study to consider chemophobia as a factor to test it with health consciousness.

Cojocaru, Gavrulica, Dima-Cozma & Mitrea (2014) analyze a healthy lifestyle through the prism of different approaches, namely spiritual, social-anthropological, and medical. It is emphasized that the promotion of a healthy lifestyle is a laudable initiative; it can become a tool for manipulation. There are several benefits of championing and adopting a healthy lifestyle. First of all, such a way of life can be helpful both to treat diseases and prevent their emergence. Cojocaru, Gavrulica, Dima-Cozma & Mitrea (2014) include in the concept of healthy lifestyle several practices, namely consuming organic food, stress management, having a due sleep, hygiene, being physically active, which presupposes regular exercises and movement, and avoidance of chronic exposure to different environmental contaminants in water, food, and air and more importantly, to radiation. It is underlined that the effect of organic food will be more beneficial if it is adapted to the physical properties of the consumer or particular disease if he or she has one. Regular exercises, in turn, are the foundation for both psychological well-being and physical health (Cojocaru, Gavrulica, Dima-Cozma & Mitrea, 2014).

The special role of the promotion of a healthy lifestyle belongs to progressive wellness consumers (The Hartman Group, 2015). To be more specific, these consumers share their progress and experience with the ones who need direction and guidance. As a result, some of the consumers become inspired and start their new way of life and act in accordance with "healthy" rules. For example, they avoid eating greasy food, do exercises every morning or go

to the gym several times a week. In other words, consumers pay attention to their eating habits and live an active life (Mandzy, 2017).

Undoubtedly, nutrition is one of the significant elements of a healthy way of life. The main reason is that food is the source of obtaining energy which is the key component of health. Indeed, modern promoters of a healthy lifestyle underline the significance of having enough energy to be able to remain active. Therefore, the role of food is irreplaceable in this case. One of the most popular messages of the adherents of a healthy way of life is healthy nutrition and avoidance of fast food or other detrimental food (The Hartman Group, 2015). For example, when eating out it is suggested to opt for a salad instead of ordering fries or a burger. As a consequence, restaurants that offer their customers healthy foods are automatically in an advantageous position taking into account that those restaurants become the choice of consumers who comply with "rules" of a healthy lifestyle.

According to Buchholtz (2019), the vast majority of American citizens are interested in healthy foods. The results of the survey held in October 2018 amongst more than 1000 citizens of different age groups are helpful to prove this statement. The respondents of the survey are divided into five different groups, namely baby boomers (people who are 55 or over), Gen X (people who are between 45 and 54), Gen Y (people who are between 35 and 44), Millennials (people who are between 25 and 34), and Gen Z (respondents who are between 18 and 24). When considering their answers to the question of whether they are "always" looking for healthy foods, it is noteworthy that the age group which has the higher percentage of positive answers is Millennials with 51 % (Buchholtz, 2019). Moreover, both Gen X and Gen Z have 45 % of affirmative answers to this question (Buchholtz, 2019). The rate of affirmative answers of the representatives of Gen Y and baby boomers was 42 % and 38 %, respectively (Buchholtz, 2019). Moreover, only 5 % of the respondents (50 people) stated that they never look for healthy food when doing shopping (Buchholtz, 2019). The majority (52 %) answered that they sometimes look for healthy food, which is followed by the ones who always look for healthy food while shopping with 43 % (Buchholtz, 2019). The fact that the difference between these answers is not big is a positive indication that illustrates the existence of the awareness of the significance of healthy nutrition. However, on the other hand, it should be born in mind that approximately 36 % of all American citizens consume fast food at least once a day (Buchholtz, 2019). Hence, one cannot argue that Americans started to prefer a healthy way of life unless they get rid of the habit of consuming fast food.

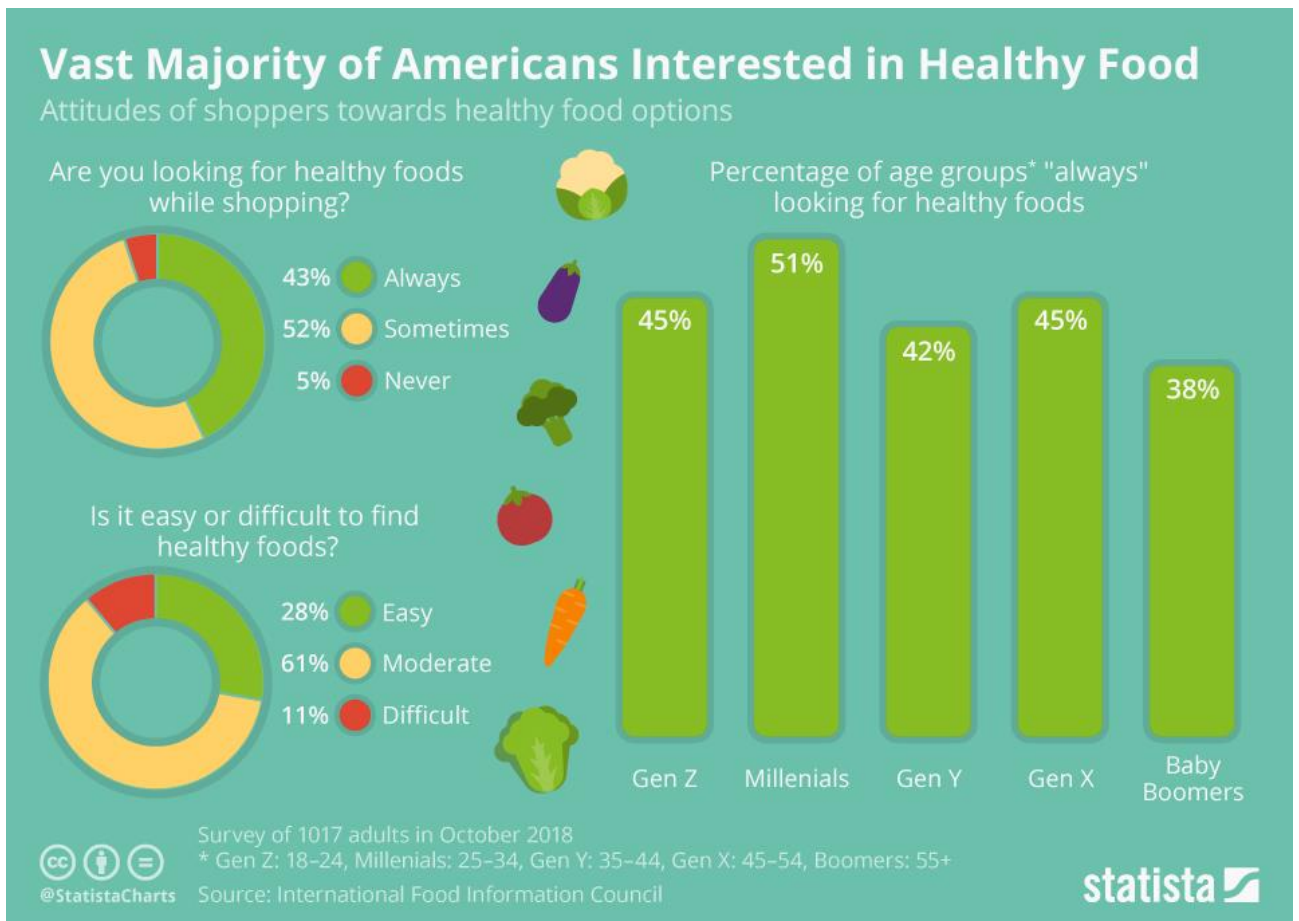


Figure 3. Interest in Healthy Food. Source: Buchholtz (2019)

Interestingly, despite the fact that food is considered important by the modern proponents of a healthy life they also indicate that food should not be overestimated. To be more precise, food should be treated as a substance that is necessary for living. Moreover, they also accentuate that it is significant to avoid considering the consumption of food as a source of enjoyment (Mandzy, 2017).

Furthermore, it would be germane to underline that people who have adopted a healthy way of life automatically become the target of health-related offerings of different companies. More specifically, the companies that offer wellness-related services and products get the opportunity to significantly increase their sales and revenues as a consequence. However, sometimes they increase their sales in an ethically incorrect manner (Yap & Othman, 2010). To be more precise, the majority of companies use to sell their production with the help of different unfair activities. For example, some companies sell certain foods and beverages and present them as functional foods despite the fact that it is not true. Moreover, some of them sell functional foods health claims of which have not been scientifically proven while they persuade the consumers that positive effects will be surely felt after consumption. The other example of

unethical practices of sellers of functional foods is the misuse of the lack of awareness of consumers. They make false promises with the only objective to sell their foods. It is mainly carried out with the help of manifest exaggeration of the benefits of certain functional foods. As a consequence, the consumers become swindled and some of them even lose trust in the effectiveness of functional foods.

Moreover, Mesanovic, Kadic-Maglajlic, & Cicic (2013) examine in their study the health consciousness of the citizens of Bosnia and Herzegovina. First of all, it was established that health consciousness has a direct impact on the frequency of doctor visits with the purpose of check-up (Mesanovic, Kadic-Maglajlic, & Cicic, 2013). Besides, there are positive changes in the attitudes of the citizens of Bosnia and Herzegovina towards their health. To be more precise, the number of people who reported that they constantly check their health condition increased (Mesanovic, Kadic-Maglajlic, & Cicic, 2013). In addition, more people visit a doctor when they do not have any health disturbance, but want to make sure that there is no problem with their health. The other positive change is that the citizens of Bosnia and Herzegovina have become more attentive towards their eating habits. More specifically, the number of people in the country who refused to consumer harmful food such as fast food has increased (Mesanovic, Kadic-Maglajlic, & Cicic, 2013).

There are no studies regarding health consciousness trends in Azerbaijan and the only available source is the report of the World Health Organization (2011). According to this report, approximately 43 % of death of Azerbaijani citizens who are under 65 are caused by cardiovascular diseases that are much higher in comparison with the average European level which constitutes 30.8 % (The World Health Organization, 2011). When considering people who are 65 or above the difference is lower: while in Azerbaijan the indicator is 71.8 % at the European level it is 60 % (The World Health Organization, 2011). Thus, it can be concluded that cardiovascular diseases are a big issue in Azerbaijan.

Moreover, it would be pertinent to underscore that in 2007, the smoking prevalence in Azerbaijan was equal to 25,5 % of the citizens who 15 years old or older (The World Health Organization, 2011). In Azerbaijan, the most frequently used drugs are opium derivatives and marijuana (The World Health Organization, 2011). The indicator showing alcohol consumption per capita is equal to 0.9 liters of alcohol in a pure way (The World Health Organization, 2011). Besides, the average daily calorie intake per person is approximately 2391 kcal (The World Health Organization, 2011). It is also noteworthy that the actual consumption of fish, meat, and

milk is lower than the norm while the consumption of wheat is higher (The World Health Organization, 2011).

To sum up, it can be inferred that the overall level of health consciousness has risen. Indeed, one can encounter the promotion of a healthy way of life in multifarious communication channels such as conventional media, social media platforms, and the statements of government officials. One of the main winners of the promotion of a healthy way of life is companies that are specialized in providing goods or services related to physical wellness. However, one can encounter the unethical behavior of retailers that usually distort information about functional foods or present them in an inappropriate way in order to be able to sell more food products and increase their revenues. Overall, the promotion of a healthy lifestyle is beneficial for all of the inhabitants of our planet. However, consumers should be careful taking into account that championing a healthy way of life can become a means for the manipulation of the population.

The example of Bosnia and Herzegovina has illustrated the ostensible increase in health consciousness. It should be noted that there is no study regarding the health consciousness of Azerbaijani citizens. The only source which is helpful to observe certain health trends in Azerbaijan is the report by the World Health Organization (2011). However, this source does not give any insight regarding whether the health consciousness of Azerbaijani people has increased as well. Hence, the current study should also answer this question in order to cover this gap in the literature. The following subchapter is devoted to the scrutiny of the relationship between consumers' health consciousness and their use of functional food.

#### **1.4. The Relationship Between Health Consciousness and Willingness to Buy Functional Food**

A number of different studies indicate that there is a positive relationship between health consciousness and demand for functional food. For instance, according to Poiniski (2019), consumers who are concerned about their food hygiene and healthy lifestyle, in general, are the main buyers of functional foods. Generally, people who pay due attention to their health ignore the factors of price and taste of functional food as they are aware that the benefits of functional foods outweigh both spending more money and taste that can be unpleasant.

As to Kuster-Boluda & Vidal-Capilla (2017), a healthy lifestyle and health consciousness positively influence the willingness of consumers to purchase functional foods. However, it is emphasized that motivators and barriers of a healthy way of life should also be taken into consideration as these factors are extremely significant. Both motivators and barriers

can be divided into personal and environmental. The examples of personal motivators can be a specific desired outcome, weight management, spiritual beliefs, and increased energy (Kuster-Boluda & Vidal-Capilla, 2017). Health information, provider counseling, social support, and role models (Kuster-Boluda & Vidal-Capilla, 2017). Personal barriers can be a lack of time and motivation while environmental barriers are a lack of resources, concerns regarding safety, and the lack of social support (Kuster-Boluda & Vidal-Capilla, 2017).

The study conducted by Landstrom, Hursti, Becker, & Magnusson (2007) also confirms the positive relationship between the health consciousness of Swedish consumers and the purchase and use of functional foods by them. More specifically, it is indicated that the majority of regular consumers of different kinds of functional foods are people who are on a diet or at least are not recommended by health specialists to eat certain products (Landstrom, Hursti, Becker, & Magnusson, 2007). It is irrefutable that such people have a high level of health consciousness and therefore, a positive relationship between the analyzed factors is established.

Moreover, Karelakis, Zevgitis, Galanopoulos, & Mattas (2019) have also reached similar conclusions. The increase in health consciousness amongst the citizens of Greece has entailed the situation when more Greek people started to follow a certain diet with different purposes: while some of them are anxious about their excessive weight others have the objective to reduce the risks of having any diseases in the future. Functional foods are more suitable kinds of foods for persons who go on a diet (Karelakis, Zevgitis, Galanopoulos, & Mattas, 2019). Therefore, the demand for functional foods has risen and the initial cause was the raise of their health consciousness.

The existence of a positive relationship between health consciousness and the use of functional foods is also confirmed by Lau, Chan, Tan, & Kwek (2012). Even though the citizens of Malaysia consume less functional food in comparison to the consumers living in developed countries there is an increase in the consumption of all kinds of functional foods. As to Lau, Chan, Tan, & Kwek (2012), it is triggered by the rise of health consciousness of Malaysian citizens which, in turn, is a consequence of the measures of the Malaysian government and non-profit organizations operating on the territory of the country directed to promote a healthy way of life.

Moreover, as to Urala & Lahteenmaki (2007), the increase in awareness of people concerning the importance of healthy habits inevitably has had an influence on their attitudes towards functional foods. The authors mention that unless consumers are health conscious and



aware of the significance of living in a healthy way they will hardly have the willingness to purchase and use functional food on a regular basis.

All in all, based on the studies of Poiniski (2019), Lau, Chan, Tan, & Kwek (2012), Kuster-Boluda & Vidal-Capilla (2017) Landstrom, Hursti, Becker, & Magnusson (2007), Karelakis, Zevgitis, Galanopoulos, & Mattas (2019), and Urala & Lahteenmaki (2007), it can be concluded that there is a positive relationship between health consciousness of consumers and their demand for functional foods. Indeed, any health conscious individual should realize the utmost significance of nutrition for remaining healthy. The health benefits of functional foods to the human body and mind incite these consumers to opt for functional foods. There is no study that is devoted to the examination of the relationship between the health consciousness of Azerbaijani consumers and their demand for functional foods. Therefore, our study will be significant in order to check whether a positive relationship is also peculiar to the functional food market of Azerbaijan.

## 2. METHODOLOGY

### 2.1. The choice of research method

One of the most substantial challenges that every researcher encounters is the choice of methodology. According to Opoku, Ahmed, & Akotia (2016), a methodology is a way how the data are collected and examined. It is difficult to overvalue the significance of the research method and therefore, it is necessary to treat its choice in a delicate way. Suffice it to say that the reliability of the study directly depends on the chosen method. Moreover, apart from the results of the study, it is important to present the way how these results have been achieved by researchers.

Walker (1997) also believes that the choice of the research method is one of the aspects that predetermines the overall quality of the study. It is indicated that a properly chosen research method is an appropriate means to minimize bias. Apart from this, the high quality of certain research can be achieved with the help of the choice of variables and clear and well-written hypotheses.

In this study, the quantitative method of the survey has been employed. One of the main reasons for the choice of this method is the analysis of previous studies. A number of different scholars including Mesanovic, Kadic-Magljalic, & Cicic (2013), Vella, Stratton, Sheeshka, & Duncan (2014), Khatkar, Panwar, Kapoor, & Khatkar (2016), and Karelakis, Zevgitis, Galanopoulos, & Mattas (2019) have used the method of the survey in similar studies that have been conducted in Canada, India, and Greece.

Furthermore, the method of the online survey has been chosen because of its virtues. One of these virtues is that this method allows researchers to get responses from many people. More importantly, the participants of the study have plenty of time to think about the questions and answer them. This feature distinguishes a survey from an interview where the interviewee does not have similar freedom. The other virtue of the method of online survey is that it is not costly at all. For example, while in the case of an interview, the interviewer is obliged to visit all the interviewees the online survey does not require this which, in turn, allows to save both financial resources and time. In addition, the method of online survey requires fewer endeavors as the questionnaire can be designed in a short period of time and disseminated with the help of social media channels.

Reliability can be shown as the other virtue of the survey method. Indeed, all the respondents are provided with the same set of questions and the order of questions is the same

for all as well. It would be pertinent to emphasize that this consistency is peculiar only to the method of survey. For instance, during the interviews, the questions and their order can alter because of the answers of the interviewee. Besides, the standard set of questions that is used in surveys automatically eliminates the factor of bias which can be encountered during the interviews. However, the presence of bias in the survey is also possible if the questions are not formulated in an understandable way.

The next virtue of the online survey method is its convenience. To be more specific, this method allows researchers to both monitor and gather the results of data with the help of the Internet. More importantly, this method makes it possible to present the results in a precise way. For example, the results can be reflected in different forms including pie charts, line charts, and other kinds of graphs. Consequently, the possibility to make such an accurate presentation of results facilitates drawing precise conclusions. Apart from this, this also allows the researchers to compare the results of the current study with the results of the studies conducted by other scholars.

## **2.2. Hypotheses**

This study will analyze numerous variables, including the level of education, age, health consciousness, gender, emotional intelligence, chemophobia, willingness to purchase functional foods, and the existence of children. The model below clearly shows the relationship between these variables.

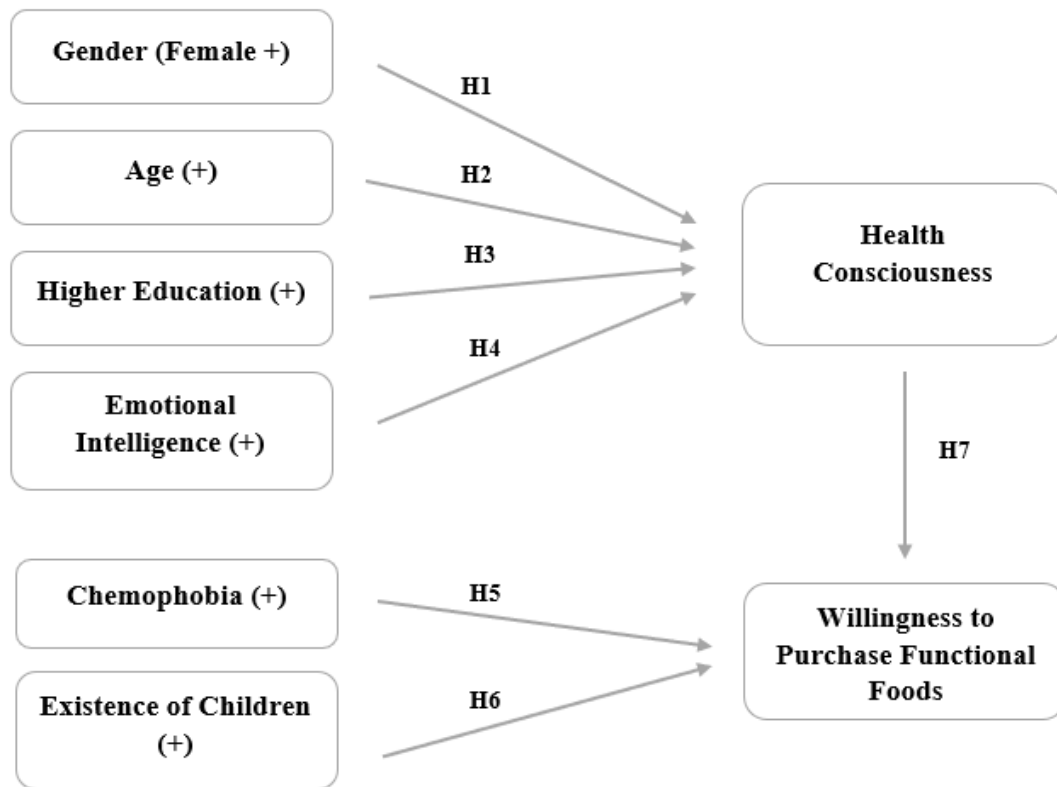


Figure 4. Conceptual Framework. Source: Author's Own

The first issue regarding the purchase of functional food that needs clarification is the gender of consumers. More specifically, it is necessary to establish whether the gender of Azerbaijani customers influences their propensity for buying functional food. The review of previous studies has shown that there are different results regarding the factor of gender. For instance, as to Urala & Lahteenmaki (2007), the gender factor has no important influence on functional food preferences and health consciousness. On the other hand, Wennstrom (2000), Kuster-Boluda & Vidal-Capilla (2017), Cakiroglu & Ucar (2018), and Poiniski (2019) indicate that females are more likely to choose functional food, suggesting that they are more health conscious. Based on this, the first hypothesis is:

*H1: Female gender is more health conscious than males.*

The other independent variable that will be analyzed is the factor of age. In this case, the views of scholars differ as well. For example, according to Lau, Chan, Tan, & Kwek (2012), consumers who are under 40 are more likely to show interest towards functional food. On the other hand, Henry (2010) underlines that elder people are more interested in purchasing and consuming functional food taking into account that they are more cautious about their health condition. There the second hypothesis is:

*H2: The Elder the consumer the more health conscious he is.*

The level of education is also a significant factor that can have an impact on the preference of functional food. For instance, Cakiroglu & Ucar (2018) indicate that Turkish consumers with a higher level of education prefer optional food more when comparing to other consumers. Similarly, Lau, Chan, Tan, & Kwek (2012) shows the same tendency amongst consumers from Malaysia. The main reason consists in the fact that educated people are more informed about the necessity to consume healthy food and therefore, they are more likely to be health conscious.

*H3: Higher education has a significant and positive impact on health consciousness.*

According to Espinosa & Kadic-Maglajlic (2018), there is a direct relationship between emotional intelligence and health consciousness. To make it clear, their study shows that people with high emotional intelligence are more health conscious which has an impact on their lifestyle. More specifically, they are more prone to go in for sports and eat more healthily. The following hypothesis is directed to check to what extent these findings are applicable to Azerbaijani consumers.

*H4: Emotional intelligence has a significant positive impact on health consciousness.*

Moreover, Gribble (2013) notes that people with chemophobia are convinced that food products which are not natural are harmful to their health. Thus, they do not purchase foods that are saturated with chemical elements. The hypothesis below will have the purpose to what extent Azerbaijani consumers with chemophobia are willing to use functional foods.

*H5: Higher Levels of Chemophobia results in higher willingness to purchase functional food.*

One of the factors that has an influence on the willingness of people to purchase functional food is family composition. For instance, Urala & Lahteenmaki (2007) underline that people who have little children are more interested in purchasing functional food taking into account that this kind of food contains elements that are vital for the growth of children. Karelakis, Zevgitis, Galanopoulos, & Mattas (2019) also state that the factor of the absence of children or their presence can have its role in the attitude of people towards functional food.

*H6: The existence of children significantly and positively impacts the willingness of consumers to purchase functional food.*

The review of previous studies has shown that one of the main factors that incite consumers to prefer functional food over other kinds of food is health consciousness. Studies conducted in different countries indicate that there is a positive relationship between the

health consciousness of people and their willingness to buy functional food. Therefore, it would be logical to suppose that in the case of Azerbaijan, the same kind of relationship will be established.

*H7: Health consciousness of Azerbaijani customers has a significant positive impact on their willingness to purchase functional food.*

### **2.3. The details of the research**

In order to test all of the mentioned hypotheses, the questionnaire has been designed. It includes different types of questions including multiple-choice questions, yes/no questions, and questions with Likert scale (from 1 to 5). Moreover, it would be germane to indicate that the questionnaire has been created with the help of Google Forms. The link to the survey will be disseminated via social media platforms such as Twitter, LinkedIn, Vkontakte, and Facebook and will be sent via email. More specifically, the link will be shared in posts and will be posted in different Facebook groups. All these actions will be directed to target Azerbaijani customers from different categories.

The questions of the survey have been designed to serve the purpose of the study and test the suggested hypotheses. First of all, the participants of the study will be asked about their place of residence. Even though the description of the survey indicates that it is designed for Azerbaijani customers the questions about the place of residence one more time ensures that the participants of the study buy products in Azerbaijan. Moreover, it is noteworthy that Azerbaijani consumers do not necessarily mean that the nationality of these consumers should be Azerbaijani. The main point is that these people should live on the territory of Azerbaijan and visit department stores.

The other questions are directed to determine to which group the respondents belong. It should be pertinent to mention that the survey is anonymous and personal data such as name and surname are not asked. However, the participants of the study are asked to mention their gender, age, level of education, and family status. These questions will allow to differentiate respondents which will allow to determine how the answers of the representatives of various groups differ. For instance, it will become possible to establish the difference in responses of males and females.

The subsequent questions will have the purpose to find out whether Azerbaijani consumers are aware of functional foods and determine their willingness to purchase them. In addition, the participants of the study will be asked more detailed questions about functional

foods. To be more specific, they have been asked how often they purchase and consume functional food, what they know about the distinctive features of functional food, what is the reason of the consumption of functional food by them, which kind of functional food they prefer, and whether they feel the positive effect of functional food on their body and mind. The final part of the survey has the purpose to determine the emotional intelligence and the level of chemophobia of participants of the study in order to be able to determine to what extent these factors have an impact on their willingness to consume functional foods.

Moreover, it should be emphasized that Likert scale is used as the main measurement tool. According to Joshi et al. (2015), Likert scale can be identified as a scale a 5- or 7-point scale that has a purpose to determine to what extent a certain person disagrees or agrees with the statement provided. One of the main advantages of this case is that it is helpful to measure different factors including likelihood, importance, quality, and frequency. In addition, this scale is useful to examine the attitude of people towards a specific issue which makes the Likert scale proper for the current study. It should be noted that the use of Likert scale is incorporated from previous studies. More precisely, the willingness of consumers to purchase functional foods will be determined with the help of the measurement tool suggested by Xia & Zeng (2006) and the level of chemophobia by the tool suggested by Saleh, Bearth, & Siegrist (2020). On the other hand, the willingness to purchase functional food is determined by the scale provided by Rodgers (2004) the alpha of which is .73.

The other important issue is the calculation of the sample size. Taking into account that the population of Azerbaijani people is high the size will be calculated based on the following formula:  $n = (z)^2 p(1-p) / e^2$ , where

e - acceptable sample error;

p - estimated % in the population;

z - standard error associated with the chosen level of confidence;

n - necessary sample size (Cresswel, 1994).

The chosen level of confidence is 95 %; standard error  $z = 1,96$ ;  $p = 50 \% (0,5)$ ;  $e = 5 \% (0,05)$ . After inserting these numbers in the formula, we find out that the sample size (n) is equal to 384.

## **2.4. Limitations**

The chosen method of the online survey has certain limitations as well. First of all, due to the technical features of the Google Forms platform, it is possible for a person to answer the questions of the survey repeatedly from the same IP address. It means that if someone takes the survey at least two times the distortion of the results of the study will occur inevitably. Moreover, it is impossible to guarantee that all the respondents will be sincere while answering to the presented questions. Any dishonest response will have a negative effect on the quality of the research. However, it should be born in mind that this aspect is out of control of any researcher. Apart from this, misunderstanding of questions can also be an obstacle to a successful study. Indeed, it is quite possible that even though the questions of the survey are presented in a clear way the respondents will not be able to apprehend the question because of the lack of education or other reasons.



### 3. DATA ANALYSIS AND RESULTS

#### 3.1. Demographic Analysis

As it was accentuated in the methodology part of the paper, the online survey was carried out with the help of Google Forms. The survey was activated on November 30, 2020 and by December 13, 2020 all the necessary data was obtained. Overall, 384 Azerbaijani consumers took part in the survey. 208 respondents were females while 176 respondents were males which constitute 54.2 % and 45.8 % accordingly (see Figure 5).

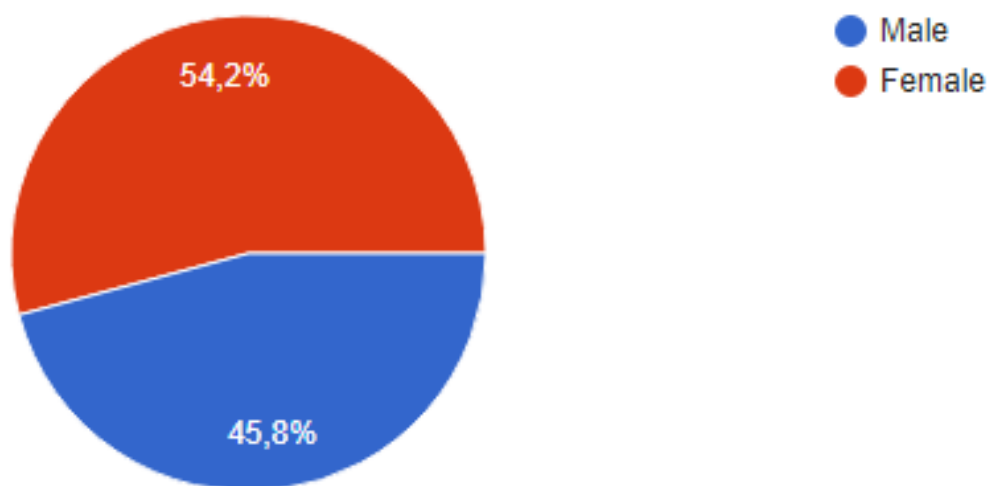


Figure 5. Gender of the participants of the survey. (Source: Google Forms)

Moreover, different age categories were represented in the survey. To be more specific, 150 respondents were 25 or younger (39.1 %), 117 respondents were at the age between 26 and 40 (30.5 %), 78 participants were between 41 and 59 (20.3 %), and 39 respondents were 60 or older (10.2 %) (see Figure 6).

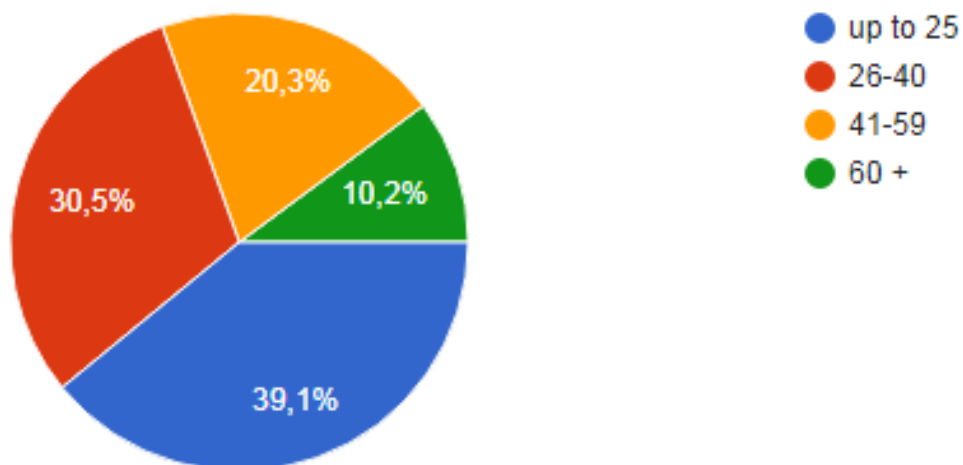


Figure 6. Age of the participants of the survey. (Source: Google Forms)

It can be also stated that consumers who partook in the survey had different levels of education. To be more precise, 184 consumers have a bachelor's degree (47.9 %), 116 of them have a master's degree (30.2 %), 29 consumers are Ph. D., (7.6 %) and 55 respondents (14.3 %) do not have a higher education (see Figure 7). Additionally, only 137 respondents (35.7 %) indicated that they had children who are 15 or younger.

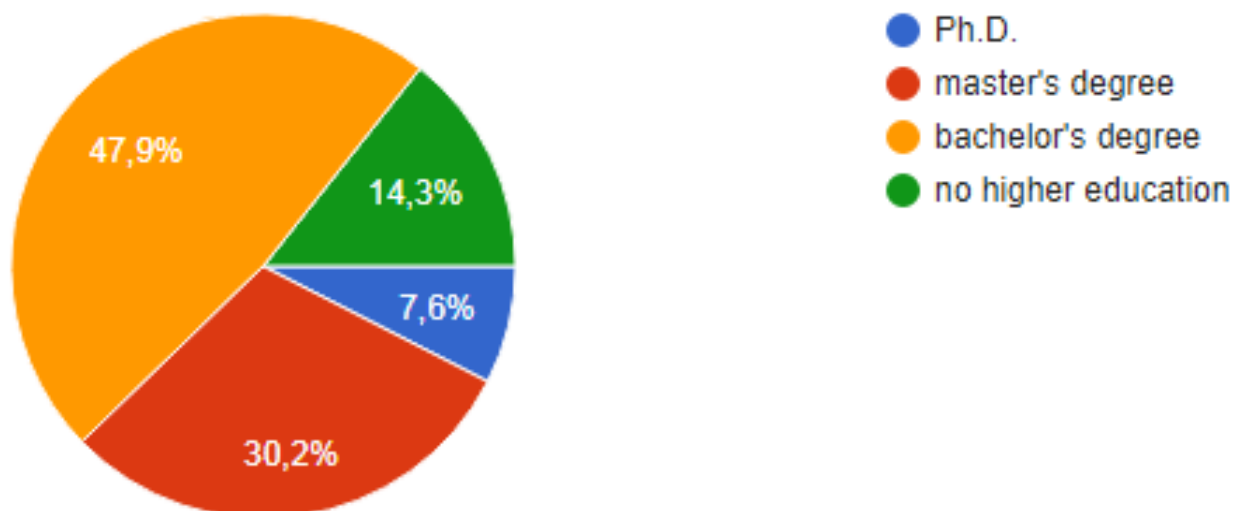


Figure 7. The level of education of the participants of the survey. (Source: Google Forms)

It is noteworthy that only 132 respondents which constitute 34.4 % knew what the functional food was. Therefore, for the rest of respondents, there was a detailed description of the concept of functional food. Overall, it can be stated that more than half of respondents

believe in health benefits of functional food. For instance, 214 people or 55.7 % think that functional food promotes people's well-being. Similarly, 196 respondents or 51 % are convinced that the consumption of functional food improves performance. In turn, 265 respondents (69 %) positively evaluate the fact that modern technology allows the development of functional food.

Nevertheless, it would be germane to underscore that Azerbaijani consumers still did not consider as panacea. For instance, 74 people or 19.3 % do not think that regular consumption of functional food can prevent diseases while 178 consumers or 46.4 % are not sure about it. Furthermore, 53 consumers (13.8 %) do not think that functional food is helpful to improve mood while 191 consumers (49.7 %) are not sure about it. Similarly, 65 people (16.9 %) do not agree with the statement that functional food can repair the damage caused by an unhealthy diet whereas 168 people (43.8 %) are not sure. It can be also stated that 130 respondents (33.9 %) think that exaggerated information is provided in regard to the health effects of functional food.

### 3.2. Frequency Analysis

This section of the study evaluates the questions related to the hypotheses in a descriptive way. One of the questions of the survey was about whether consumers lead a healthy lifestyle. Overall, 154 people answered that they led a healthy lifestyle which constitutes 40.1 % (see Figure 8).

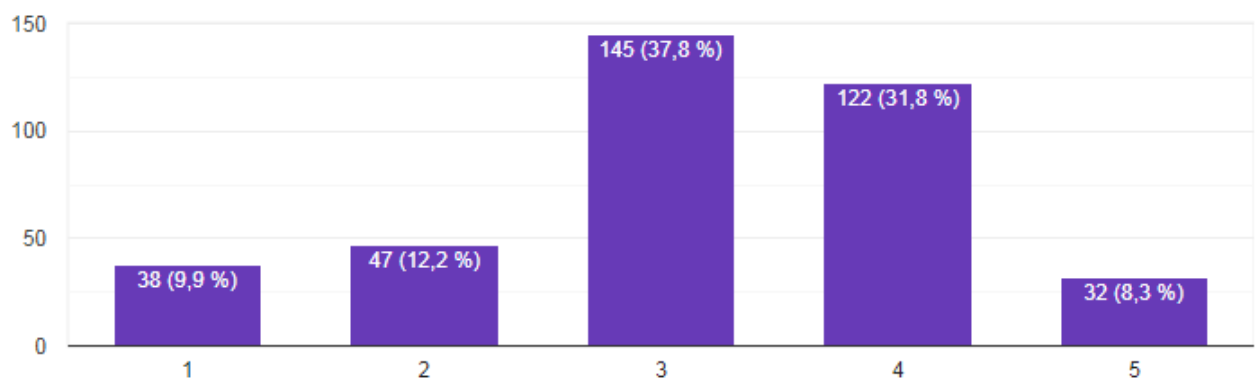


Figure 8. The statement "I lead a healthy lifestyle". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: Google Forms)

When considering the attitude of these 154 respondents towards functional, it becomes clear that the majority of them are willing to purchase such food. To be more specific, 115 respondents are likely to purchase functional foods (see Table 1).

Table 1. (Source: author's creation)

| <b>Consumers who lead a healthy lifestyle</b>                    |     |
|--|-----|
| I am likely to purchase functional foods                         | 115 |
| I am not likely to purchase functional foods                     | 39  |
| I would like to have more information about functional food      | 142 |
| I would not like to have more information about functional foods | 12  |
| I am interested in functional foods                              | 129 |
| I am not interested in functional foods                          | 25  |

Moreover, it is necessary to emphasize that overall, 63 % of Azerbaijani consumers are likely to purchase functional food. In the case of consumers who lead a healthy lifestyle and therefore, can be considered health-conscious the percentage is calculated in the following way:  $115/154 = 74.7\%$ . Thus, it can be seen that the percentage of the ones who are likely to purchase functional foods among health-conscious consumers are higher in comparison with the overall results which allows us to infer that health consciousness of Azerbaijani consumers have a positive impact on their willingness to purchase functional foods.

However, leading a healthy lifestyle can be understood in different ways by respondents and therefore, in order to make sure whether there is a positive relationship between health consciousness and willingness to purchase functional foods, it is necessary to analyze the answers of consumers who indicate that they eat primarily healthy food since it is a feature of health consciousness. Overall, 105 respondents stated that they consumed healthy food which constitutes 27.3 % (see Figure 9).

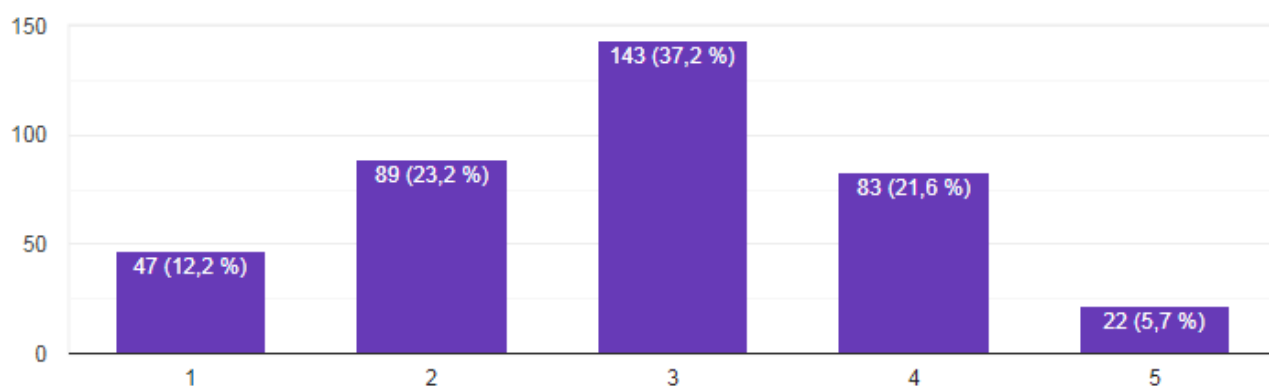


Figure 9. The statement "I eat only healthy food". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: Google Forms)

The analysis of the results of Azerbaijani consumers that mainly eat healthy food also shows that the majority of them are both interested in functional food and they are likely to purchase functional foods. To be more precise, 99 of these respondents are interested in functional food and 95 of them are likely to purchase functional food (see Table 2).

Table 2. (source: author's creation)

| <b>Consumers who consume healthy food</b>                       |    |
|---|----|
| I am likely to purchase functional food                         | 95 |
| I am not likely to purchase functional food                     | 10 |
| I would like to have more information about functional food     | 88 |
| I would not like to have more information about functional food | 17 |
| I am interested in functional food                              | 99 |
| I am not interested in functional food                          | 6  |

In this case, the percentage of the ones who are likely to purchase functional food is equal to  $95/110 = 90.5\%$ . This indicator is also much higher in comparison with the overall percentage. Therefore, it can be indicated that health consciousness of Azerbaijani customers has a positive impact on their willingness to purchase functional food.

After determining that health consciousness of Azerbaijani consumers is positively related with their willingness to purchase functional foods, the research studies whether the factor of gender has an impact on health consciousness. The separate analysis of the opinion of male respondents about whether they lead a healthy lifestyle shows that only 39 (30+9) of them identify themselves as persons leading a healthy lifestyle (see Figure 10). This

constitutes 22.1 % of the overall number of male respondents.

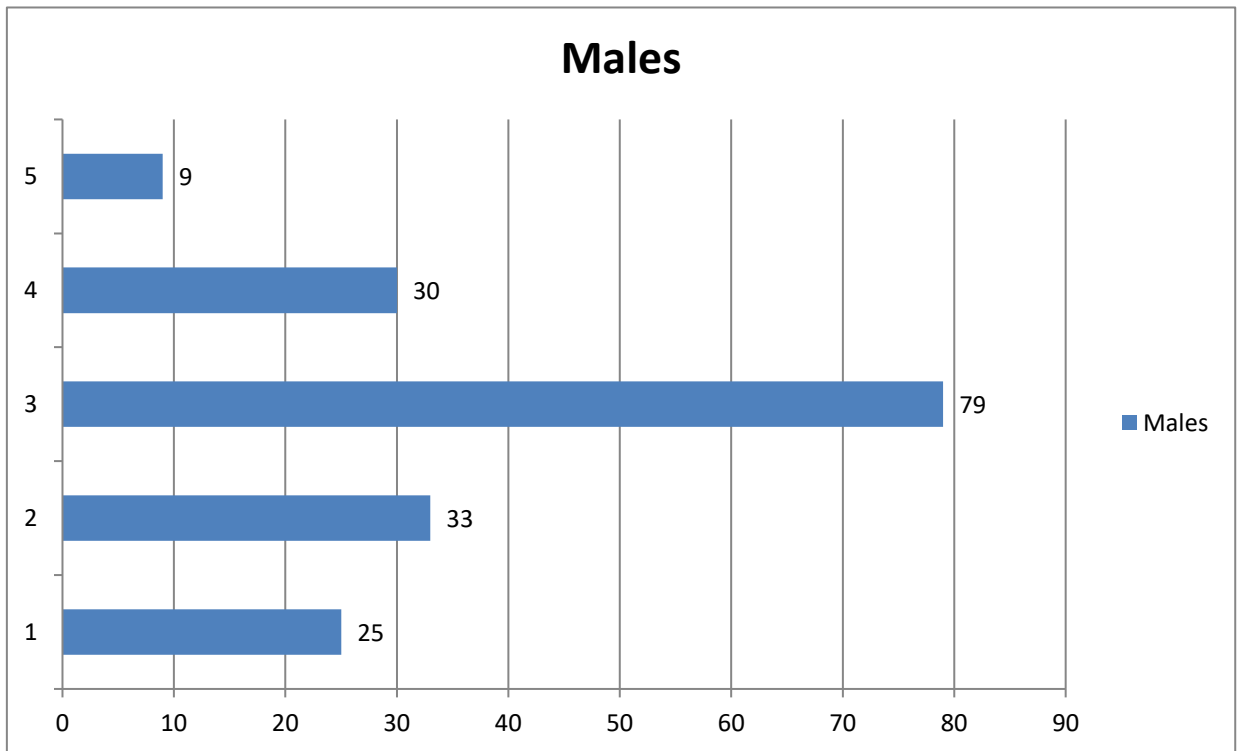


Figure 10. The statement "I lead a healthy lifestyle". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

In the case of female respondents, 115 (23+92) out of 208 individuals lead a healthy lifestyle (see Figure 11). This constitutes 55.2 % of the overall number of women who took part in the survey. Thus, when comparing percentages of males and females who lead a healthy lifestyle it becomes obvious that the latter are more health conscious.

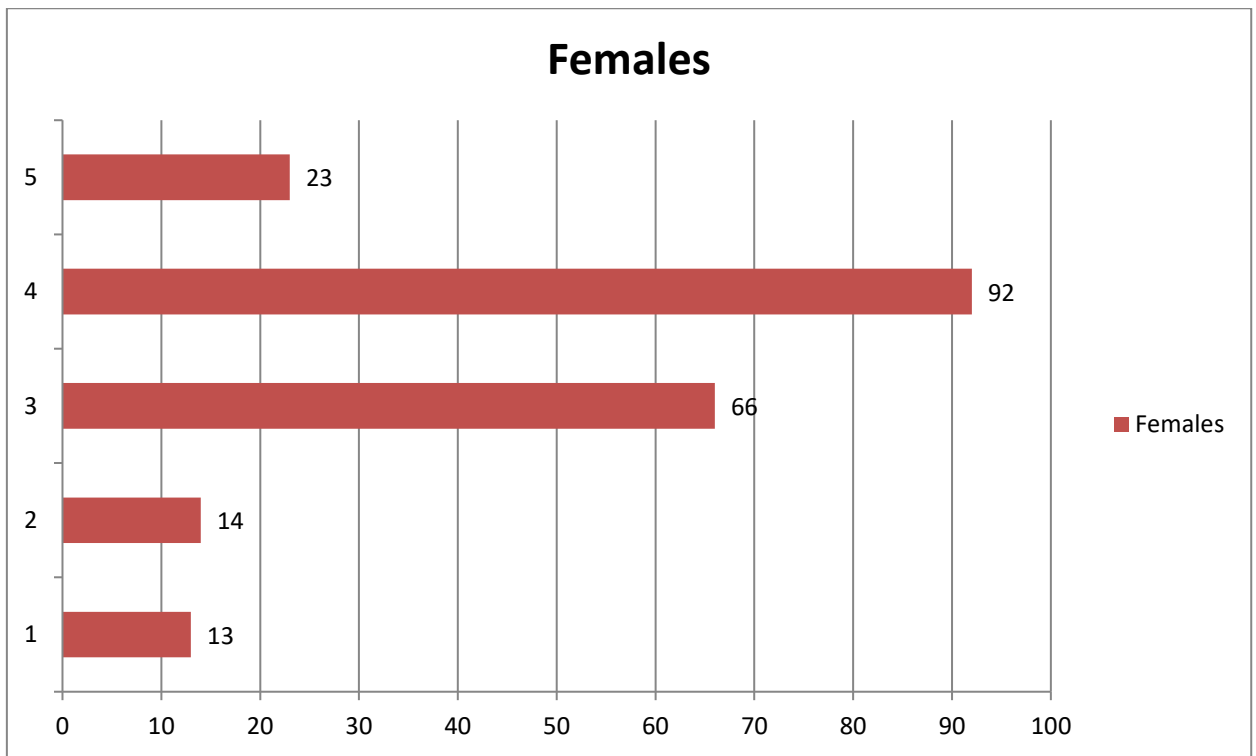


Figure 11. The statement "I lead a healthy lifestyle". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

Similarly, the answers of males and females to the question about eating healthy food also show that the latter are more health conscious. More precisely, 33 (7+26) males out of 176 state that they mainly consume healthy food which constitutes 18.7 % (see Figure 12). In the case of women, this indicator is 72 (15+57) out of 208 which constitutes 34.6 %.

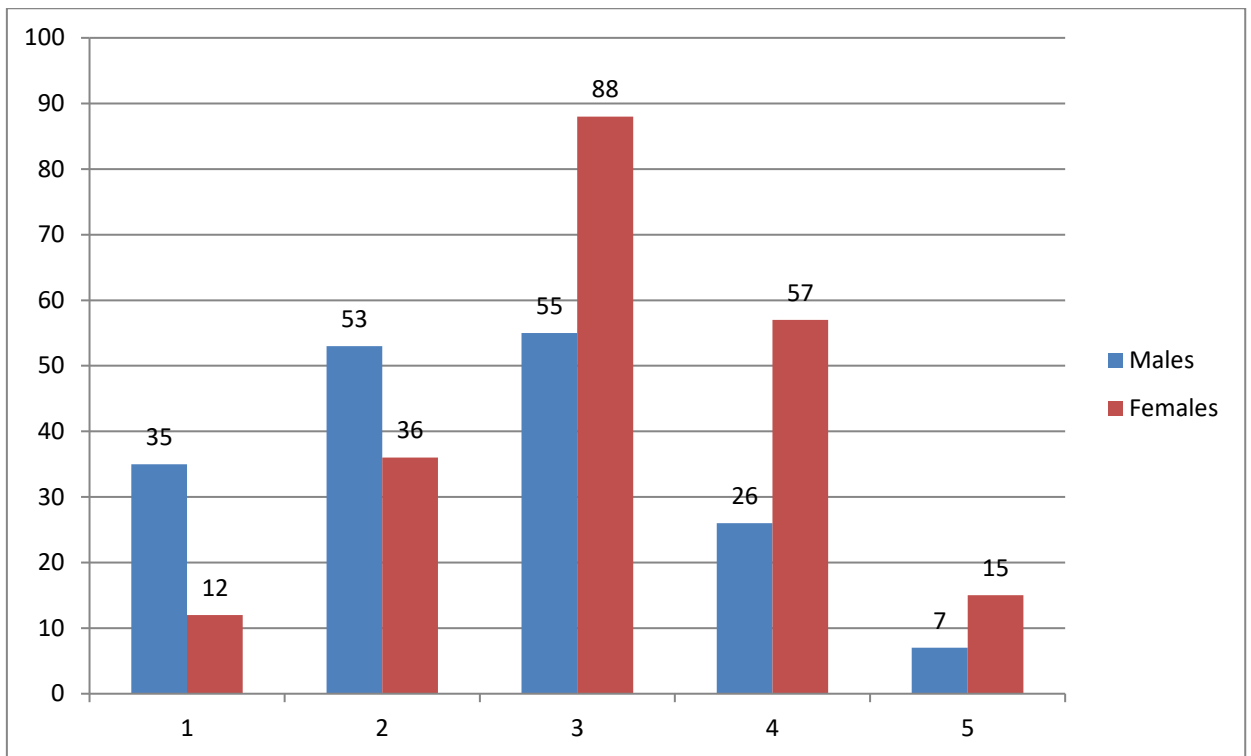


Figure 12. The statement "I eat only healthy food". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

Hence, based on the above-mentioned analysis, it can be stated Azerbaijani females are more health conscious.

According to previous studies (Henry (2010) and Lau, Chan, Tan, & Kwek (2012)), the factor of age has an impact on health consciousness. For instance, Henry (2010) notes that elderly people are more health conscious. Therefore, in order to examine whether the factor of age has a relationship with health consciousness and whether elderly people are more health-conscious responses of consumers who are 60 or older are analyzed separately. According to Figure 13, 20 (4+16) people out of 39 lead a healthy lifestyle. Therefore, the ratio is  $20/39 = 51.2\%$ . In turn, the ratio of people leading a healthy lifestyle among all the respondents is 40.1 %.



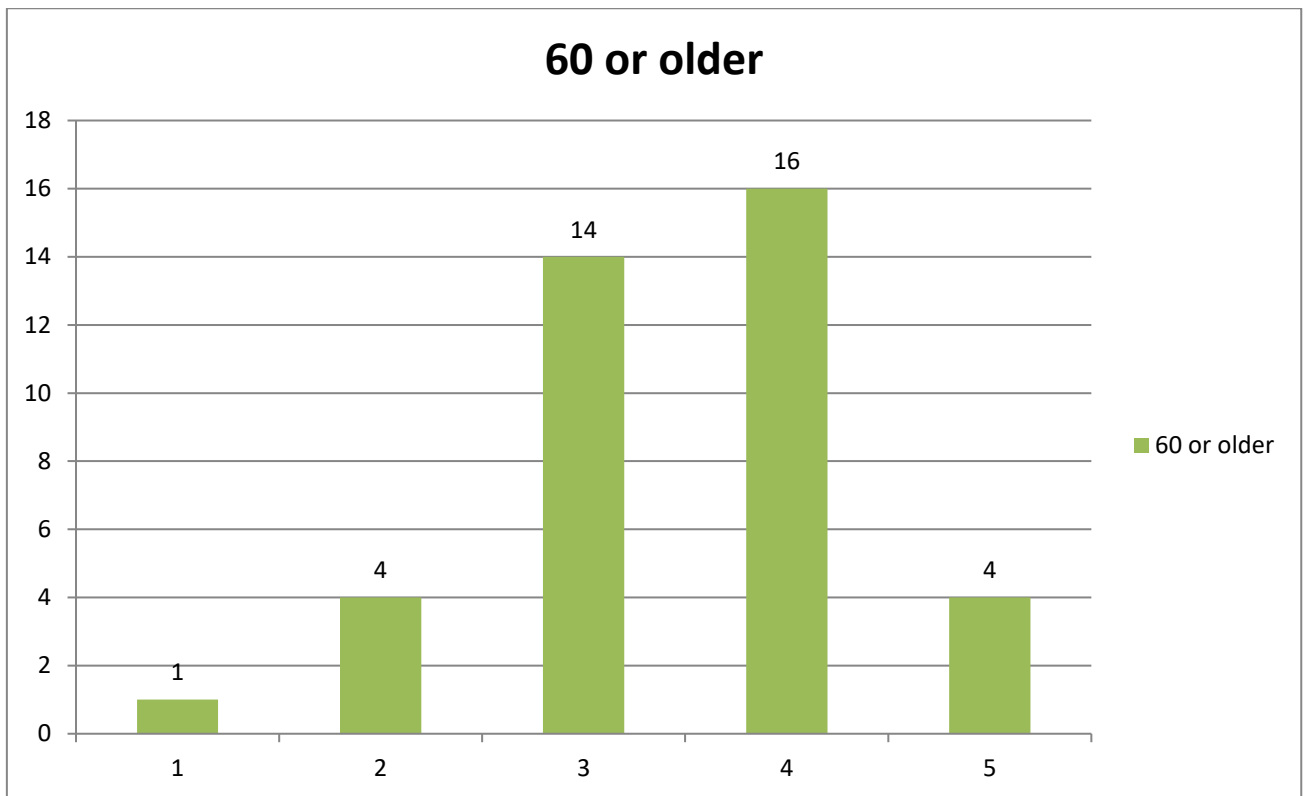


Figure 13. The statement "I lead a healthy lifestyle". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

Moreover, according to Figure 14, 20 (5+15) people out of 39 indicate that they consume only healthy food. The ratio is the same:  $20/39= 51.2\%$ . The ratio of people that primarily consume healthy food among all the participants of the survey is  $27.3\%$ . Therefore, it can be seen that the ratio of people who are 60 or older is higher in both cases.

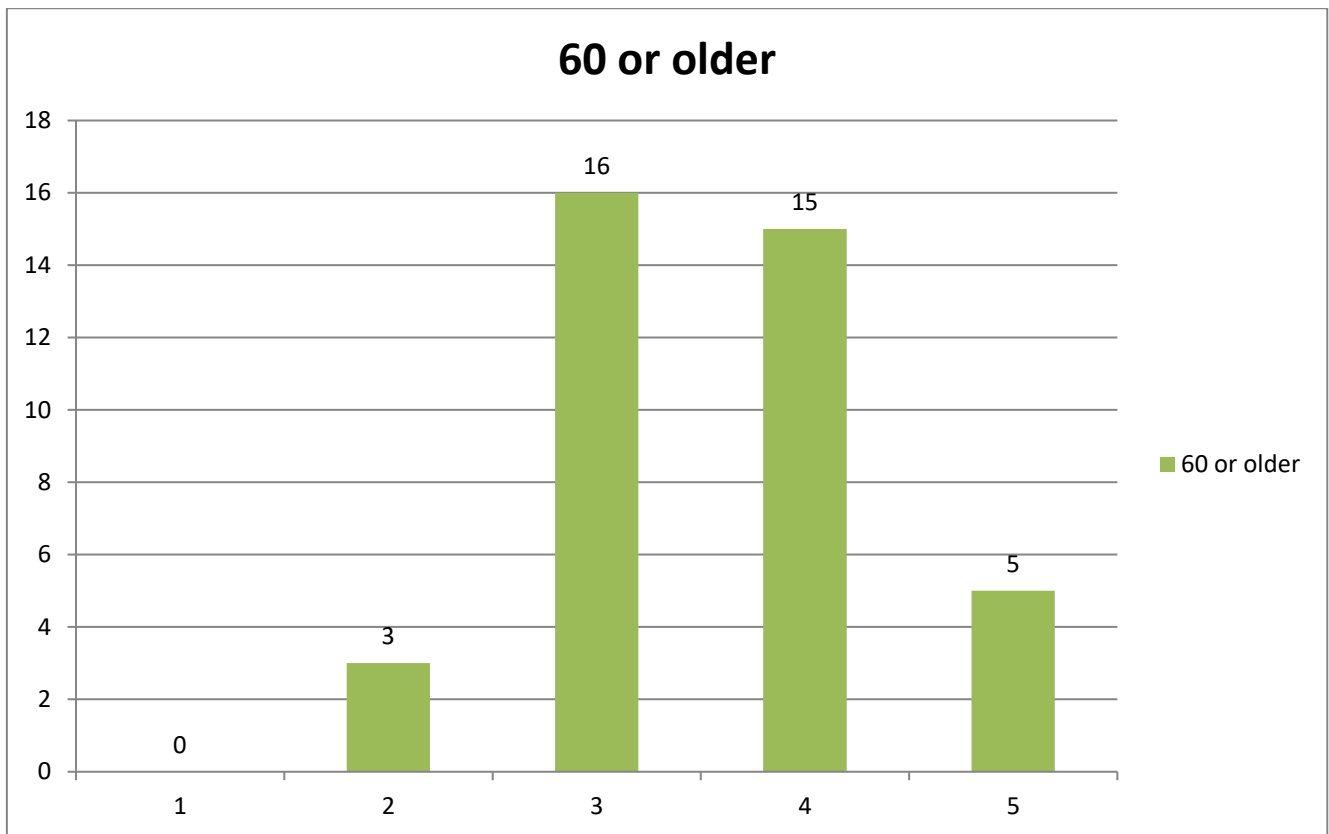


Figure 14. The statement "I eat only healthy food". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

Cakiroglu & Ucar (2018) as well as Lau, Chan, Tan, & Kwek (2012) argue that the level of education has an impact on health consciousness and people with a higher level of education are more health conscious.

According to Figure 15, 15 (3+12) out of 55 respondents lead a healthy lifestyle which constitutes 27.2 %. It is much lower in comparison with the portion of people leading a healthy lifestyle amongst all the respondents which is 40.1 %.

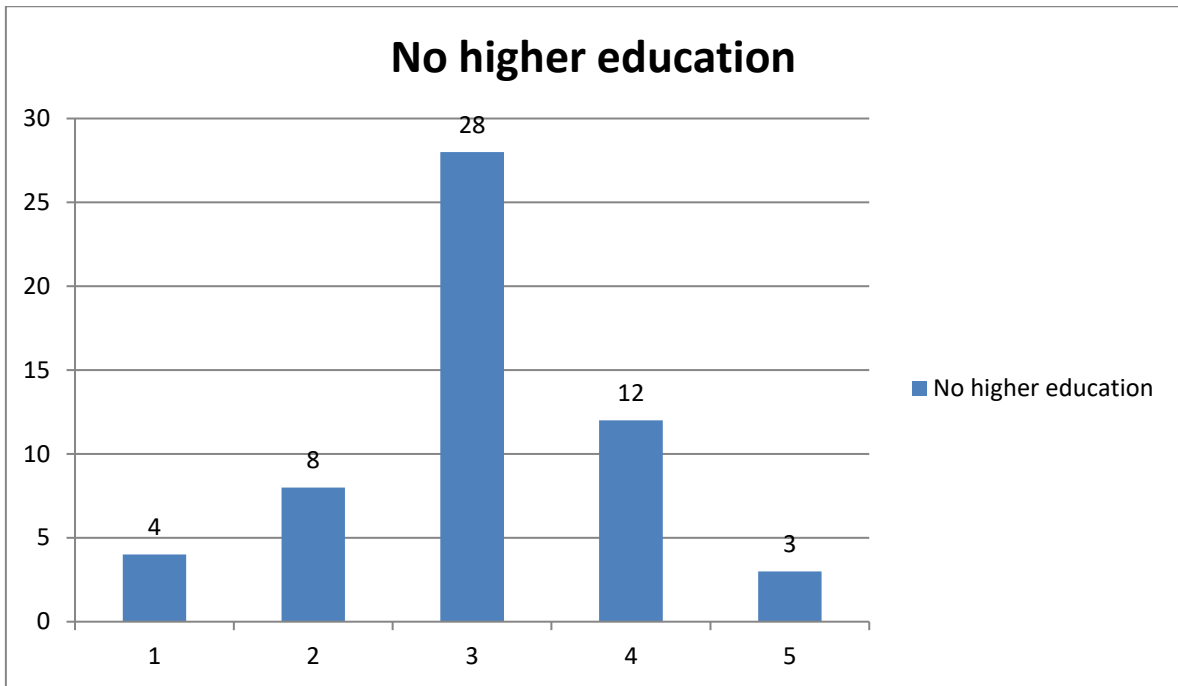


Figure 15. The statement "I lead a healthy lifestyle". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

Moreover, as to Figure 16, 14 (3+11) consumers out of 55 accentuate that they chiefly eat healthy food which constitute 25.4 %. This indicator is also lower in comparison with the ratio of people that primarily consume healthy food among all the participants of the survey which is 27.3 %. Based on these results, it can be said that Azerbaijani consumers with a higher education (bachelor's degree, master's degree, and Ph.D.) are more health conscious.

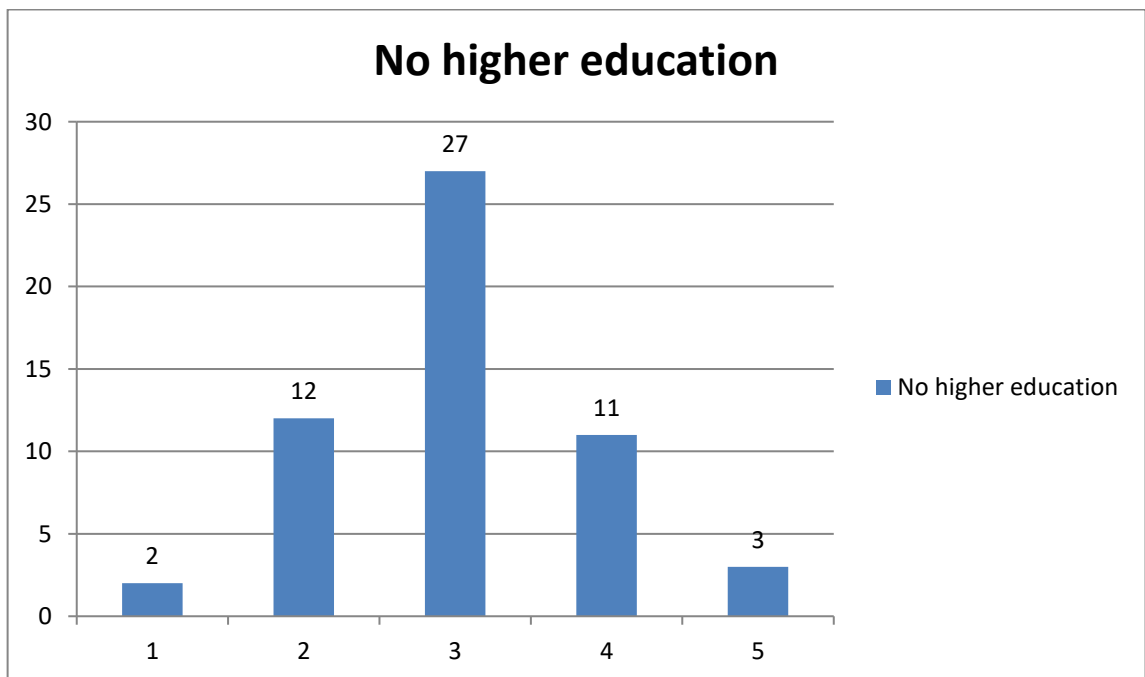


Figure 16. The statement "I eat only healthy food". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

In order to determine whether the factor of children who are has an impact on the willingness of Azerbaijani consumers to purchase functional food, the answers of people who have children that are 15 or younger is considered separately. According to Table 3, 82 of 137 people having children who are 15 or younger are likely to purchase functional food which constitutes 59.8 %. In turn, the ratio of people who are willing to buy functional food among all the respondents are 63 %.

Table 3. (source: author's creation)

| <b>Consumers who have children that are 15 or younger</b>       |    |
|---|----|
| I am likely to purchase functional food                         | 82 |
| I am not likely to purchase functional food                     | 55 |
| I would like to have more information about functional food     | 88 |
| I would not like to have more information about functional food | 49 |
| I am interested in functional food                              | 86 |
| I am not interested in functional food                          | 51 |

Therefore, it can be inferred that the factor of having children up to 15 years old does not make Azerbaijani consumers more willing to purchase functional food.

Based on the answers of Azerbaijani consumers, they were divided into three groups. The majority of them, namely 298 persons have EQ between 91-110 which is considered the average result (see Figure 17). Moreover, 55 persons have EQ which is 90 or less (below average) and 31 persons have EQ equal to 111 or more (above average).

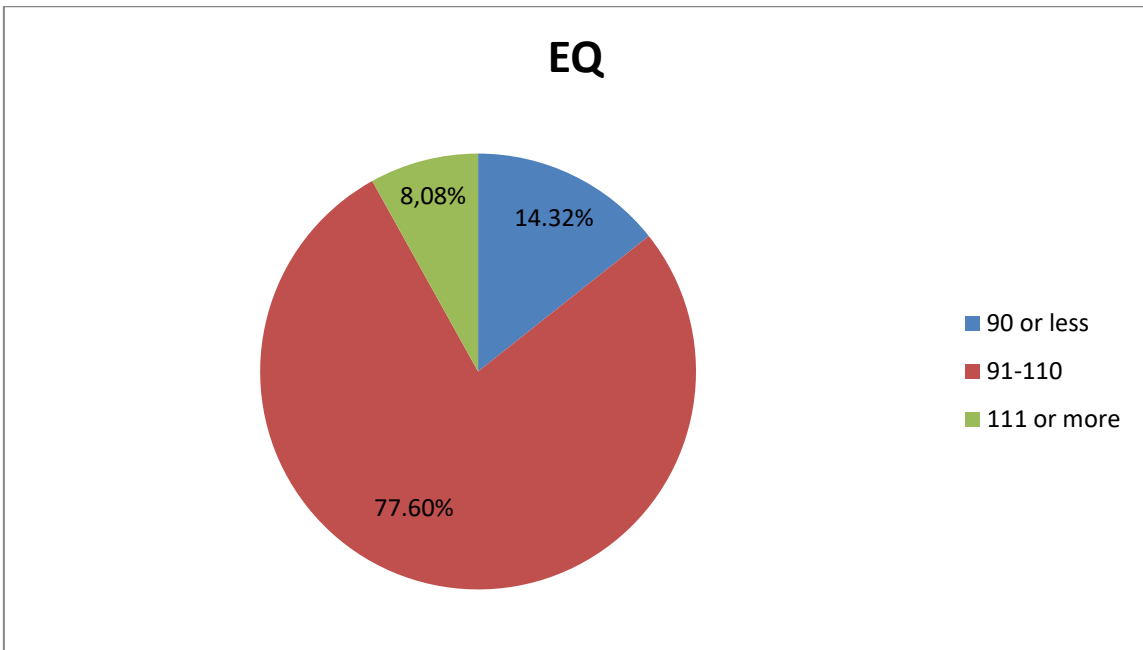


Figure 17. Emotional quotient of respondents. (source: author's creation)

In order to check whether there is a positive relationship between the high level of emotional intelligence and the high level of health consciousness, it is necessary to examine the answers of people with high EQ. According to Figure 18, 12 of 31 respondents with high EQ lead a healthy lifestyle which constitute 38.7 %. In turn, the portion of people leading a healthy lifestyle amongst all the respondents is 40.1 %.

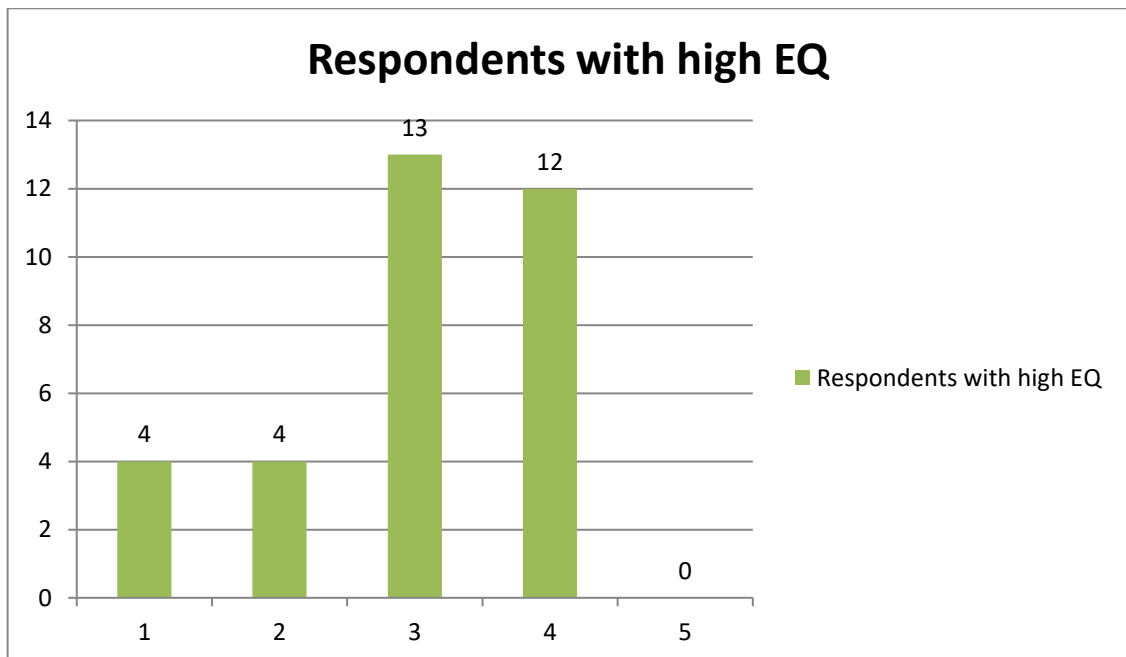


Figure 18. The statement "I lead a healthy lifestyle". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

Moreover, according to Figure 19, 7 (1+6) out of 31 respondents with high EQ indicate that they are primarily consume healthy food. This constitutes 22.5 %. However, in this case, the ratio of people that primarily consume healthy food among all the participants of the survey is also higher and constitutes 27.3 %.

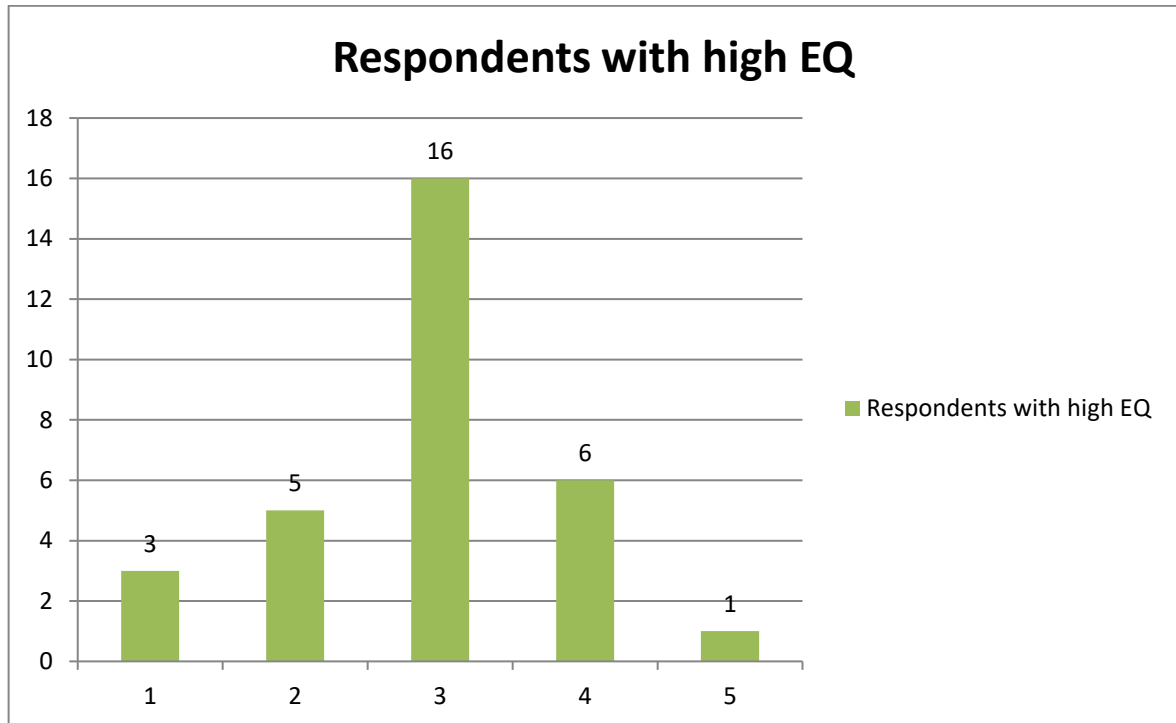


Figure 19. The statement "I eat only healthy food". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

H7: Health consciousness of certain consumers can be manifested in chemophobia which, in turn, has a direct influence on the willingness to buy and consume functional food.

In the context of chemophobia, there are three groups: consumers with a low level of chemophobia, moderate level of chemophobia, and the ones with high level of chemophobia. Overall, 69 people have the low level of chemophobia, and 264 individuals have moderate level of Chemophobia, and 51 individuals have a high level of chemophobia (see Figure 20).

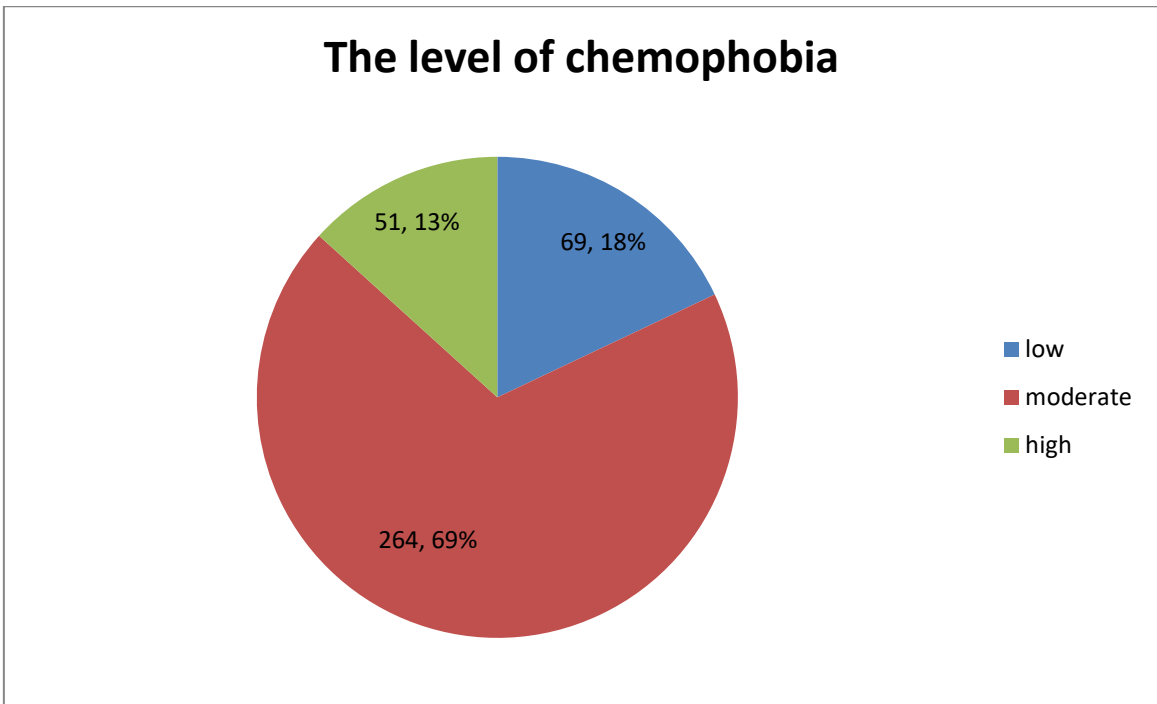


Figure 20. The level of chemophobia of respondents. (source: author's creation)

In order to determine whether people with high level of chemophobia are more health conscious, it is necessary to consider their responses separately. Overall, 17 (4+13) out of 51 respondents with high level of chemophobia state that they lead a healthy lifestyle (see Figure 21). Thus, it can be calculated that it constitutes 33.3 %. The percentage of the ones who lead a healthy lifestyle among all the respondents is 40.1 % which means that the high level of chemophobia does not have a positive relationship with health consciousness.

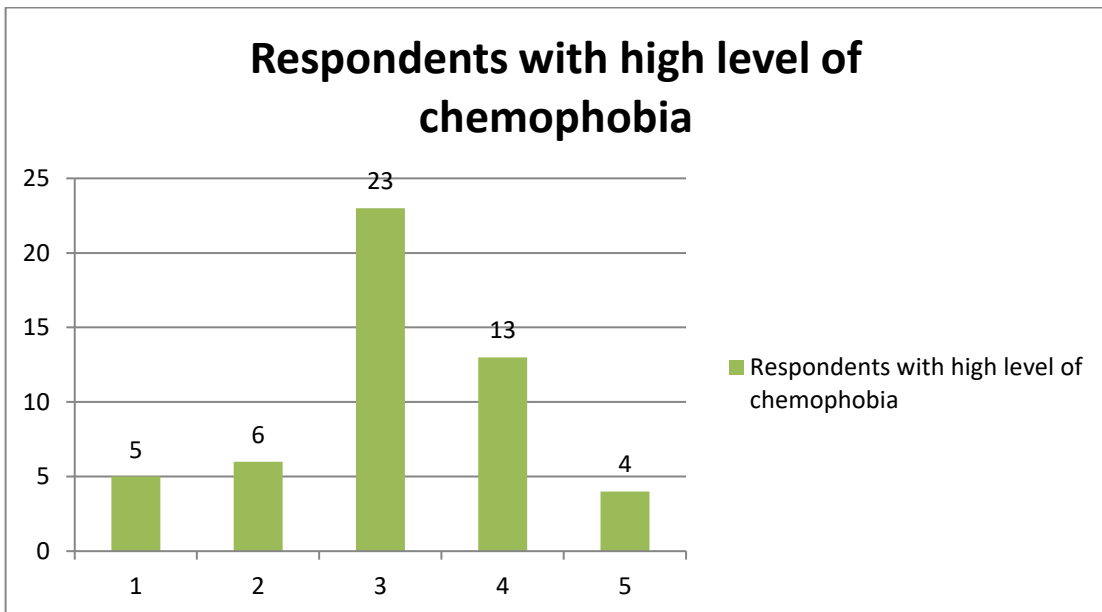


Figure 21. The statement "I lead a healthy lifestyle". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

In addition, it can be observed that 14 (4+10) out of 51 respondents with high level of chemophobia indicate that they consume primarily healthy food which constitutes 27.4 % (see Figure 22). The percentage of the ones who state they consumer chiefly healthy food is 27.3 %. Thus, these indicators are nearly identical which means that consumers with high level of chemophobia cannot be distinguished with a higher ratio of health consciousness when comparing their responses to the overall responses.

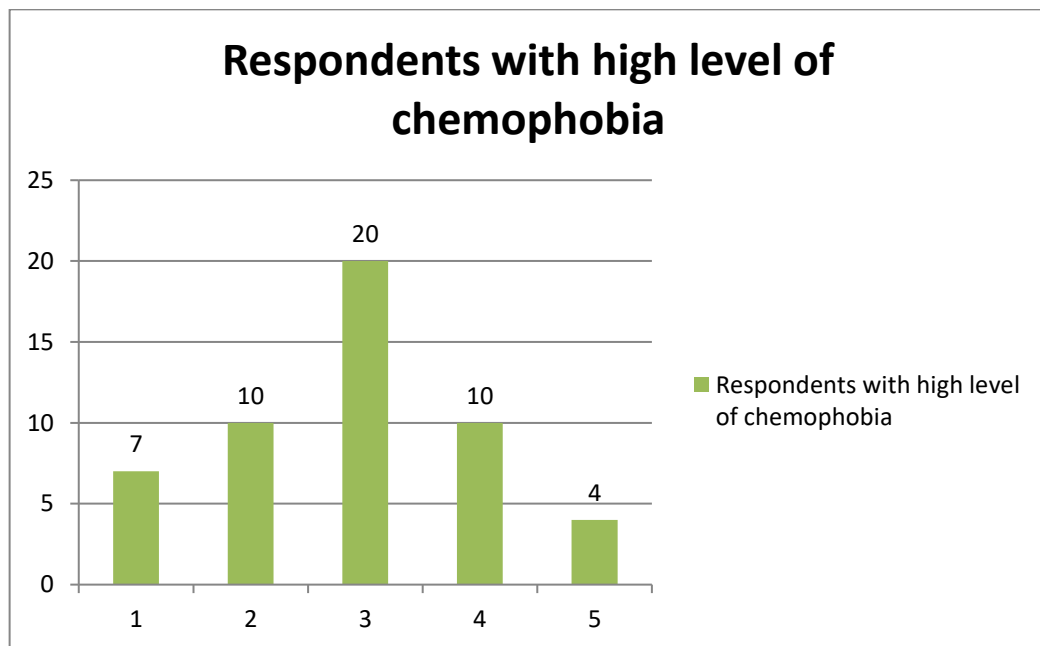


Figure 22. The statement "I eat only healthy food". 1 - has nothing to do with reality and 5 - perfectly describes the reality. (Source: author's creation)

### 3.3. Hypotheses Testing

The main objective of the research is to study the association between health consciousness and the willingness to buy functional food in Azerbaijan. This section specifically focuses on the main objective and addresses the hypotheses of the study. These hypotheses are:

*H1: Female gender is more health consciousness than male.*

*H2: The elder the consumer the more health conscious he/she is.*

*H3: Higher education has a significant and positive impact on health consciousness.*



*H4: Emotional intelligence has a significant positive impact on health consciousness.*

*H5: Higher Levels of Chemophobia results in higher willingness to purchase functional food.*

*H6: The existence of children significantly and positively impacts the willingness of consumers to purchase functional food.*

*H7: Health consciousness of Azerbaijani customers has a significant positive impact on their willingness to purchase functional food.*

To examine the above hypotheses, the study performs different statistical tests. The first test is an independent samples t-test, which is performed to examine the link between gender and health consciousness.

Table 4. Relationship between gender and health consciousness

| Group Statistics             |                             |               |        |        |        |
|------------------------------|-----------------------------|---------------|--------|--------|--------|
| 1) Are you a male or female? |                             | N             | Mean   | SD     | SE     |
| Health Consciousness         | Male                        | 176           | 2.5095 | 0.9404 | 0.0708 |
|                              | Female                      | 208           | 2.9311 | 0.7244 | 0.0502 |
| Independent Samples Test     |                             |               |        |        |        |
|                              |                             | Levene's Test |        | t-test |        |
|                              |                             | F             | Sig.   | t      | Sig.   |
| Health Consciousness         | Equal variances assumed     | 10.911        | 0.001  | -4.958 | 0.000  |
|                              | Equal variances not assumed |               |        | -4.853 | 0.000  |

The group statistics reveal that females have a greater score in health consciousness on average (M = 2.93) than male respondents (M = 2.51). The mean difference is statistically significant,  $t = -4.853$ ,  $p < 0.001$ . It means that females are significantly more health-conscious than males. Thus, **H1 is accepted**.

Table 5. Relationship between age and health consciousness

| ANOVA                |                |     |             |       |       |
|----------------------|----------------|-----|-------------|-------|-------|
| Health Consciousness | Sum of Squares | Df. | Mean Square | F     | Sig.  |
| Between Groups       | 12.852         | 3   | 4.284       | 6.086 | 0.000 |
| Within Groups        | 267.480        | 380 | 0.704       |       |       |
| Total                | 280.332        | 383 |             |       |       |

The impact of age on health consciousness is examined via a one-way ANOVA test. According to the test, health consciousness significantly differs between age groups,  $F = 6.086$ ,  $p < 0.001$ .

Table 6. Health consciousness across age groups

| Multiple Comparisons                     |                       |            |      |
|--|-----------------------|------------|------|
| Dependent Variable: Health Consciousness |                       |            |      |
| (I) 2) What is your age?                 | Mean Difference (I-J) | Std. Error | Sig. |
|  |                       |            |      |

|                |                |          |         |       |
|----------------|----------------|----------|---------|-------|
| Up to 25 years | 26-40 years    | 0.04333  | 0.10348 | 0.676 |
|                | 41-59 years    | .38735*  | 0.11712 | 0.001 |
|                | 60+ years      | .46214*  | 0.15080 | 0.002 |
| 26-40 years    | Up to 25 years | -0.04333 | 0.10348 | 0.676 |
|                | 41-59 years    | .34402*  | 0.12264 | 0.005 |
|                | 60+ years      | .41880*  | 0.15513 | 0.007 |
| 41-59 years    | Up to 25 years | -.38735* | 0.11712 | 0.001 |
|                | 26-40 years    | -.34402* | 0.12264 | 0.005 |
|                | 60+ years      | 0.07479  | 0.16454 | 0.650 |
| 60+ years      | Up to 25 years | -.46214* | 0.15080 | 0.002 |
|                | 26-40 years    | -.41880* | 0.15513 | 0.007 |
|                | 41-59 years    | -0.07479 | 0.16454 | 0.650 |

\*. The mean difference is significant at the 0.05 level.

It is observed that young consumers (Up to 25 years) are significantly more health-conscious than 41-59 years and 60+ years' individuals. Similarly, consumers aged 26-50 years are significantly more health-conscious than the older age groups in the study. It shows that the age factor has a significant but negative influence on health consciousness, and that is, increasing age is associated with declining health consciousness. Thus, **H2 is not accepted.**

Table 7. Relationship between education and health consciousness

| ANOVA                |                |     |             |       |       |
|----------------------|----------------|-----|-------------|-------|-------|
| Health Consciousness | Sum of Squares | Df. | Mean Square | F     | Sig.  |
| Between Groups       | 10.626         | 3   | 3.542       | 4.990 | 0.002 |
| Within Groups        | 269.706        | 380 | 0.710       |       |       |
| Total                | 280.332        | 383 |             |       |       |

The study performs another one-way ANOVA test to assess the link between education and health consciousness. According to the test, health consciousness significantly differs between age groups,  $F = 4.990$ ,  $p < 0.01$ .

Table 8. Health consciousness across education groups

| Multiple Comparisons                          |                     |                       |            |       |
|---|---------------------|-----------------------|------------|-------|
| Dependent Variable: Health Consciousness      |                     |                       |            |       |
| (I) 3) Please mention your level of education |                     | Mean Difference (I-J) | Std. Error | Sig.  |
| No higher education                           | Bachelor's degree   | -.31744*              | 0.12947    | 0.015 |
|   | Master's degree     | -0.20559              | 0.13792    | 0.137 |
|   | PhD                 | -.71421*              | 0.19334    | 0.000 |
| Bachelor's degree                             | No higher education | .31744*               | 0.12947    | 0.015 |
|   | Master's degree     | 0.11185               | 0.09988    | 0.263 |
|   | PhD                 | -.39677*              | 0.16832    | 0.019 |
| Master's degree                               | No higher education | 0.20559               | 0.13792    | 0.137 |
|   | Bachelor's degree   | -0.11185              | 0.09988    | 0.263 |
|   | PhD                 | -.50862*              | 0.17491    | 0.004 |
| PhD   | No higher education | .71421*               | 0.19334    | 0.000 |
|   | Bachelor's degree   | .39677*               | 0.16832    | 0.019 |

|                 |         |         |       |
|-----------------|---------|---------|-------|
| Master's degree | .50862* | 0.17491 | 0.004 |
|-----------------|---------|---------|-------|

\*. The mean difference is significant at the 0.05 level.

Based on multiple comparisons, the highest degree holders (Ph.D.) among the consumers have the highest health consciousness score, which is significantly higher than the master's, bachelors and respondents with no higher education. It means that higher education has a significant and positive impact on health consciousness; **H3 is accepted.**

Table 9. Correlations

|  |                     | Correlations |        |        |        |
|--|---------------------|--------------|--------|--------|--------|
|  |                     | [1]          | [2]    | [3]    | [4]    |
| Emotional Intelligence [1]             | Pearson Correlation | 1            | 0.050  | -.119* | -0.024 |
|  | Sig. (2-tailed)     |              | 0.331  | 0.020  | 0.646  |
|  | N                   | 384          | 384    | 384    | 384    |
| Health Consciousness [2]               | Pearson Correlation | 0.050        | 1      | 0.059  | .413** |
|  | Sig. (2-tailed)     | 0.331        |        | 0.251  | 0.000  |
|  | N                   | 384          | 384    | 384    | 384    |
| Chemophobia [3]                        | Pearson Correlation | -.119*       | 0.059  | 1      | 0.063  |
|  | Sig. (2-tailed)     | 0.020        | 0.251  |        | 0.221  |
|  | N                   | 384          | 384    | 384    | 384    |
| Functional Food Purchase Intention [4] | Pearson Correlation | -0.024       | .413** | 0.063  | 1      |
|  | Sig. (2-tailed)     | 0.646        | 0.000  | 0.221  |        |
|  | N                   | 384          | 384    | 384    | 384    |

\*. Correlation is significant at the 0.05 level (2-tailed).

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

The study further performs a correlation analysis to examine several relationships. According to the above table, emotional intelligence (EI) has an insignificant link with health consciousness,  $r = 0.050$ ,  $p = 0.331$ . It means that **H4 is rejected.**

Moreover, the relationship between Chemophobia and functional food purchase intention is also statistically insignificant,  $r = 0.063$ ,  $p = 0.221$ , while health consciousness and purchase intention are significantly and positively correlated,  $r = 0.413$ ,  $p < 0.001$ .

The study performs a general linear regression (GLM) to confirm the above relationships and address new links.

Table 10. GLM overall results

| Tests of Between-Subjects Effects                      |                         |     |             |        |       |  |
|--|-------------------------|-----|-------------|--------|-------|--|
| Dependent Variable: Functional Food Purchase Intention |                         |     |             |        |       |  |
| Source   | Type III Sum of Squares | Df. | Mean Square | F      | Sig.  |  |
| Corrected Model  | 9.322 <sup>a</sup>      | 3   | 3.107       | 27.786 | 0.000 |  |
| Intercept  | 0.499                   | 1   | 0.499       | 4.466  | 0.035 |  |
| Children   | 0.427                   | 1   | 0.427       | 3.815  | 0.052 |  |
| CP   | 0.130                   | 1   | 0.130       | 1.163  | 0.282 |  |
| HC   | 7.785                   | 1   | 7.785       | 69.615 | 0.000 |  |

|   |         |     |       |
|---|---------|-----|-------|
| Error   | 42.495  | 380 | 0.112 |
| Total   | 257.444 | 384 |       |
| Corrected Total                                 | 51.817  | 383 |       |
| a. R Squared = .180 (Adjusted R Squared = .173) |         |     |       |

The overall GLM model is statistically significant,  $F = 27.786$ ,  $p < 0.001$ , in predicting functional food purchase intention. Moreover, the model explains a 17.3% variance in the outcome variable (as shown by the adjusted r-squared value).

Table 11. GLM parameter estimates

| Parameter Estimates                                    |                |       |       |       |
|--|----------------|-------|-------|-------|
| Dependent Variable: Functional Food Purchase Intention |                |       |       |       |
| Parameter  | B              | SE    | t     | Sig.  |
| Intercept  | 0.148          | 0.090 | 1.649 | 0.100 |
| [Children=0]   | 0.071          | 0.036 | 1.953 | 0.052 |
| [Children=1]   | 0 <sup>a</sup> |       |       |       |
| CP   | 0.024          | 0.022 | 1.078 | 0.282 |
| HC   | 0.170          | 0.020 | 8.344 | 0.000 |

a. This parameter is set to zero because it is redundant.

Individually, the impact of health consciousness on purchase intention is statistically significant,  $t = 8.344$ ,  $p < 0.001$ . The beta coefficient indicates a positive impact, **accepting H7**. However, the impact of Chemophobia on purchase intention is insignificant,  $t = 1.078$ ,  $p = 0.282$ . Thus, **H5 is rejected**.

Finally, the impact of the categorical variable of the existence of children is measured on functional food's purchase intention. It is observed that the impact is significant at 0.1 level,  $t = 1.953$ ,  $p < 0.1$ . However, the positive B [of Children=0] suggests that those who have no children who are 15 or younger have a higher functional food purchase intention on average. Thus, **H6 is also rejected**.

Overall, the following table presents a summary of the hypotheses accepted or rejected:

| Hypotheses  | Result   |
|---|----------|
| H1: Female gender is more health conscious than male.                                 | Accepted |
| H2: The elder the consumer the more health conscious he/she is                        | Rejected |
| H3: Higher education has a significant and positive impact on health consciousness.   | Accepted |
| H4: Emotional intelligence has a significant positive impact on health consciousness. | Rejected |

|   |          |
|---|----------|
| H5: Higher levels of Chemophobia results in higher willingness to purchase functional food.   | Rejected |
| H6: The existence of children significantly and positively impacts the willingness of consumers to purchase functional food.          | Rejected |
| H7: Health consciousness of Azerbaijani customers has a significant positive impact on their willingness to purchase functional food. | Accepted |

---

## 4. CONCLUSION

Overall, the study was driven by the intention to fill the literature gap regarding the relationship between health consciousness and demand for functional food among the residents of Azerbaijan. Following the research objective, the study also aimed to analyse the extent of health consciousness among Azerbaijani consumers and determine the factors that impact their attitudes towards functional foods as well as health consciousness.

After studying the literature, the current study extracted the most common factors to test against health consciousness and purchasing functional foods in Azerbaijan. These include consumer's demographic characteristics (i.e., age, gender, presence of children, educational level), consumer's level of emotional intelligence and condition of Chemophobia (Pinski, 2019; Karelakis et al., 2019; Keefer et al. 2009). To test the significance of these factors among Azerbaijani consumers, the study employed a quantitative methodology and surveyed a total of 384 respondents. Consequently, the results confirmed that Azerbaijani consumers are highly health conscious and willing to purchase functional foods.

Drawing conclusions on the empirical analysis from the reviewed literature perspective, it can be said that most of the findings support the theories of previous scholars.

For example, starting with H1, which tested female genders positive association with health consciousness. In this context, the literature cited the presence of different attitudes among males and females regarding functional foods as the food preference for females highly influenced by eating healthy and being health conscious (Kuster-Boluda & Vidal-Capilla, 2017). Wennstrom (2000) also indicated that due to the caring and nurturing nature found highly in females compared to their male counterparts; their food choice is influenced by the issues of animal or ecological protection and the safety of food products (Pinski, 2019). Another factor that causes different male and female attitudes towards health is that females are more diet conscious, which keeps them consistent when on a diet compared to males (Kuster-Boluda & Vidal-Capilla, 2017). The independent samples t-tests (See Table 4) confirm this and conclude that females in Azerbaijan have a significantly higher score in health consciousness than males. The results, therefore, support the findings of Kuster-Boluda and Vidal-Capilla, (2017); Wennstrom (2000); Pinski (2019), who explain that females are more health conscious because due to a social stigma of losing weight.

The second hypothesis of age, as mentioned, was tested using ANOVA (See table 5), which also confirms that age has a significant and positive impact on the health consciousness of people. In simpler words, it means that as an individual's age increases, his/her level of

health consciousness also increases. Accordingly, the results of the current study are aligned with the studies of Cakiroglu and Ucar (2018); Karelakis et al. (2019); Henry, (2010); Urala and Lahteenmaki (2007). These authors explain the positive relationship between age and health consciousness by justifying that as people grow older, their preference for healthy food increases as they become more educated and purchase rationally as compared to children or teenagers. Education was also tested the same way, using ANOVA. The results accepted H4, indicating that education is positively associated with health consciousness in Azerbaijan. These findings profoundly go hand-in-hand with the conclusions of Vella et al. (2014); Lan et al. (2012); Cakiroglu and Ucar (2018), who also validate the exact relationship between education and health consciousness.

Another factor impacting health consciousness as per literature was emotional intelligence level. Hereby theory from the study of Zeidnar et al. (2012) indicated that people with greater emotional intelligence are highly aware of their physical wellbeing and therefore actively put efforts to take care of it. This makes them more health conscious as they actively attempt to stay away from unhealthy habits like and lifestyle such as alcohol consumption, drug abuse or eating junk foods (Keefer et al. 2009; Bhalerao & Sharma, 2017). However, these studies contradict the current results, showing that emotional intelligence in the people of Azerbaijan has an insignificant relationship with health consciousness (See Table 9).

The study also tested the relationship between the condition of Chemophobia (H5), the presence of younger children (H6) and health consciousness (H7) with consumption of functional foods. Accordingly, the results failed to accept H5 and H6, highlighting the insignificant impact of independent variables (i.e., condition of Chemophobia and presence of children) on dependent variables (i.e., consumption of functional foods). In this manner, the results oppose the findings of Gribble (2013), who explained that people with the condition of Chemophobia would purchase functional foods to avoid processed chemicals. Similarly, the current analysis results challenge the findings of Urala and Lahteenmaki (2007). They highlight that people with children will be more prone to consuming functional foods to protect their children's health. Finally, the study accepts that people who are health conscious will purchase functional foods, thereby accepting H7 and the concept of health consciousness, which relates to being indulged in the willingness to purchase healthy functional foods.

Summarising these findings, it can be said that the impact of demographic characteristics (age, gender, higher educational level) is significant on the level of health consciousness. Further health consciousness also significantly stimulates purchasing function

foods among Azerbaijani consumers. Accordingly, health practitioners and policymakers should actively work towards making people more aware of their health and a healthy lifestyle to encourage them to purchase functional foods.

Based on the methodology applied, the current study was limited in terms of scope as it only used quantitative analysis. Moreover, the study only used some demographic characteristics and factors to determine attitudes towards functional foods in the Azerbaijan region. Hence future research in this region is recommended to consider qualitative analysis for an in-depth review of the opinions and attitudes of consumers in Azerbaijan and to include several more factors found in the literature related to whether the respondent has some medical condition, disease, etc.



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## APPENDICES

### Survey questions

1) Are you a male or female?

a) male b) female

2) What is your age?

a) up to 25 b) 26-40 c) 41-59 d) 60 +

3) Please, mention your level of education

a) Ph.D. b) master's degree c) bachelor's degree d) no higher education

4) Do you have children who are 15 or younger?

a) Yes b) No

**The following questions have a purpose to determine the willingness to purchase functional foods.**

5) Do you know what the functional food is?

a) Yes b) No

\* After this question, the definition of functional food is provided.

6) Choose one of the following options

a) I am likely to purchase functional foods b) I am not likely to purchase functional foods

7) Choose one of the following options

a) I would like to have more information about functional food b) I would not like to have more information about functional foods

8) Choose one of the following options

a) I am interested in functional foods b) I am not interested in functional foods

**For the next questions choose from 1 to 5 (1- has nothing to do with reality; 5- perfectly describes the reality).**

9) I lead a healthy lifestyle.

10) I regularly do morning exercises. /I regularly attend the gym.

11) I eat only healthy food.



- 12) I actively seek out information about functional food.
- 13) I am prepared to compromise on the taste of food if the product is functional.
- 14) I am prepared to compromise on the appearance of a food if the product is functional.

**The following questions are directed to measure the level of emotional intelligence**

- 31) I can explain my actions:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 32) Other people do not see me as I see myself:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 33) I understand the feedback that others give me:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 34) I can describe accurately what I am feeling:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 35) Things that happen in my life make sense to me:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 36) I can stay calm, even in difficult circumstances:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 37) I am prone to outbursts of rage:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 38) I feel miserable:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 39) I get irritated by things, other people or myself:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 40) I get carried away and do things I regret:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 41) I am clear about my goals for the future:  
a) almost never b) rarely c) sometimes d) usually e) almost always
- 42) My career is moving in the right direction:  
a) almost never b) rarely c) sometimes d) usually e) almost always

43) I find it hard to maintain my enthusiasm when I encounter setbacks:

a) almost never b) rarely c) sometimes d) usually e) almost always

44) I feel excited when I think of my goals

a) almost never b) rarely c) sometimes d) usually e) almost always

45) I act consistently to move towards my goals:

a) almost never b) rarely c) sometimes d) usually e) almost always

46) I encounter difficult people:

a) almost never b) rarely c) sometimes d) usually e) almost always

47) I am comfortable talking to anyone:

a) almost never b) rarely c) sometimes d) usually e) almost always

48) I achieve win/win outcomes:

a) almost never b) rarely c) sometimes d) usually e) almost always

49) I feel uncomfortable when other people get emotional:

a) almost never b) rarely c) sometimes d) usually e) almost always

50) I get impatient with incompetent people

a) almost never b) rarely c) sometimes d) usually e) almost always

51) My colleagues are uncommunicative:

a) almost never b) rarely c) sometimes d) usually e) almost always

52) I get on well with each of my work colleagues:

a) almost never b) rarely c) sometimes d) usually e) almost always

53) I find it easy to "read" other people's emotions:

a) almost never b) rarely c) sometimes d) usually e) almost always

54) It is unpredictable how my colleagues will feel in any given situation:

a) almost never b) rarely c) sometimes d) usually e) almost always

55) People choose to work with me in preference to equally-talented colleagues:

a) almost never b) rarely c) sometimes d) usually e) almost always

**The following questions are directed to determine the level of chemophobia (low, moderate, high).**

- 56) I do everything I can to avoid in my daily life contact with chemical substances  
a) strongly agree b) agree c) not sure d) disagree e) strongly disagree
- 57) I would like to live in a world where chemical substances don't exist  
a) strongly agree b) agree c) not sure d) disagree e) strongly disagree
- 58) Chemical substances scare me  
a) strongly agree b) agree c) not sure d) disagree e) strongly disagree
- 59) I am scared of chemical substances I cannot pronounce  
a) strongly agree b) agree c) not sure d) disagree e) strongly disagree
- 60) In a world without chemical substances, there would be no environmental disasters  
a) strongly agree b) agree c) not sure d) disagree e) strongly disagree
- 61) The chemical industry is responsible for more people suffering from cancer  
a) strongly agree b) agree c) not sure d) disagree e) strongly disagree
- 62) I would like all chemical substances to be risk-free  
a) strongly agree b) agree c) not sure d) disagree e) strongly disagree