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**MASTER'S DISSERTATION**

**“Consumer behavior and healthy eating: implications for social marketing”**

**Program 7M04127 – «Marketing»**

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**“Consumer behavior and healthy eating: implications for social marketing”**

**Nur-Sultan, 2022**

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## **I. Abstract of research**

Effective interventions towards changing eating habits depend on understanding of the factors that influence to choose certain behavior. We need to understand why people prefer to eat the way they eat. So, it is important to investigate the role of motives affecting on selection of food. This research aims to investigate the food motives of population in Kazakhstan in relation to socio-demographic factors (gender, age, gross income, and work hours). We examined food motives of population in Kazakhstan, their role in relation to proper nutrition. The study has improved our understanding of consumer behavior in relation to nutrition, their motives and motivation. This research paper can be useful in developing social marketing strategies to improve nutrition and influence food choices.

Quantitative data from a total of 91 respondents were used. The research shows that gender and work hours influence eating motives. Social marketing interventions based on age and gross income potentially will be effective in other countries and did not effective in Kazakhstan. Social marketing intervention campaigns based on gender and work hours regarding healthy eating will be effective social marketing strategy.

The structure and volume of the dissertation: The dissertation consists of an introduction, literature review, methodology, findings, conclusion, limitations, references, and annex.

***Keywords: social marketing, healthy eating, food motives, consumer behavior***

## II. Introduction

Healthy eating is an important factor in maintaining the health of the population and the well-being of society. The state and public health officials should study the theory of consumer behavior and various social marketing strategies to introduce the basics of healthy eating into consumer behavior.

According to the Global nutrition report (2021), the population of Kazakhstan does not eat healthy food and various consequences of malnutrition affect the health of the population.

Healthy eating is a key to healthy life and well-being and prevent many chronic diseases. Sedentary lifestyles and malnutrition lead to increasing amount of global obesity problems. Malnutrition can cause reduction of physical and mental development, and sometimes it will be no effects of investments in education or public health (Michael, et al., 1971).

Healthy eating is able to boost productivity, increase people's well-being, improve learning potential of people, reduce chronic diseases (Martinez-Gonzalez, et al.,1998). It is beneficial to know social marketers the belief systems of consumers according to healthy eating in order to do excellent healthy eating promotions. There is scientific proof that healthy eating has positive effects with combination of social and economic improvements (Michael, et al., 1971).

Effective interventions towards changing eating habits depend on understanding of the factors that influence to choose certain behavior. So, research on studying of attitudes and beliefs towards healthy diet has a big interest among researchers (Stephoe et al., 1995).

In order to change people's eating habits, we need to change dietary choices. We need to understand why people prefer to eat the way they eat. Efforts to educate and raise public awareness of the benefits of healthy eating, including nutritional advice and counseling from a therapist, have limited or short-term impact. Research shows that a large number of people are already motivated to eat healthily (Brug, 2008).

So, it is important to investigate the role of motives affecting on selection of food.

Stephoe et al. (1995) consider that main socio-demographic factors such gender, gross income, age of population and how much time people spend at work influence to eating habits.

So, the purpose of the research is to investigate the impact of socio-demographic (age, gross income, work hours, gender) factors on the food motives of population.

We want to answer the question about which social and demographic factors impact on food choice motives in relation to health eating behavior?

We suppose that social marketing intervention campaigns based on age, gross income, work hours and gender will probably be effective in stimulating the desired behavioral change.

We will explore the importance of motives to eat healthily among population and propose appropriate social marketing interventions.

### **III. Literature review**

#### **3.1.Social marketing**

The term social marketing appeared in the 1970s. Social marketing is aimed to influence social conduct of targeted population and the public (Evans, W., and McCormack, L., 2008). Social marketing is generally understood as a process to design, implement, manage strategies to make acceptable the social objectives (Kotler and Zaltman, 1971). Andreasen (2002) consider social marketing as a process for creating social programs that change social behavior using approaches from commercial marketing. Social marketing was elaborated to achieve positive shifts among people, to better social conditions.

Social circumstances change when behaviors, environments, and policies change (Lefebvre, 2013).

An exchange between marketer and customer is essential approach in social marketing, so consumers have to know that they get more than they give. Marketers prefer develop solutions to different groups (Carins, J., and Rundle-Thiele, S., 2013).

Social marketing can be used in any situations bond to change any socio critical behavior of target group. However, social marketing interventions may be used combining the efforts of policymakers, media, founders, and other stakeholders (Andreasen, A., 2002). An exchange between marketer and customer is essential approach in social marketing, so consumers have to know that they get more than they give. Marketers prefer develop solutions to different groups (Carins, J., and Rundle-Thiele, S., 2013). It is necessary to divide population into smaller distinct subgroups using quantitative techniques.

The aim of social marketers is to convince customers to behave for the benefit of society (Cornelissen, et al., 2007).

Social marketing requires time, energy, human resources, detailed investigation of different strategies etc. Social marketing is just an instrument but not a solution in social issues. Also, they should be balanced with other social strategies and principles (Montazeri, 1997).

Even though social marketing principally uses campaigns and communication, lasting marketing strategies with various marketing tools also constitute social marketing (Barrutia and Echebarria, 2013).

Sometimes social marketers do not spend money and time to deep research of target audience. So social marketing is inappropriate when time and resources are limited. On the other hand, it is possible to use existing secondary data (published research, information about previous programs, reports, local program data sets) which is available (Grier and Bryant, 2005). Social marketers face with difficulties of obtaining valid and honest information from people. Because people better answer to the questions about cake mixes, cereals than to the questions about charity or sickness. And to get valid answers it is necessary to ask open-ended questions with the words that are familiar to the respondents (Bloom and Novelli, 1981).

Social marketing was elaborated to achieve positive shifts among people, to better social conditions. Social circumstances change when behaviors, environments, and policies change. According to Lefebvre (2013), education, law and marketing can change behavior related to social problems. So, Lefebvre (2013) writes that marketing is a strategic tool needed for social behavior shift.

Generally, there are three social marketing strategies that help to change behavior. These are regulation, motivation, and education. By educating and motivating (persuading) we can change behavior of individual. In health promotion information (education) alone is often insufficient to change behavior, however with combination of persuasion (motivation) positive outcomes may appear (Donovan and Henley, 2010). Persuasion via influential messages, can influence the target audience to accept desired behavioral change. In our research this is to choose healthy eating.

### **3.2.Consumer behavior and motivation**

Motivation along with motives, needs and goals create consumer behavior. Motive is a concrete reason for acting. It is an internal desire, or force, which prompts a person to behave in a particular manner to meet their needs (Piggford, T., 2008). The aim of marketing is to identify and satisfy needs, not create. Human needs are divided into physiological and innate needs or basic needs. Given the broad category of needs, several motives often require satisfaction simultaneously. For different needs exist many motives to satisfy these needs (Schiffman, L., and Wisenblit J., 2019). To develop an effective marketing strategy, we need a deep understanding of all motives.

Consumer behavior can be divided into three categories: motivation, cognition, and learning. Motivation is understood as internal motives, desires, which are the initial drivers of consumer behavior. Behavior changes under the influence of need. Some authors believe that needs, need, motives are different concepts, while others believe that they are similar concepts. Motivation occurs under the influence of tension, when a sequence of events leads to a release from the tension that has appeared. There is a biological need and a psychological need in humans. The mistake of many people is that motivation arose under the influence of one need, but it must be understood that motivation is a complex of different needs (Bayton, 1958).

Consumer behaviors regarding healthy eating depends on many factors, that includes sociodemographic, physiological, behavioral and lifestyle aspects, and belief and awareness about healthy eating (Martinez-Gonzalez, et al, 1998).

### **3.3.Food motives**

Food choice motives can be influenced by a variety of factors, such as tastes, availability, social influences, advertising, family influences (Share and Stewart-Knox, 2012).

Food accessibility and cultural determinants are principal in dietary habits. It is an indicator of social interaction, so the choice in favor of a particular diet can be an indicator of social status (Steptoe, 1995).

Attitudes towards eating are based on a personal expectation of positive or negative results from nutrition. For example, for many people, satiety, pleasure, taste (short-term result) from food consumption is more important. After satisfying their desires people starts to think about the health. Some people change their eating habits if the effects on their health are quick, serious, or easily recognizable (Brug, 2008).

Healthy eating diversity is used to improve health status. It depends on age, knowledge, educational level, involvement in sport activities and health education seminars that influence consumer to eat healthily (Drescher, et al., 2009). Consumer behaviors with regard to healthy eating depends on many factors, that includes sociodemographic, physiological, behavioral and lifestyle aspects, and belief and awareness about healthy eating (Martinez-Gonzalez, et al, 1998). Knowledge, attitudes, behaviors effect on eating behavior.

Research by Steptoe et al. (1995) showed that food choice motives are affected by the age, gender and income of consumers. Despite the fact that many people have information about what is healthy or unhealthy food, the consumption of unhealthy food is on the rise.

Various authors have cited different motivations for healthy eating. But the main part of the work was limited to only one motive, mainly health. But there are also motives that are not related to health.

Attempts to invent multidimensional questionnaire before 1995 were limited. Even though the authors compiled the contents of the guides, their development and further study required a lot of time. In 1993, Wardle developed a questionnaire for mothers and their children that included two components of taste and health, two indices were built that were found using the correlation between the taste motive and consumption frequency, and the health motive and consumption frequency. The disadvantage of this method is that it is not suitable for large-scale studies.

Hollis et al. (1986) developed a handbook that included food research, meat preference, and health awareness. The study was conducted among 357 adults. The disadvantage of this approach is that this questionnaire excludes factors such as sensory appeal and cost of products.

The development of a multidimensional questionnaire allows the researcher to determine and evaluate the importance of factors such as health and non-health motives (price, sensory attractiveness, weight control, mood, and others).

In order to simultaneously learn what factors influence on motives in choosing food, Steptoe et al. (1995) developed a multidimensional questionnaire. The preliminary questionnaire contained 68 items in choosing proper nutrition. Questionnaires were previously sent to students, university employees, and 635 people were randomly selected. As a result, the study was conducted based on the responses of 357 respondents. Together with questions related to the motives in eating, the questionnaire included questions of a socio-demographic nature. Then, on the basis of factor analysis, 36 items were identified, containing nine motives in nutrition. This questionnaire is called "food choice questionnaire", which includes nine motives influencing food choice.

Health motives (1) were a dominant factor of food choice in the UK including generic diet and welfare in addition to the prevention of chronic illness and care for the look of person's skin, teeth, hair and nails (Steptoe et al., 1995).

The importance of weight control (2) health, natural content (3), ethical concern (4), price and sensory appeal (5) differ between females and males. Economic environments determined by the cost of choosing a healthy or unhealthy diet. For example, the cost of buying vegetables or snacks. There are rules that can affect the choice of food and behavior change, the rules of nutrition in the family. For example, rules on how to eat at workplaces, what to bring to the university, and others (Brug, 2008).

Some researchers consider sensory appeal to be the most important factor in food choices (Honkanen and Frewer, 2009).

Convenience (6) refers to more than timesaving; Familiarity (8) and mood (9) were reported as less important factors among young adults (Piggford et al., 2008).

### **3.4. Demographic segmentation**

Our research performed to investigate if there was an important difference between gender, age, gross income, and work hours in relation to the food motives of population in Kazakhstan.

Segmentation is the most important concept in marketing. Segmentation in marketing involves the division of respondents into groups. The segmentation process involves dividing the market into groups, evaluating each group and determining the target audience. The initial segmentation consists of the demographic division of the population (eg, gender, age, education, and others). Campaigns to promote healthy lifestyles often use at-risk or demographic segmentation. Then segmented by behavior change (Donovan and Henley, 2010).



Academics have written different findings about gender in relation to food motives. Female food motives are forced by health and weight control (Andajani-Sutjahjo et al., 2004).

In a review of foreign literature regarding the relationship between age and motive in nutrition, there are conclusions that the younger a person is, the more importance he attaches to his appearance. A positive relationship exists between the familiarity and ethical concern food motive, and the demographic factor – age (Steptoe et al., 1995).

In foreign literature there is a conclusion that in order to enhance motives to eat healthily it is necessary to reduce the price of healthy foods. According to gross income foreign literature shows that price is the second most influential factor in choosing healthy eating. People who have low income will buy healthy products if the price is reduced (Piggford et al., 2008).

Work hours per week is related to convenience motives. Lack of time will influence to how people keep eating healthily. People will prepare and buy products as usually (Andajani-Sutjahjo et al., 2004).

#### **IV. Research design**

Objective: Understanding what drives of adults' healthy eating options is important for solving health issues. The aim of this research is to study eating motives of adults in Kazakhstan and examine if there is an influence of socio-demographic factors (age, income, work hours and gender) on food motives of adult.

Research question: Which socio-demographic factors influence on food choice motives in relation to health eating behavior?

Method: The study will use the method developed by Steptoe et al. (1995). This method is based on quantitative analysis using the Food Choice Questionnaire (see Annex A).

Hypothesis: Social marketing intervention campaigns based on age, gross income, work hours and gender will probably be effective in stimulating the desired behavioral change.

The questionnaire will be completed electronically via Google Forms. This survey method will be used in order to cover a large number of respondents.

Respondents were sent an electronic questionnaire containing questions regarding socio-demographic factors and specific questions of the Food Choice Questionnaire. The socio-demographic part of the questionnaire, in addition to the main factors, included questions of marital status, place of residence, type of housing ownership, occupation, and basic questions about age, gender, number of working hours per week and gross income. Respondents' answers are displayed in a special table of answers. The survey does not contain questions about the names of the respondents and is anonymous.

Convenience sampling of quantitative research will be used as a method to collect answers of population. This method was used in order to cover a larger number of respondents. Also, this method is easy to use and helps to collect data quickly. The study was adapted from the study by Steptoe et al. (1995). Since social marketing in relation to proper nutrition affects all respondents and our study is primary and does not carry a deep analysis of a specific target audience, it was decided to use Convenience sampling.

The questions in the questionnaires will be answered by the respondent himself. Before we check respondents' qualifications (Piggford et al., 2008).

Respondents who suffer from chronic diseases or have special eating diet won't be include in analysis.

The questionnaire will include a question about whether the respondent requires an individual diet due to a health condition.

Participants will be asked to answer: "it is important to me that the food I eat on a typical day . . ." and the answers varies between 1 and 5.

Four sociodemographic attributes will be measured in following way:

- A) a dichotomous scale will be used for gender;
- B) the age of participants will be divided into different age categories;
- C) gross income per month will be divided into several groups;
- D) work hours per week will be divided into several groups.

The questionnaire questions are presented in Annex B (socio-demographic questions and Food Choice Questionnaire).

## V. Findings

The survey was conducted from 11 to 20 March 2022. The survey involved 148 people. The questionnaire was sent only once, so the possibility of a repeated answer by the same person is excluded.

Initial translation of questions agreed with 3 respondents. Respondents answered socio-demographic questions and special questions of the questionnaire (Food Choice Questionnaire). The handbook questions contained 32 statements and it was necessary to put numbers from 1 to 5 according to the degree of importance of each statement for the respondent. The questionnaire included a question about whether the respondents follow a special diet due to their state of health. 30% of the respondents answered that they follow such a diet. 103 respondents answered that they do not have a special diet. And 12 respondents either answered 1-2 questions of the questionnaire or did not answer any question of the questionnaire (they filled out socio-demographic questions or questions of Food Choice Questionnaire). Therefore, we will do the analysis based on the answers given by 91 respondents.

Socio-demographic data was collected for participants' characterization. Table 1 describes the respondents by gender, age, income, marital status, work hours per week, type of housing, occupation.

Table 1. Demographic details of the achieved sample

	%
<b>Gender</b>	
Women	55
Men	45
<b>Age</b>	
15–19	9,7
20–24	22,3
25–29	19,4
30–34	16,5
35–39	17,4
40-44	10,7
<b>Type of home ownership</b>	
Own apartment	55,6
Rented housing	23,3
Own private house	17,8
<b>Gross income per month</b>	
0-50K KZT	10
51-100K KZT	18,9
101-200K KZT	11,1
201-300K KZT	14,4
301-400K KZT	8,9
400-600K KZT	18,9
over 600K KZT	17,8
<b>Work hours per week</b>	
0-10	24,7
11-20	12,4
21-30	6,7
31-40	24,7
40+ hours per week	31,5
<b>Marital status</b>	
Single	39,6
Married	60,4
<b>Occupation of the respondents</b>	
Student	21,1
Employee	48,9
Entrepreneur	7,8
Housewife	16,7
Self-employed	4,4

The data presented in Table 1 shows how many percent of the respondents belong to one or another group (segment). 55% of women and 45% of men took part in the survey. 18.9% of respondents answered that they receive income in the range of 51-100 thousand tenge, the same percentage of respondents answered that they receive income of 400-600 thousand tenge and 17.8% of respondents answered that they receive income of 600 thousand tenge per month. The study presents respondents with different income levels per month.

40% of respondents are not married or not married. The sample consists of 49% of workers, 21% of students, 17% of housewives, 7.8% of entrepreneurs. The largest group in terms of working hours per week is represented by respondents who work more than 31 hours per week. 24.7% of respondents work less than 10 hours a week.

The study is mainly represented by respondents aged 25 to 40 years. The average age of the respondents is 31. Also, the questionnaire included a question about where the respondents live (private own house, own apartment, rented housing). 56% answered that they live in their own apartment, 23% answered that they live in rented accommodation.

Further, for general statistics, a question was asked to respondents about in which region of Kazakhstan they live. As can be seen from Diagram 1, 48.4% of respondents are from the city of Nur-Sultan, 24.2% from the city of Almaty. Due to the fact that a convenience sample was used in the study, an analysis of the place of residence was included for general understanding. 8 people from the city of Shymkent, 4 people from the city of Kyzylorda, 2 people each from Aktobe and the Turkestan region.

### Place of residence

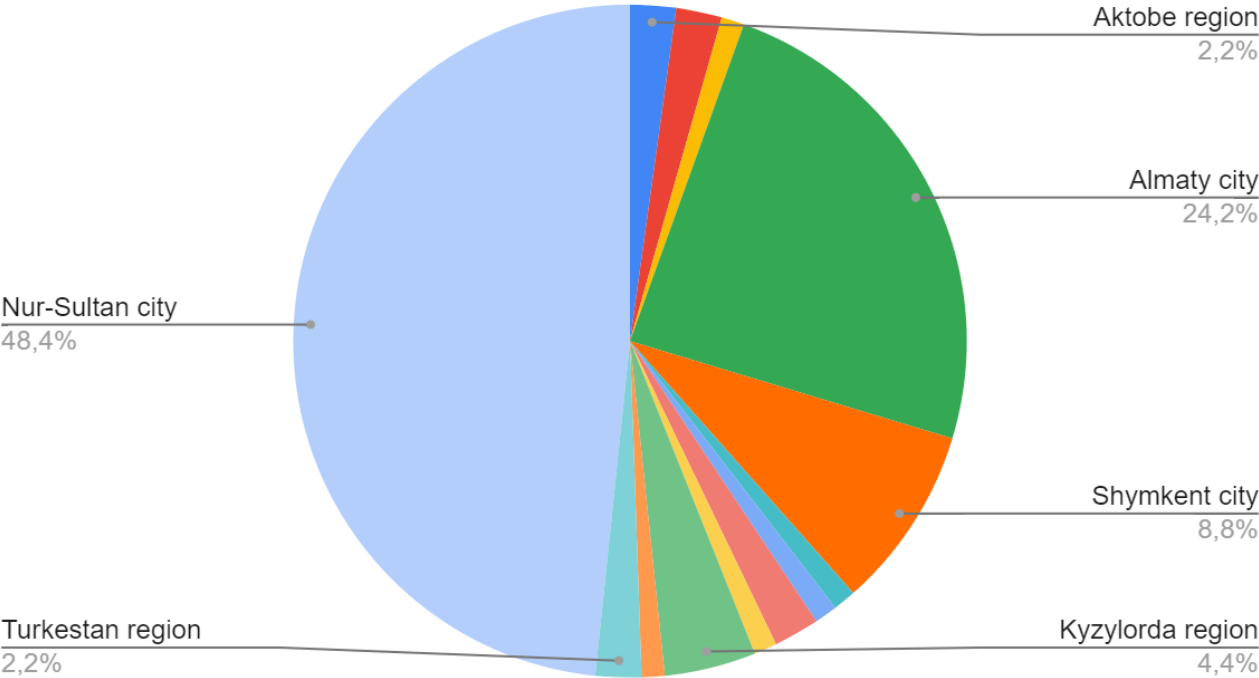


Diagram 1. Place of residence

The intercorrelations between the scales of the Food Choice Questionnaire are shown in Table 2. Several significant associations were examined.

Table 2. Intercorrelations between Food Choice Questionnaire factors

	Health	Mood	Convenience	Sensory appeal	Natural content	Price	Weight control	Familiarity	Ethical concern
<b>Mood</b>	0,63								
<b>Convenience</b>	0,7	0,75							
<b>Sensory appeal</b>	0,8	0,74	0,78						
<b>Natural content</b>	0,86	0,61	0,72	0,8					
<b>Price</b>	0,68	0,66	0,69	0,66	0,74				
<b>Weight control</b>	0,7	0,62	0,62	0,65	0,69	0,73			
<b>Familiarity</b>	0,64	0,61	0,66	0,62	0,66	0,82	0,71		
<b>Ethical concern</b>	0,63	0,59	0,65	0,64	0,67	0,65	0,72	0,7	

The most prominent positive correlations were between health and natural content ( $r=0,86$ ), familiarity and price ( $r=0,82$ ), health and sensory appeal ( $r=0,8$ ), natural content and sensory appeal ( $r=0,8$ ). If the importance of health increases for consumers, then the importance of natural content will also increase. Among other variables there are strong and moderate correlations.

The survey involved men and women aged 14 to 67 years. 90% of respondents are in the age range from 15 to 44 years. Table 3 presents the average values of motives in food choice in relation to different age categories.

Table 3. Average values of food choice motives

Motives	Age groups					
	15-19	20-24	25-29	30-34	35-39	40-44
Health	3,53	3,61	3,58	3,61	3,95	3,58
Mood	3,48	3,09	3,42	3,15	3,4	3,24
Convenience	3	3,26	3,51	3,68	3,42	3,38
Sensory appeal	3,26	3,74	3,82	3,8	3,8	3,61
Natural content	3,96	3,77	3,68	3,79	3,97	3,65
Price	3,53	3,36	3,15	3,47	3,63	3,37
Weight control	2,7	3,01	3,12	3,58	3,48	3,11
Familiarity	3,46	2,89	3,17	3,35	3,19	3,09
Ethical concern	2,96	3,07	2,96	3,28	2,96	3,01

The table above shows that the population aged 15-19 give more importance to natural content and less importance to weight control. And people aged 30-34 give more importance to convenience, natural content, and weight control. In all five age categories, natural content is given very great importance.

People of all age categories are guided by the health motive, in the age group from 35 to 39 years this motive is the second most important after the natural content. In the age category of 20-24 years, the main motive in choosing food is sensory attractiveness, the motive of similarity is of the least importance. The value of the motive "sensory attractiveness" of all age groups, except for 15-19 years old, is high. For example, for ages 25-39, the value of this motive is more than 3.8. The value of the motive in nutrition "ethical care" of all age groups is small.

Next, we wanted to analyze the statements themselves in order to find out which statements are more or less important. Table 4 shows data on the most and least important statements for all age categories.

Table 4. The most and least important statements

Statement	15-19	20-24	25-29	30-34	35-39	40-44
Contains a lot of vitamins and minerals					4,08	
Keeps me healthy	4	3,86	3,9		4,12	3,83
Makes me feel good	4,1		4			
Contains natural ingredients	4,1	3,95	4		4,17	3,85
Smells nice		4,09	4	4		3,86
Looks nice			3,8			
Contains no artificial ingredients	4					
Is good value for money	4	3,86		3,92	4	
Is low in calories	2,3					
Takes no time to prepare	2,7					
Helps me control my weight	2,8					
Is cheap	2,8	2,76	2,73	2,84		2,88
Is like the food I ate when I was a child		2,59	2,63		2,87	2,77
Comes from countries I approve of politically	2,4	2,59	2,27	2,87	2	2,39

As can be seen from the table, almost all age groups responded in the same way to the statements. For example, statements such as: keeps me healthy, contains natural ingredients, is cheap, is like the food I ate when I was a child, comes from countries I approve of politically. For people aged 35-39 years, the presence of vitamins and natural ingredients is important. For people aged 20-34, it is important that food has a pleasant smell. For respondents aged 15-19, low-calorie content, weight control are not very important.

For the age category less than 20 years, the statements “Keeps me healthy”, “Makes me feel good”, “Contains natural ingredients”, “Contains no artificial ingredients” are of the greatest importance. These statements have a value of 4 or more. The least important statements are: “Is low in calories”, “Helps me control my weight”, “Takes no time to prepare”. The values of these statements are less than 2.5.

For the age category of 20-24 years, the statements “Smells nice” are of the greatest importance, and this statement is also of high importance in the age category of 25-35 years. In all age categories, the statements “Is cheap”, “Is like the food I ate when I was a child”, “Comes from countries I approve of politically” have the least value.

Also, the age category of 25-29 years old wants the food to look appetizing, pleasant. The value of this statement for this age category is 3.8.

Next, an analysis of the motives for eating, associated with gross income, was carried out. Gross income per week was organized into seven categories, being 0-50K KZT (10%); 51-100K KZT (18,9%); 101-200K KZT (11,1%); 201-300K KZT (14,4%), 301-400K KZT (8,9%), 400-600K KZT (18,9%), over 600K KZT (17,8%). Gross income includes all income minus expenses of operation. In Table 5 convenience is important for people with an income of 301-400 thousand tenge, and for respondents with an income of 0-50 thousand tenge, convenience is not an entirely important motive.

Table 5. Motives for food choice in relation to gross income

Scale	Gross income, thousand tenge													
	0-50		51-100		101-200		201-300		301-400		401-600		over 600	
	$\mu$	$\sigma$	$\mu$	$\sigma$	$\mu$	$\Sigma$	$\mu$	$\sigma$	$\mu$	$\sigma$	$\mu$	$\sigma$	$\mu$	$\sigma$
Health	3,28	1,01	<b>3,42</b>	1,38	<b>3,58</b>	1,26	3,53	1,14	<b>3,87</b>	1,08	3,4	1,22	<b>3,85</b>	1,23
Mood	<b>3,34</b>	1,19	3,33	1,25	3,21	1,3	<b>3,68</b>	1,19	3,41	1,28	3,42	1,2	3,05	1,5
Convenience	2,85	1,41	<b>3,44</b>	1,51	<b>3,53</b>	1,4	3,55	1,3	<b>3,96</b>	0,97	3,09	1,3	3,28	1,45
Sensory appeal	2,81	1,38	<b>3,42</b>	1,46	<b>3,62</b>	1,3	<b>3,8</b>	1,2	3,78	0,94	<b>3,68</b>	0,94	<b>3,71</b>	1,29
Natural content	<b>3,67</b>	1,26	3,4	1,46	<b>3,72</b>	1,36	<b>3,73</b>	1,26	<b>3,91</b>	1,23	<b>3,62</b>	1,06	<b>3,85</b>	1,24
Price	3,23	0,97	3,23	1,54	3,27	1,51	3,29	1,14	3,62	1,35	3,4	1,23	3,27	1,33
Weight control	2,62	0,97	<b>2,87</b>	1,43	3,11	1,27	3,23	1,2	3,72	1,07	3,09	1,26	2,84	1,27
Familiarity	3,09	1,04	3,28	1,39	3,27	1,35	3,1	1,2	2,94	1,43	3,07	1,23	2,96	1,24
Ethical concern	<b>2,33</b>	0,86	3,02	1,41	3,2	1,44	3,5	1,3	<b>2,66</b>	1,71	<b>2,75</b>	1,3	<b>2,6</b>	1,4

People with an income of more than 600 thousand tenge are guided by the motive of health, sensory attractiveness, and the content of natural ingredients. In addition to respondents whose monthly income does not exceed 50 thousand tenge, they attach importance to such a motive as sensory attractiveness. This result speaks volumes. That the more gross income people have, the more attention they pay to sensory appeal.

For all respondents, the indicator of natural content in food is important.

For respondents with a gross income of up to 300 thousand tenge, the motive of mood plays an important role. For people whose total income is up to 100 thousand tenge and more than 600 thousand tenge, the motive for maintaining weight is less important. That is, maintaining weight for this category of respondents is not an important factor in the choice of nutrition. Ethical concern as a motive in choosing food is not particularly important for all categories of respondents, regardless of income level.

Respondents with an income of 400-600 thousand tenge are guided by the motive of convenience. The value of this motive is the highest in this category of respondents and is 3.96. High-income respondents are the least motivated by ethical concerns.

When we analyze the type of home ownership, we notice that respondents who have their own housing (an apartment or a private house) work more than 31 hours a week, 42.9% of respondents who live in their own apartment earn more than 400 thousand tenge per month, 56% are married or married. For them, the content of natural ingredients is important, and less important is that the food is low-calorie and similar to what they ate when they were children. Owning a house, residents of Almaty and Shymkent, 71.4% married or married, for these respondents it is important that the food has a pleasant smell and maintains health, and also has a good price-quality ratio, and it does not matter from what countries does it take place in.

Respondents living in rented housing appreciate the content of natural products in food.

We analyzed the motives for eating in people who work a certain amount of time per week. Table 6 shows the results of the analysis. As can be seen from the table for people who work up to 10 hours a week, convenience, sensory appeal, natural content, and price are important eating motives. Such a motive



as weight control is less significant. Among the respondents who answered that they work 11-20 hours a week, natural content and mood are an important motive, ethical care is a less significant motive. Among the category of people who work 21-30 hours a week, an important factor in food choice is sensory appeal, mood and natural content. In this category, all other motives do not differ much. In the category of people who work 31-40 hours a week, the main motive in choosing food is natural content and health, the least important factor is similarity and ethical concern. Those respondents who work more than 40 hours a week pay attention to the motive of health and sensory appeal and mood the motive of convenience less important.

In general, for all respondents, an important motive in choosing food is health, natural content, sensory appeal, and mood. The least important motives are familiarity and ethical concern.

Table 6. Motives for food choice in relation to work hours per week

Motive	Work hours per week				
	0-10	11-20	21-30	31-40	over 40
Health	3,67	2,92	3,52	3,41	3,79
Mood	3,75	3,12	3,8	3,1	3,18
Convenience	3,96	2,88	3,67	3,12	2,29
Sensory appeal	4,01	2,9	4	3,33	3,75
Natural content	4,01	3,21	3,73	3,49	3,9
Price	3,9	2,94	3,4	3,29	3,32
Weight control	3	2,73	3,27	3	3,37
Familiarity	3,65	2,55	3,26	2,98	3,06
Ethical concern	3,5	2,39	3,4	2,91	2,75

Together with the main socio-demographic factors used in the study, we also analyzed the motives for choosing food in relation to the type of activity. Namely, among students, employees, entrepreneurs and housewives. Table 7 presents the results.

Table 7. Motives for food choice in relation to occupation

Motive	Occupation			
	Student	Entrepreneur	Housewife	Employee
Health	2,18	4,02	4,3	3,4
Mood	3,1	3,1	3,72	3,32
Convenience	3,26	3,09	4,09	3,39
Sensory appeal	3,35	3,8	4,39	3,56
Natural content	3,73	4,09	4,27	3,67
Price	3,31	3,23	3,48	3,46
Weight control	2,67	2,81	3,58	3,17
Familiarity	3,11	2,52	3,61	3,1
Ethical concern	2,76	2,52	3,52	2,93

As can be seen from Table 7, students are motivated to eat by natural content in food, convenience, and sensory appeal. The motive of health for students is not the most important. Also, the least important motive in nutrition is weight control and ethical concern.

In the case of housewives, the factor of health, convenience, sensory appeal and natural content is important. The remaining motives have an indicator of 3.48 and higher. Which is also considered very high. It can be concluded that for housewives, each presented motive is important.

For entrepreneurs, the most important motive is health and natural content, the least important are the motives of familiarity and ethical concern. The value of these motives is 2.52.

Employees are guided by the motives of price, sensory appeal, natural content. Ethical concern is the least important of these motives in nutrition.

If we analyze in general the motives of convenience, sensory appeal and natural content are one of the important ones. Also, the health motive is considered important for all of the above groups, except for students. The least important factor is ethical concern.

Table 8 shows the results of calculating the value of motives in relation to gender. As can be seen from Table 8, the motives of health, similarity and mood are more important for women than for men. But at the same time, the value of indicators of sensory attractiveness and price is higher for men than for women. For men and women, the indicator of natural content is important, and the motive of ethical care is less important.

Table 8. Motives for food choice in relation to gender

Motives \ Gender	Health	Mood	Convenience	Sensory appeal	Natural content	Price	Weight control	Familiarity	Ethical concern
Female	3,45	3,65	2,7	2,8	3,73	3,38	3,09	3,9	1,8
Male	2,76	3,96	3,2	3,8	3,76	3,93	3,1	3,1	2

A Mann-Whitney U test was managed to find if there is an essential difference between gender and food motives. Table 9 shows the calculation and it can be seen that, apart from ethical concern, all motive values are less than  $p > 0.05$ .

A Kruskal Wallis is a non-parametric method that checked if the motives in questionnaire originated significantly with regard to age, gross income and work hours.

As we see (Table 9) food choice motives did not differ essentially regarding age or gross income ( $p > 0.05$ ). Besides, there was no substantial difference in the food choice motives with regard to work hours, with the exception of familiarity ( $p=0.05$ ).

Table 9. Food motives in relation to age, work hours, gross income and gender

Motive	p-value			
	Age	Work hours	Gross income	Gender
Health	0,1	0,81	0,31	0,002
Mood	0,49	0,62	0,94	0,002
Convenience	0,44	0,5	0,98	0,005
Sensory appeal	0,93	0,97	0,87	0,064
Natural content	0,8	0,91	0,76	0,002
Price	0,37	0,29	0,25	0,01
Weight control	0,54	0,21	0,34	0,02
Familiarity	0,74	0,05	0,91	0,006
Ethical concern	0,77	0,45	0,88	0,16

Notes: Age=15-44 years; Work hours=0-10, 11-20, 21-30, 31-40, 40+ hours per week; Gross income = 0-50, 51-100, 101-200, 201-300, 301-400, 400-600, over 600 thousand KZT

At the same time, apart from the quantitative study, a qualitative study (interview) was conducted during the work experience. 7 people, different age groups, different activities, different family status, different sex and different time spent at work. As a result, all respondents answered that the price is not the main motive in choosing food. This assumption is strengthened by the fact that during the practice, I handed out leaflets "5% discount coupon" to the store of dried fruits, vegetables, fruits. Leaflets were mainly distributed to people of retirement age (for whom an additional 5% discount is provided). Out of 50 coupons, only 2 people used the coupon. In a survey of consumers, the majority answered that up to 10% discounts do not affect their choice. One respondent, aged 52, works as a teacher, answered that the motive for eating for her is familiarity, that is, the habit of cooking and eating what she is used to. She also noted that the workload at work (working hours) also affects the choice of food. Another respondent, 29 years old, entrepreneur, single, answered that his dietary choices are influenced by health care and weight control now, the price as a factor is not particularly affected. 2 respondents answered that health care and sensory appeal are more important for them in the choice of food, although they do not exclude that convenience and similarity also influence their choice. Based on the answers, it can be concluded that, regardless of age, marital status, respondents pay attention to the motive for maintaining health, convenience and familiarity when choosing food. The environment does not influence their decision, and the price does not greatly influence their choice. But at the same time, sensory appeal and natural content has an impact. The interview was conducted via mobile communication. Consent to data processing received.

## VI. Conclusion

We examined the motives for choosing food, taking into account various socio-demographic characteristics. And these studies provide an understanding of what motives are important for certain socio-demographic groups and what interventions from social marketing are necessary or will be useful to certain people.

Simultaneously with the collection of data on socio-demographic factors, we determined whether there were intercorrelations between the scales of the food choice questionnaire. There are positive relationships between health and natural content ( $r=0.86$ ), familiarity and price ( $r=0.82$ ), health and sensory appeal ( $r=0.8$ ), natural content and sensory appeal ( $r=0.8$ ). If the importance of health increases for consumers, then the importance of natural content will also increase.

In terms of socio-demographic factors, we examined the influence of age, gender, income, hours of work, and marital status on food choices.

First, we examined the influence of age on food choices, what motives people of a certain age are guided by when choosing food. Foreign studies have shown that it is important for the younger generation how they look compared to older people, and that there is a positive relationship between age and the motive of acquaintance (Steptoe et al., 1995). Our study showed that people aged 15-19 are less worried about their appearance, for the age group of 30-34 years the motive of weight control is important, and in other age groups the importance of this indicator is not much different, we also learned that all respondents The content of natural ingredients in food is very important. Calculating the correlation between age and eating motives, we did not find a significant relationship.

Secondly, there is a lot of work in the existing literature on the influence of income on motives for eating, in particular the influence of income on the purchase price. Andajani-Sutjahjo et al. (2004) believe that price is one of the main reasons for choosing the right food. Steptoe et al. (1995) in his research work showed that students in universities have a big impact on price. However, in our studies, respondents with different income levels pay less attention to price, that is, it is not so important for respondents that the price is inexpensive or cheap. But at the same time, the respondents answered that it is important for them when the price and quality match.

Third, we analyzed the relationship between work hours and eating motives. Andajani-Sutjahjo et al. (2004) find that the number of working hours prevents people from preparing or eating healthy food. Convenience as a motive in eating is related to how many hours a person works. However, in our study, we did not find a significant relationship between them. But at the same time, according to our observations, hours of work affect similarity ( $p=0.05$ ). This is probably due to the fact that when people have little time to cook, they prefer to cook what they are used to constantly cooking and eating. These outcomes may be effective in performing social marketing intervention strategies.

Fourth, we analyzed the motives in nutrition in relation to gender. Men are guided by motives of sensory appeal and mood more than women. And for women, the motives of health, convenience and familiarity are important. Women sometimes choose the food they are used to, that is, cook and buy the same types of food. Natural content in nutrition is essential for men and women. Price matters more to men than to women.

In conclusion, according to our findings, social marketing interventions aimed at exploring eating motives based on gender and hours of work can be successful. However, income-based, age-based interventions for healthy eating may be effective in countries other than Kazakhstan.

## **VII. Limitations**

In our study, we used a ready-made questionnaire, probably in the future it will be necessary to develop a questionnaire that considers the behavior in food choice in Kazakhstan (questionnaire that takes into account cultural characteristics).

Also, we believe that it is necessary to attract more respondents or do research on a specific socio-demographic group.

The study was conducted mainly among urban residents, so we do not know the motives for proper nutrition of people in rural areas.

The questionnaire was translated from English, and the meaning of some of the statements might have been lost in translation. And also, the questionnaire was conducted electronically, despite the numerous advantages of this method, in our opinion, there is a drawback that the respondents could not clarify some statements with the researchers.

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## IX. Annex

### Annex A

<b>Composite variable</b>	<b>Inter-item correlations (r <sup>1/4</sup>)</b>	<b>Item-to-total correlation (r <sup>1/4</sup>)</b>
<b>Health (six items)</b>	<b>0,51-0,87</b>	<b>0,77-0,92</b>
Contains a lot of vitamins and minerals	0,62-0,87	0,91
Keeps me healthy	0,59-0,87	0,92
Is nutritious	0,51-0,81	0,84
Is high in protein	0,51-0,72	0,77
Is good for my skin/teeth/hair/nails	0,6-0,82	0,89
Is high in fiber and roughage	0,63-0,75	0,86
<b>Mood (five items)</b>	<b>0,65-0,89</b>	<b>0,86-0,94</b>
Helps me cope with stress	0,71-0,89	0,93
Helps me cope with life	0,66-0,89	0,92
Helps me relax	0,75-0,87	0,94
Cheers me up	0,68-0,81	0,87
Makes me feel good	0,65-0,81	0,86
<b>Convenience (three items)</b>	<b>0,78-0,96</b>	<b>0,91-0,96</b>
Is easy to prepare		
Can be cooked very simply		
Takes no time to prepare		
<b>Sensory appeal (three items)</b>	<b>0,83-0,9</b>	<b>0,93-0,96</b>
Smells nice		
Looks nice		
Has a pleasant texture		
<b>Natural content (three items)</b>	<b>0,8-0,89</b>	<b>0,92-0,96</b>
Contains no additives		
Contains natural ingredients		
Contains no artificial ingredients		
<b>Price (three items)</b>	<b>0,51-0,75</b>	<b>0,83-0,91</b>
Is not expensive		
Is cheap		
Is good value for money		
<b>Weight concern (three items)</b>	<b>0,72-0,77</b>	<b>0,89-0,92</b>
Is low in calories		
Helps me control my weight		
Is low in fat		

<b>Familiarity (3 items)</b>	<b>0,63-0,82</b>	<b>0,86-0,93</b>
Is what I usually eat		
Is familiar		
Is like the food I ate when I was a child		
<b>Ethical concern (three items)</b>	<b>0,51-0,73</b>	<b>0,82-0,89</b>
Comes from countries I approve of politically		
Has the country of origin clearly marked		
Is packaged in an environmentally friendly way		



**Convenience**

- \_\_\_ 12. Is easy to prepare
- \_\_\_ 13. Can be cooked very simply
- \_\_\_ 14. Takes no time to prepare

**Sensory appeal**

- \_\_\_ 15. Smells nice
- \_\_\_ 16. Looks nice
- \_\_\_ 17. Has a pleasant texture

**Natural content**

- \_\_\_ 18. Contains no additives
- \_\_\_ 19. Contains natural ingredients
- \_\_\_ 20. Contains no artificial ingredients

**Price**

- \_\_\_ 21. Is not expensive
- \_\_\_ 22. Is cheap
- \_\_\_ 23. Is good value for money

**Weight concern**

- \_\_\_ 24. Is low in calories
- \_\_\_ 25. Helps me control my weight
- \_\_\_ 26. Is low in fat

**Familiarity**

- \_\_\_ 27. Is what I usually eat
- \_\_\_ 28. Is familiar
- \_\_\_ 29. Is like the food I ate when I was a child

**Ethical concern**

- \_\_\_ 30. Comes from countries I approve of politically
- \_\_\_ 31. Has the country of origin clearly marked
- \_\_\_ 32. Is packaged in an environmentally friendly way

**Thank you for your input. We appreciate your time. We ensure you that all data collected will be kept anonymous.**