

Czech University of Life Sciences Prague

Faculty of Economics and Management

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Master's Thesis

**Food and its social context.
(Case study of low and high-income households in
Kazakhstan)**

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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DIPLOMA THESIS ASSIGNMENT

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Thesis title

Food and its social context (case study of low and high income households in Kazakhstan)

Objectives of thesis

The goal of the thesis is to identify the factors influencing daily nutrition of high-income and low-income households in Kazakhstan

Methodology

To achieve the goal, the thesis will conceptualise how academic literature addresses links between nutrition and social stratification (especially in term of households income). It will show social context of the food consumption. Since Kazakh households income differs also in urban-rural dimension also this issue will be addressed through literature review. The review will also describe eating habits, restaurant industry and food industry situation in Kazakhstan as they are presented in academic literature. The empirical section of the thesis will investigate several households in rural and urban areas with different incomes. They will use diaries to record food they eat, its price and other factors of food consumption. This research will be supplemented by the survey of young Kazakh people investigating the links of their income and their food preferences and eating habits. The method therefore use both quantitative and qualitative approaches, the comparative analysis of specific households with the estimation of daily consumption of both households during a month, and their social context, and survey of young generation people about their eating preferences.

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Declaration

I declare that I have worked on my master's thesis titled "Food and its social context (case study of low and high-income households in Kazakhstan)" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the master's thesis, I declare that the thesis does not break any copyrights.

In Prague on 30.11.2023

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Food and its social context (case study of low and high-income households in Kazakhstan)

Abstract

To achieve the goal, the thesis will conceptualise how academic literature addresses links between nutrition and social stratification (especially in term of households income). It will show social context of the food consumption. Since Kazakh households income differs also in urban-rural dimension also this issue will be addressed through literature review. The review will also describe eating habits, restaurant industry and food industry situation in Kazakhstan as they are presented in academic literature. The empirical section of the thesis will investigate several households in rural and urban areas with different incomes. They will use diaries to record food they eat, its price and other factors of food consumption. This research will be supplemented by the survey of young Kazakh people investigating the links of their income and their food preferences and eating habits. The method therefore use both quantitative and qualitative approaches, the comparative analysis of specific households with the estimation of daily consumption of both households during a month, and their social context, and survey of young generation people about their eating preferences.

Keywords: food consumption, household income, Kazakhstan, social stratification, social context, food.

Jídlo a jeho sociální kontext

(Případová studie domácností s nízkými a vysokými příjmy v Kazachstánu)

Abstrakt

K dosažení cíle bude práce konceptualizována, jak akademická literatura řeší souvislosti mezi výživou a sociální stratifikací (zejména z hlediska příjmů domácností). Ukáže sociální kontext konzumace potravin. Vzhledem k tomu, že příjmy kazašských domácností se liší také v urbanisticko-venkovské dimenzi, bude i tato problematika řešena prostřednictvím přehledu literatury. Přehled také popíše stravovací návyky, restaurační průmysl a situaci v potravinářském průmyslu v Kazachstánu tak, jak jsou prezentovány v odborné literatuře. Empirická část práce bude zkoumat několik domácností ve venkovských a městských oblastech s rozdílnými příjmy. Budou používat deníky k zaznamenávání jídla, které jedí, jeho ceny a dalších faktorů spotřeby jídla. Tento výzkum bude doplněn o průzkum mezi mladými kazašskými lidmi, kteří zkoumají souvislosti jejich příjmu a jejich stravovacích preferencí a stravovacích návyků. Metoda proto využívá jak kvantitativní, tak kvalitativní přístup, srovnávací analýzu konkrétních domácností s odhadem denní spotřeby obou domácností v průběhu měsíce a jejich sociálního kontextu a šetření mladé generace o jejich stravovacích preferencích.

Klíčová slova: spotřeba potravin, příjem domácností, Kazachstán, sociální stratifikace, sociální kontext, jídlo.

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1 Introduction

Food has a part in the diverse mix of world experiences that goes beyond simple subsistence. Through this topic may be examined the complexities of social dynamics, economy, and culture..

This thesis sets out to understand how people from different backgrounds and incomes interact with food in their everyday lives, focusing on the idea of social stratification—how society divides people based on things like money, education, and jobs—and how this shows up in what we put on our plates.

This study focuses on the unique circumstances of Kazakhstani low- and high-income households in rural and urban areas of living.

The significance of this thesis is demonstrated by its ability to shed light on the complex relationship between dietary habits and social injustices, providing understanding of the difficulties faced by people from various socioeconomic backgrounds. This study looks at the differences in food choices, access, and attitudes between low- and high-income households in Kazakhstan. It broadens the scope of research in the field and may help shape future policies that address social inequality.

2 Objectives and Methodology

2.1 Objectives

The main aim of this thesis is to identify the factors influencing the daily nutrition of high income and low-income households in Kazakhstan.

Other research questions of this thesis include the following:

1. How social and cultural factors influence food consumption patterns in Kazakhstan, and how these patterns differ between selected households in urban and rural areas?
2. How does young Kazakhstani people's household income affect their food preferences and eating habits?

2.2 Methodology

To achieve the goal, the thesis will conceptualise how academic literature addresses links between nutrition and social stratification (especially in term of households income). It will show social context of the food consumption. Since Kazakh households income differs also in urban-rural dimension also this issue will be addressed through literature review. The review will also describe eating habits, restaurant industry and food industry situation in Kazakhstan as they are presented in academic literature. The empirical section of the thesis will investigate several households in rural and urban areas with different incomes. They will use diaries to record food they eat, its price and other factors of food consumption. This research will be supplemented by the survey of young Kazakh people investigating the links of their income and their food preferences and eating habits. The method therefore use both quantitative and qualitative approaches, the comparative analysis of specific households with the estimation of daily consumption of both households during a month, and their social context, and survey of young generation people about their eating preferences with statistical analysis.

The four households living permanently in Kazakhstan were chosen for the research of the monthly estimated food diaries: Family A – middle-income, Family B and D - high-income households, and Family C – low-income household. The comparative analysis between them will show the differences and similarities. This research was conducted from 1st November until 30th November 2022. The households were putting information of food they take during the day.

The survey research included questionnaire, which was distributed online via social media – Telegram. Survey was conducted in Russian language. There are results of 157 respondents in total. Obtained results are statistically calculated by tool IBM SPSS program using frequency distribution from descriptive statistics and advanced method of statistical research such as correlation analysis. The results of calculations are analysed and lead to particular conclusions.

3 Literature Review

3.1 Introduction to food.

The basic understanding for food is explained in the Online Merriam-Webster's dictionary (2022) as:

“**Food** is material consisting essentially of protein, carbohydrate, and fat used in the body of an organism to sustain growth, repair, and vital processes and to furnish energy.”

In the broader meaning:

“**Food** is a symbol of social order and cultural identity, reflecting the values and beliefs of a society.” (Douglas, 2018).

Grew (1999) also had positioned food as a means of communication, social differentiation, and cultural identity.

3.2 Brief history of food from social perspective.

Throughout history, food has played a critical role in shaping human society, reflecting cultural, economic, and political changes, and influencing the health and well-being of populations. From ancient rituals and feasts to contemporary food trends (Tannahill, 2003).

In ancient civilizations, such as Greece and Rome, dining was a social event and meals were often served in a communal setting. (Gastro Obscura, 2018).

During the medieval times, the feudal people feasted on elaborate multi-course meals while the lower classes subsisted on simple meal. The formal banquets with guests were an opportunity for lords and ladies to show off their wealth and power, and they were often accompanied by music, dancing, and other forms of entertainment (Gies and Gies, 1994).

In the latter half of the 20th century, fast food became popular, offering quick, inexpensive meals for busy individuals. (Schlosser, 2002)

At this time international cuisine also became popular. In the 20th century was developed the convenience food industry, which offered consumers a range of pre-packaged and convenience foods, such as frozen dinners and instant noodles. (Schlosser, 2002).

Globalization has led to the spread of food cultures and the development of hybrid cuisines (Grew, 1999). In recent years, there has been a growing trend towards healthier, plant-based diets, with an emphasis on locally sourced, organic produce (The New York Times, 2021).

The COVID-19 pandemic has accelerated the trend of online food delivery and takeaway, further changing the way people dine (J.Keane, Forbes, 2020).

The rise of technology has also had an impact on dining habits, with the widespread use of delivery services and meal kits allowing people to enjoy restaurant-quality food in the comfort of their own homes (Forbes 2020).

3.3 Influential factors of food choice.

The factors influencing the food choice can be divided into internal and external.

Internal factors that affect food nutrition of individuals include genetics, metabolism, age, and gender. Genetics play a significant role in determining individual reactions to certain foods and nutrients (Mathers, 2017).



Picture 1 Reactions of babies on food. Source: Photo courtesy of Dr. Jacob Steiner. *Encyclopedia of food and culture* (Katz, et al., 2003)

Katz et al., (2003) also mentions this as the fundamental reason for choosing and accepting food lies in how humans react to a food's aroma, flavor, texture, and other sensory properties.

The example from Katz et al., p. 3 (2003), Picture 1:

“This sequence of pictures shows the reactions of babies from four to ten hours old prior to experiencing food of any sort. The left column shows their natural response to the sweetness of sucrose placed on the tongue, while the right column shows their response to the bitterness of quinine. Their facial expressions resemble those of adults tested for the same responses.”

Katz et al., (2003) also notices that the relationship of individuals with food changes with age, and it's affected by many factors working together: genes, what their mothers ate when they were growing up, how they were raised, what they learn, what they think, and the culture they belong to.

External factors influencing the food nutrition of an individual include a wide range of factors that are beyond an individual's control, including economic, cultural, and social factors (WHO, 2018).

This thesis will mainly have a focus on the external factors such as social, cultural and economical point of view according to the topic of this thesis.

3.3.1 Social influence

Social context has a significant impact on eating behaviour. When we eat with other individuals as opposed to when we dine by ourselves, we eat differently. Additionally, we often eat similarly to people with whom we are in close social contacts. One explanation for this is that we find it pleasant and adaptive to adapt our behavior to that of others. The standards for acceptable eating are established by other people's actions, as well as by shared cultural norms and environment. If a norm is seen as meaningful by social comparison, we

are more likely to adhere to it. Relevant norms are established by people who are like us and with whom we identify. (Higgs, S., Thomas J., 2016)

Katz et al.(2003) in The Encyclopedia of Food and culture also states that the preference of food comes from the social influence from the childhood. Curiously, the children tend to have similar preferences with their peers rather than with their own parents. Peers may help the child to overcome fear of anything new and inexperienced (neophobia), since the food choices of their friends or well-known adults has a strong impact on child's food choice. The supreme impact of social facilitation of food chosen by someone's preference is that it becomes the part of children's attitude and their own sensory properties (Katz et al., 2003; Addessi E. et al. 2005).

It's usual practice to eat meals with friends, family, or co-workers (Oh, A., Erinosh, T. et al., 2014; cited in Higgs, S. and Thomas J.,2016). Given that most eating occurs in a social setting, it is crucial to comprehend how and why who we eat with influences what we eat. When we dine with someone who is eating a lot, we are probably going to imitate them and eat more than we would if we were eating alone (Cruwys, T., 2015 cited in Higgs, S. and Thomas J., 2016).

A number of recent studies have enriched understanding of the situations under which social norms affect consumption and the mechanisms underlying (Higgs, S. and Thomas J., 2016). Eating with others can influence how much we eat, and studies have shown that we tend to eat more when we are in a social setting. This is known as "social-facilitation", which has been extensively documented through food diaries, empirical and observational studies (Herman, C., 2015 cited in Higgs, S. and Thomas J., 2016).

On the other hand, if we believe that consuming a small amount will produce a better social impression, we may eat less than usual (Vartanian, L, 2015 cited in Higgs, S. and Thomas J., 2016). One reason other persons have such an effect on our eating is that they serve as a model or norm for appropriate behavior. (Higgs, S., 2015 cited in Higgs, S. and Thomas J., 2016).

3.3.2 Cultural influence

The **cultural influence** is also playing the big role in the preference of food.

The cultural setting individual differences within a culture are almost always more pronounced than dietary differences between cultures. More probably, differences in preferences reflect prior experiences with various foods. Cultures act to define what substances are considered foods, in addition to facilitating liking through exposure and the action of social influences. People may not like unfamiliar foods or certain flavors in certain foods. For example, in Japan, they often use sweet bean paste in cakes, but in Western countries, beans are usually used in savory dishes. Depending on where you come from, porridge can be sweet or savory. Also, some foods that are popular in one culture may not be liked in another culture because of different experiences with them. For instance, lamb and mutton are popular in the West, but not in some parts of Asia where they don't eat sheep meat. (Katz et al., 2003)

Different cultures and religions have different rules about what foods are considered acceptable to eat, and some foods may not be considered food at all. For example, people in Western

countries are unlikely to enjoy eating dog meat or snake blood. To help categorize cultural differences in food, the concept of flavor principles has been introduced. Flavor principles are unique combinations of ingredients that are commonly used in a culture's cuisine and give foods within that culture a distinctive taste. For example, Japanese cooking often uses soy sauce, mirin, and dashi, while Korean dishes are known for their garlic, chili, sesame, and soy. These flavor principles not only define a national cuisine, but also express cultural identity. They can also help people overcome their fear of trying new foods by providing a familiar taste, while limiting the types of food available within a culture. (Katz et al., 2003).

A familiar taste can make it easier to try new foods and have a more diverse diet. Recent research shows that adding a familiar sauce to a new food can encourage children to try it. Having different flavors can also make boring foods, like plain rice or corn, more interesting. Even if a flavor only has a few ingredients, they can be used in different ways. Sometimes what seems like one spice can actually have many different types. For example, different types of chili peppers can have very different flavors and levels of spiciness (Katz et al., 2003).

3.3.3 Economic factors influence

Economic factors such as cost, availability and income are important in shaping food and nutrition choices of society.

According to a study by Drewnowski and Darmon (2005), the cost of food is a primary determinant of dietary choices. As such, individuals with lower incomes tend to choose cheaper foods that are often low in essential nutrients. These food options include processed foods, fast foods, and sugar-sweetened beverages, which are associated with negative health outcomes.

In contrast, individuals with higher incomes have greater access to a wider range of food options, including specialty items, fresh produce, and organic foods. The availability of such foods is often due to their higher prices, which lower-income individuals cannot afford. (Tarasuk et al., 2019).

Food availability is another important economic factor that can influence nutrition. Limited access to grocery stores and fresh produce markets in low-income areas is a common issue that can lead to food deserts, where individuals rely on convenience stores and fast-food restaurants for their meals. These food options are often high in calories, saturated fat, and sodium and can contribute to poor health outcomes (Liu et al., 2015).

3.3.4 Influence of advertising

In addition to the various internal and external factors influencing an individual's food consumption, advertisements also play a significant role in shaping food choices.

Living in the 21st century with the increasing influence of online marketing, the topic of advertising has become even more important.

Food manufacturers and marketers understand that consumers are more likely to buy products that are visually attractive and marketed in a positive light. Advertisements establish a positive image for products and create high expectations for their taste. When consumers try a product that meets their expectations, they are more likely to purchase it again. The repeated consumption of the product, along with other processes such as psychological association, can create a stronger attraction to the product and increase the probability of future purchases. In this way, advertising have a significant influence on the food consumption habits of consumers (Katz, S. et al., 2003).

According to Harris et al., 2009 studies have also shown that food advertisements have the potential to increase consumption of products by advertisement, which will have a result of excessive consumption of food high in calories but low in nutrients.

Children and teenagers are particularly vulnerable to this influence as they are constantly exposed to it and have limited mental abilities and less experience to evaluate it seriously (Harris et al., 2009).

3.4 Definition of social stratification

This chapter explains the social stratification term. It highlights the existence of inequalities and how the position of an individual in the social hierarchy is determined by factors such as family background and societal norms, values, and beliefs. The chapter also explores the concept of class system and socioeconomic status and explains how an individual's social standing can change over their lifetime based on factors like education, occupation, and income.

3.4.1 Social stratification

- “**Social stratification** refers to a society’s categorization of its people into rankings based on factors like wealth, income, education, family background, and power.” (Conerly et al., 2021)

The term "stratification" is also used by geologists to describe the distinct vertical layers found in rock. Typically, the layers of society, made up of people, represent the unequal distribution of society's resources. Society views the people with more resources as the top layer of the social structure of stratification. The lower layers are made up of people who have fewer and fewer resources. (Conerly, et al., 2021; Saunders, 2001) The position of an individual within this stratification is referred to as **socioeconomic status**, which is described more further in this chapter.

Sociologists define **social stratification** as a societal system that highlights inequalities. Individual inequalities exist, but sociologists are interested in larger social patterns. They look to determine whether individuals with similar backgrounds, group memberships, identities, and location in the country share the same social hierarchies. Neither any individual, rich or poor, can be blamed for socioeconomic inequality, but instead all participate in a system where some rise and others fall. Sociologists study how society's structure affects a person's social position and, as a result, is created and supported by society. (Conerly, et al., 2021; Saunders, 2001)

The parents are a main determinant of the social standing. Parents usually pass their social position to their children. People inherit not only social standing but additionally the cultural norms, values, and beliefs that accompany a certain lifestyle. They share these with a network of relatives and friends that provide resources and support. This is one of the explanations first-generation college students do not fare as well as other students. They do not have access to the resources and support that those whose parents have attended college do. (Conerly, et al., 2021)

There are several systems of social stratification, which are divided into open and closed systems and include: slavery, estate systems, caste systems, class systems. (Barkan, 2016)

3.4.2 The class system and socioeconomic status

The class system is based on social aspects as well as individual achievement.

A class is a group of people who have similar socioeconomic status based on factors such as wealth, income, education, family background, and occupation. Class systems, unlike caste systems, are open. People may advance to a higher level of education or employment status

than their parents. Though family and other societal models can help direct a person's career path, personal choice and opportunity also play a role.

They can also interact with and marry people from other classes. People can form an exogamous marriage, which is a union of spouses from different social classes. Exogamous marriages frequently emphasize values such as love and compatibility.

Though social norms still encourage people to choose partners from their own social class, this is known as an endogamous marriage, people are less pressured to choose spouses based solely on their social location. (Conerly et. al, 2021)

The term **status consistency** is used by sociologists to describe the consistency, or lack thereof, of an individual's rank across the factors that determine social stratification over a lifetime. Due to the inability to move out of a class, caste systems correlate with high status consistency, whereas the more flexible class system correlates with lower status consistency. (Conerly et. al, 2021)

In a class system, hard work, new opportunities, and a lower education status can still lead to progression into the middle or upper classes, whereas in a caste system, this is not possible. In a class system, having more options and opportunities correlates with having a lower status consistency.

Different societies have different factors that define stratification. In most societies, stratification is an economic system based on wealth, which is the net value of a person's money and assets, and income, which is a person's wages or investment dividends.

While people are frequently classified as rich or poor, other important factors influence their social standing. (Conerly et al., 2021)

Access to resources socioeconomic standing a person's **socioeconomic status** (SES) is determined by their wealth, prestige, and power; unequal access to these things results in disparities in lifestyle and life chances (Gerth & Mills 1946 cited in Germov, 2017). Those with more wealth and status have better life chances than those with less as they can afford decent health practices and healthcare. Greater resources also allow for more lifestyle options in areas such as housing, food purchases, clothing, and vacations. The education, occupation, and income of an individual are commonly used to conceptualize and measure that individual's SES. Education and occupation are the primary determinants of income, as well as sources of prestige. Gender, ethnicity, and age all have an impact on a person's status. Each of these traits influences access to wealth, prestige, and power, and each is linked to various aspects of living and life prospects.

Low socioeconomic status is associated with poor nutrition knowledge, poor eating habits, inadequate diets, and poor nutritional status (Dean et al. 2011; Johnson, Sharkey et al. 2011; Wham & Bowden cited in 2011 Germov, 2017).

In sociology, **class** is a core subject of study and discussion. The terminology used to represent social inequality varies due to distinctions in theoretical frameworks and methodological approaches used by sociologists. The terms class and socioeconomic status (SES) or socioeconomic position (SEP) are often used interchangeably, despite the fact that they are quite different concepts. Class refers to a social inequality system based on unequal distributions of wealth, status, and power. Working, middle, and upper classes are real groups of individuals who share common class-based values, interests, and lifestyles. SES/SEP refers to a statistical classification of people into high, medium, and low socioeconomic groups

based on specific criteria (usually a composite index of income, occupation and education). (Turrell et al. 2003, p. 191 cited in Germov, 2017)

3.4.3 The classes' differences related to food consumption

Class has long been associated with consumption of food, as demonstrated by the upper classes' claimed 'good taste' and 'good manners' in comparison to the working class. Such derogatory attitudes with moralistic subtexts can still be found today. Exclusive and expensive restaurants, gourmet food and wine, sparkly food magazines, and Television programs that uphold unique ingredients and cuisines and admire professional chefs, with an emphasis on the artistry of food preparation and the etiquette of eating, are all key features of the class-food connection. The higher classes' privileges have frequently been displayed through their consumption habits, and food choices have been one of the social markers used to reinforce class differences, which Thorstein Veblen (1899/1975) referred to as conspicuous consumption. (Germov, 2017)

Increased understanding of the relationship between diet and health has been accompanied by popular and scientific assumptions that 'poor diets of the poor' are partly responsible for the continuity of health disparities between classes.

The diet of the working class is frequently viewed as homogeneously 'unhealthy,' whereas the diet of the upper classes is frequently assumed to be consistently 'healthier,' despite the fact that the available evidence does not support such a simplistic view of class-based food habits. Furthermore, some observers note that the influence of class on people's lifestyles, including food consumption, is steadily declining. (Germov, 2017)

3.5 Brief overview of the Republic of Kazakhstan

Kazakhstan, or officially the Republic of Kazakhstan, is a transcontinental country in Central Asia and Eastern Europe. It shares a Caspian Sea coastline with Russia to the north and west, China to the east, Kyrgyzstan to the southeast, Uzbekistan to the south, and Turkmenistan to the southwest. Its capital is Astana, to be known as Nur-Sultan from 2019 to 2022. Almaty, largest city, served as the capital of the country until 1997. Kazakhstan is the world's largest land-locked country, the largest and northernmost Muslim-majority country by land area, and the ninth-largest country in the world. It has a population of 19,125,620 people. The official languages are Kazakh and Russian. (Wikipedia, 2022; Encyclopaedia Britannica, 2023)

Religions: Sunni Islam - 69.3%, Orthodox Christianity - 17.2%, unbelievers/refused to indicate – 13.3%, and other - 0.2% according to 2021 Census (National Bureau of Statistics of Kazakhstan, 2021).

Ethnicities.

The country is home to a diverse mix of ethnic groups, including 67% of Kazakhs, 20% Russians, 3% Uzbeks, 1.6% Ukrainians, 1.5% Uighurs, and 6.9% other nationalities on year 2017. (Wikipedia, 2022; Encyclopaedia Britannica, 2023)



Picture 2 Map of Kazakhstan Territory. Source: Encyclopaedia Britannica. (2023)

3.5.1 Socioeconomic situation.

Kazakhstan is a Central Asian country with a mixed economy and a rapidly growing population. The country has made significant progress in improving its socioeconomic situation in recent years, with strong economic growth and declining poverty rates. Despite

these positive developments, however, the country still faces a number of challenges in terms of income inequality, unemployment, and access to quality healthcare and education (World Bank, 2023).

In terms of economic growth, Kazakhstan has seen significant progress in recent years, with its Gross Domestic Product (GDP) increasing steadily since the early 2000s. The country has a diversified economy into three sectors. The largest sector with approximately 50 % of GDP share is mining of natural resources, including oil, gas and minerals. The second largest with approximately 5% of GDP share is agricultural sector. The third sector is a growing services sector. (Central Intelligence Agency, 2023; World Bank 2023)

Despite its strong economic growth, however, Kazakhstan still faces a number of socioeconomic challenges. One of the main challenges is income inequality, with a significant portion of the population still living in poverty, particularly in rural areas. In addition, the country has a relatively high unemployment rate, particularly among young people and women, and a shortage of well-paying jobs. (Eurasian Development Bank, 2023)

- ‘According to the results of a sample survey of households, the share of the population with incomes below the subsistence level in the Republic of Kazakhstan in the III quarter of 2022 amounted to 5.3%. The values of the indicators of the depth and severity of poverty were 0.9 and 0.3 percent, respectively. As before, there remains a significant differentiation in the proportion of the population with incomes below the subsistence level in urban and rural areas. Thus, in the reporting period, the value of the indicator in rural areas exceeded the value of the indicator in urban areas (4%) by 3.3 percentage points and amounted to 7.3%. The risk of poverty is strongly influenced by the size of the household. Thus, the poverty rate among households consisting of 5 or more persons, according to the results of the third quarter of 2022 amounted to 9.3%, which is almost 2 times higher than the general level of poverty. For reference: The average subsistence level per month per capita in the III quarter of 2022 in the Republic of Kazakhstan amounted to 46,671 tenge.’ (new.stat.gov.kz Bureau of National Statistics, 2023)

Another major challenge in Kazakhstan is access to quality healthcare and education. The country has made significant investments in both sectors in recent years, but there are still disparities in access to healthcare and educational opportunities, particularly for rural populations. In addition, there is a shortage of trained healthcare professionals, particularly in rural areas, and a need for increased investment in healthcare infrastructure and technology. (Euromonitor International, 2019)

In conclusion, the socioeconomic situation in Kazakhstan has improved significantly in recent years, but the country still faces a number of challenges, including income inequality, unemployment, and access to quality healthcare and education. To address these challenges, the Kazakh government has made a number of initiatives aimed at improving the lives of its citizens and promoting sustainable economic growth and development.

3.5.2 Agriculture.

Agriculture in Kazakhstan is an important sector of the country's economy, contributing to both food security and export earnings. The country has vast areas of fertile land and a favorable climate for agriculture, including fertile steppes, mountain valleys, and river deltas. These factors have helped to make Kazakhstan one of the largest agricultural producers in Central Asia and a significant player in the global agriculture market. (World Bank, 2023)

Agricultural production in Kazakhstan is dominated by crops such as wheat, barley, maize, and potatoes, as well as livestock, including cattle, sheep, and horses. The country is also a major producer of oilseeds, such as sunflower and rapeseed, and a growing producer of fruits and vegetables, including apples, cherries, and tomatoes (USDA Foreign Agricultural Service, 2023).

In recent years, the Kazakh government has implemented a number of initiatives aimed at modernizing and transforming the country's agriculture sector. These initiatives have focused on improving productivity, increasing efficiency, and promoting sustainable agriculture practices. The government has also made significant investments in infrastructure, including irrigation systems, transportation networks, and storage facilities, to help support the growth and development of the sector (Astana Times, 2019).

In addition to its efforts to modernize the agriculture sector, Kazakhstan is also working to increase exports of its agricultural products. The country has been successful in establishing trade relationships with countries in the region, as well as with Europe, China, and other countries, and is working to expand its reach in the global market (The Diplomat, 2019).

In conclusion, agriculture in Kazakhstan is an important and growing sector of the country's economy, contributing to both food security and export earnings. With its favorable climate and vast areas of fertile land, as well as the government's initiatives to modernize and transform the sector, the future outlook for agriculture in Kazakhstan is positive and the sector is well-positioned for continued growth and development.

3.5.3 Food industry in Kazakhstan

The food industry in Kazakhstan is a rapidly growing sector, playing a significant role in the country's economy and providing employment for a large segment of the population. The industry is characterized by a mix of traditional and modern food processing techniques and technologies, and includes a variety of segments, including agriculture, food processing, and food retail. (International Trade Administration, 2022)

The agriculture sector in Kazakhstan is characterized by large-scale grain production, with the country being a major producer of wheat, barley, cotton and rice. The sector also includes a growing market for livestock production, including cattle, sheep, and poultry, as well as the production of dairy products, fruits, and vegetables. (Wikipedia, 2022)

The food processing industry in Kazakhstan has undergone significant growth in recent years, with an increasing number of modern facilities and technological advancements in the sector.

The industry includes a range of segments, including the production of packaged foods, confectionery, and beverages, as well as the processing of meat and dairy products.

The retail food sector in Kazakhstan is characterized by a mix of traditional and modern retail channels, with the modern retail sector, including supermarkets and hypermarkets, growing in popularity in recent years. The retail food sector is also characterized by an increasing trend towards the use of modern marketing and distribution channels, such as e-commerce, to reach consumers.

In recent years, the Kazakh government has implemented a number of initiatives aimed at boosting the growth of the food industry, including measures to improve the business environment, increase investment, and support the development of new technologies. These initiatives have contributed to the growth of the food industry and have helped to position Kazakhstan as a significant player in the regional and global food market. (Kazakhstan Ministry of Agriculture, 2020)

In conclusion, the food industry in Kazakhstan is a rapidly growing sector, playing a significant role in the country's economy and providing employment for a large segment of the population. With its mix of traditional and modern techniques and technologies, and a range of diverse segments, the industry has a strong future outlook and is well-positioned to continue its growth and development.

3.5.4 Restaurant industry in Kazakhstan

The restaurant industry in Kazakhstan is a rapidly growing sector, reflecting the country's growing economy and increasing consumer demand for a variety of dining options. The industry is characterized by a mix of traditional and modern dining establishments, offering a wide range of cuisines and dining experiences to meet the diverse tastes and preferences of consumers. (Euromonitor International, 2023)

The traditional dining scene in Kazakhstan is characterized by local cafes and restaurants serving traditional Kazakh dishes, such as beshbarmak and kuyrdak, as well as a variety of other Central Asian and Russian-style dishes. These establishments typically offer a casual and affordable dining experience and often serve as a gathering place for friends and families. (Jekabsone, 2023)

The modern dining scene in Kazakhstan is characterized by a growing number of upscale restaurants, offering a range of international cuisines, from Italian to Chinese, as well as fusion and contemporary Kazakh cuisine. These restaurants typically offer a more formal and sophisticated dining experience, with a focus on high-quality ingredients and innovative presentation. (Culture Trip, 2022)

In recent years, the restaurant industry in Kazakhstan has been boosted by a growing number of international chains and franchises, such as McDonald's, KFC, and Starbucks, as well as the increasing popularity of casual dining establishments, such as fast food restaurants and cafes. These establishments have helped to increase the variety and accessibility of dining options for consumers, particularly in the country's urban areas. (Balgabayeva and Medukhanova, 2021)

In addition to the growth of traditional and modern dining establishments, the restaurant industry in Kazakhstan is also being shaped by a growing trend towards healthy and sustainable dining options. This trend has led to an increase in the number of restaurants offering organic, vegetarian, and vegan options, as well as a focus on locally sourced and seasonal ingredients. (Balgabayeva and Medukhanova, 2021)

In conclusion, the restaurant industry in Kazakhstan is a rapidly growing sector, reflecting the country's growing economy and increasing consumer demand for a variety of dining options. With its mix of traditional and modern dining establishments, and a growing focus on healthy and sustainable dining options, the industry has a strong future outlook and is well-positioned to continue its growth and development.

3.6 Eating habits in Kazakhstan

3.6.1 Influence of history and culture

The history and culture of Kazakhstan have greatly influenced the food consumption patterns of its people, shaping the country's unique culinary traditions and cuisine. The nomadic lifestyle of the Kazakh people, which dates back centuries, has resulted in a cuisine that is based on simple, easily transportable ingredients such as dairy products, meat, and bread. Horse meat is considered a delicacy in Kazakhstan and is consumed on special occasions, reflecting the country's nomadic heritage and its traditional association with horsemanship. Dairy products, such as cheese, yogurt, and sour cream, play a significant role in the Kazakh diet, reflecting the importance of herding in the country's past. (World Culture Encyclopedia, *Kazakhstan*, 2023)

The Soviet Union from which Kazakhstan has left and gained independence in 1991 has contributed for different nationalities different from Kazakh nationality to stay in the country. The influence of foreign cultures and cuisines, such as Russian, Ukrainian, Uzbek has introduced new food habits in Kazakhstan. This has resulted in the integration of new ingredients and dishes into the country's traditional cuisine, creating a unique fusion of flavors and cooking styles. (*Kazakhstan Cuisine*, Kazakhstan Tourism, 2023)

The cultural significance of food and hospitality in Kazakhstan is reflected in the country's tradition of hosting large feasts, known as "dastarkhan," during special occasions and celebrations. The dastarkhan is a symbolic representation of hospitality and is considered a key aspect of Kazakh culture. (*Kazakhstan Cuisine*, Kazakhstan Tourism, 2023)

3.6.2 Influence of religion

Religion has played a significant role in shaping the food consumption patterns in Kazakhstan, with Islamic, Orthodox Christian, and other traditional beliefs influencing the dietary habits of its people. The country has a predominantly Muslim population, with around 70% of citizens following Islam.

According to Islamic dietary laws, all foods are acceptable, however meat from pork and alcohol are forbidden.

Muslims are required to observe a strict fast from dawn until dusk during the whole lunar month of Ramadan. Ramadan is a time of purification rather than penance.

Muslims are free to eat whatever they want and drink whatever they want throughout the rest of the year, as long as they stay within the bounds of the law, which restricts the consumption of the pork meat and alcohol. There are no Sabbath meals, meatless Fridays, or any particular practices (Zaouali, 2007).

The consumption of Halal meat is preferred. This has led to the growth of a thriving Halal food industry in Kazakhstan, which caters to both the domestic and international market.

Orthodox Christians, who make up around 26% of the population, also have their specific dietary restrictions. During lent, they abstain from meat, dairy products, and other animal-based foods, and follow a vegan diet.

The influence of religion on food consumption in Kazakhstan can also be seen in the way food is prepared and served during religious festivals and ceremonies. For instance, during the Muslim festival of Ramadan, the faithful break their fast with dates and a special soup with “kurt”.

In recent years, globalization and the influx of Western culture have introduced new food habits in Kazakhstan. This has resulted in a change in the traditional dietary patterns, with an increase in the consumption of fast food and processed foods.

However, despite these changes, the influence of religion on food consumption remains strong in Kazakhstan. The demand for Halal products, for instance, continues to grow, and many restaurants and cafes serve traditional dishes that adhere to religious dietary laws.

In conclusion, religion has had a profound impact on food consumption in Kazakhstan, shaping the country's traditional cuisine and influencing the food choices of its citizens.

3.6.3 Influence of geographical location

The geographical location of regions in Kazakhstan has a significant impact on food consumption, as the country's varied landscape and climate shape the availability and use of local ingredients in cuisine. The country is divided into several distinct regions, each with its unique culinary traditions and food habits.

Kazakhstan is divided into seventeen regions (Kazakh: oblystar; Russian: oblasti) and three cities (Almaty, Astana, and Shymkent) that are not part of any region.

There are 177 districts in each region (Kazakh: audandar; Russian: rayony). At the lowest level of administration, the districts are further subdivided into rural districts, which include all rural settlements and villages without an associated municipal government.

To conclude:

- Cities: Astana, Almaty, Shymkent.
- Highest level of the territorial administration: regions.
- Middle level of the territorial administration: districts.
- Lowest level of the territorial administration: rural districts (rural settlements and villages).

In Kazakhstan, there are municipalities at every level of the administrative hierarchy. All other places are classified as rural; only cities with significant republican, regional, or district significance are classified as urban populated localities. (Wikipedia, 2022)



Picture 3 Regions of Kazakhstan. Source: Wikipedia.org (2022)

In the northern regions, where the climate is harsh, food is typically hearty and filling, with an emphasis on meat, dairy products, and grain-based dishes. For example, in the East Kazakhstan region, traditional dishes include meat and dairy-based soups, as well as a variety of dumplings filled with meat, potatoes, or other ingredients. (World Culture Encyclopedia, Kazakhstan, 2023)

In the southern regions, where the climate is milder and there is a longer growing season, a wider variety of fruits, vegetables, and herbs are used in cooking. In the Almaty region, for example, traditional dishes include a variety of salads made with fresh ingredients, as well as a variety of spicy stews and rice-based dishes.

The arid steppe regions in the west and east of the country, on the other hand, are characterized by a shortage of water and a reliance on nomadic livestock herding. This has resulted in a cuisine that is based on dairy products, such as cheese, yogurt, and sour cream, and meat-based dishes, such as stews, soups, and dumplings. (Kazakhstan Tourism, 2022) In the coastal regions of the Caspian Sea, seafood and fish are a significant part of the local cuisine. Traditional dishes include fish stews, soups, and grilled fish, as well as rice-based dishes and salads made with fresh seafood. (Kazakhstan Tourism, 2022)

In conclusion, the geographical location of regions in Kazakhstan has a significant impact on food consumption, as the country's varied landscape and climate shape the availability and use of local ingredients in cuisine.

3.6.4 Influence of inequality in different areas

Poverty and inequality have a profound impact on access to food, particularly in areas with high levels of deprivation. Studies have shown that individuals living in poverty are more likely to experience food insecurity, which can lead to malnutrition, poor health outcomes, and reduced productivity (Gundersen, Waxman, & Engelhard, 2018).

In addition, people living in low-income areas often lack access to affordable, healthy food options due to limited availability and high prices. This can lead to a reliance on cheaper, less nutritious options that are often high in calories and low in essential nutrients, contributing to the rise in diet-related health conditions such as obesity and type 2 diabetes (Drewnowski & Darmon, 2005). The impact of poverty and inequality on food access is a complex issue that requires a comprehensive approach, including improving income and employment opportunities, increasing access to affordable healthy food options, and promoting education on healthy eating habits.

Kazakhstan has significant urban-rural divide, with incomes and consumption expenditures higher in urban areas. In 2013, urban poverty rates were one-fourth the rates in rural areas. (OECD, 2017;The World Bank, 2015). The most urbanized regions are Karaganda (where 79% of population is urban), Pavlodar (70%), Aktobe (62%) and East Kazakhstan (59%), the most rural regions are Almaty region (where 77% of population is rural), Southern Kazakhstan (61%), Zhambyl (60%), North Kazakhstan (58%), and Kyzylorda (57%). (OECD, 2017)

4 Practical Part

This part consists from the research divided into two parts: 1) monthly reports (diaries) of food consumed from two low-income and two high-income households, 2) questionnaire with the target of young generation people from 16 to 33 y.o. investigating their socio-economic context and food consumption preferences in support to reports.

The following research questions has been set:

1. How social and cultural factors influence food consumption patterns in Kazakhstan, and how these patterns differ between selected households in urban and rural areas?
2. What impact do factors such as price on food and access to food markets have on food consumption patterns of different income groups in Kazakhstan?
3. How does young Kazakhstani people's household income affect their food preferences and eating habits?

4.1 Research preparation.

The purpose of both quantitative and qualitative research is to understand the factors of influence on the eating habits of low, middle and high-income households in Kazakhstan from rural and urban regions, identify the differences and similarities.

1) The four households living permanently in Kazakhstan were chosen for the research of the monthly estimated food diaries: Family A – middle-income, Family B and D - high-income households, and Family C – low-income household. The comparative analysis between them will show the differences and similarities. This research was conducted from 1st November until 30th November 2022. The households were putting information of food they take during the day.

2) The survey research included questionnaire, which was distributed online via social media – Telegram. Survey was conducted in Russian language. There are results of 157 respondents in total.

Obtained results are statistically calculated by tool IBM SPSS program using frequency distribution from descriptive statistics and advanced method of statistical research such as correlation analysis. The results of calculations are analysed and lead to particular conclusions.

4.1.1 Limitations of the research

There sample of the research is to be considered as illustrative (non-representative) since the amount of the respondents doesn't correspond with the population. The households were selected by self-selection method. There is a probability of bias in the answers of respondents.

4.2 Comparative analysis of food diaries of selected households.

The households were selected by self-selection method. In total there are 4 households, that provided the information about their breakfast, lunch and dinner, the number of snacks, eating out and food delivery per day, as well as their expenses per month and day. The portion sizes and meal times were not included, because it was hard to measure by household members.

4.2.1 Households description

Household B (high-income urban).

The income of household B is high above average, thus it is considered as high-income household. The household of 4 has income of 1.5 million KZT per month and lives in Astana, the capital of Kazakhstan. It consists of 2 adults and 2 children. The adults have occupation in governmental body and also running their own business. Both children participate in school. The household's budget for food has a maximum of approx. 500 ths. KZT per month. The average expenses per day are 16000 KZT, which was calculated from monthly expenditure. The household prefers dishes of international cuisine and national cuisine. The average number of snacks during the day equals to 1,8 times. This household counts 12 times of eating out and 5 times of using food delivery service.

Household C (low-income rural)

The Household C is low-income household living in the Pavlodar region, small city of Leninsky. There are 2 adults and 3 children. 2 have middle school degree. 1 has occupation as a builder, 1 is unemployed. The income is small – 200 ths. per month and the food budget is approx 80 ths. KZT, the expenditure per day approx. is 2600 KZT. The household prefers to eat dishes originated from countries of post-soviet union and kazakh national food. The snacks eaten per day equal to 1. The household didn't have opportunities of eating out and food delivery.

Household D (high-income rural).

The Household D, lives in the Karaganda region, Nurkent village and includes 6 members. It has an income of 500-600 ths. KZT. It was identified as high-income in terms of rural dimension. Their occupation teacher, post office worker, small business owner and 3 students of different ages. The food budget for this household is 150-200.000 KZT. The ration (diet) includes Kazakh national dishes and Russian national dishes. The diet is unbalanced. Many of the ingredients for cooking are homemade and organic, such as bread and cottage cheese, or taken from animals, for instance cow milk, eggs, meat. The household prefers to eat dishes of kazakh national cuisine, but in the ration can be found dishes of post-soviet union countries cuisine. The expenses per day equal to 6600 KZT, which was calculated from the monthly expenditure. The number of snacks in average is equal to 1,78. None of the eating out and food delivery.

Household A (middle-income urban)

The Household A, which is middle-income urban household composed from 4 members living in city of Almaty: 4 people, 2 having a job in finances, 1 of them is retired, 1 receives social benefits. It was identified as middle-income in terms of urban dimension. The income of household is 600 ths. KZT. The household has a food budget of 130-145 000 KZT in a month. Their food intake includes Kazakh dishes, but rarely, and mostly the dishes of post-soviet countries cuisines, such as Russian, Uzbek, Ukrainian, Korean, Georgian and European. The average number of snacks during the day equals to 1,6. The average expenses per day are 4500 KZT. The household was eating out 4 times during the month of November. Delivery of food was not used. There is a pattern of low-income household such as high frequency of preparation of food at home and not using a food delivery, also a rare visiting of restaurants (small number of eating out times) and spending less money on food.

4.2.2 Comparison of rural households C and D.

Household D has a significantly higher income compared to the lower income of Household C. Both households are situated in rural areas but in different regions. Household D has a larger family size compared to Household C. Household C provides information on education levels, while Household D did not specify this information. Both houses have a taste for regional cuisine, however Household D uses more organic and homemade ingredients. Household D has a higher food budget and has higher daily expenses. The frequency of Household D is slightly more than compared to Household C. Both households do not engage in eating out or food delivery.

4.2.3 Comparison of urban household B and A.

Household B has a significantly higher income compared to Household A. Both households are urban but located in different cities. Household A has a larger family size. Both households display a diverse taste in cuisine, with Household B having a preference for a broader range. Household B allocates a higher food budget and has higher daily expenses. Similar snacking habits, with Household B snacking slightly more. Household B engages more frequently in both eating out and food delivery compared to Household A. Household B has a lifestyle that includes frequent dining out and food delivery. In contrast, Household A, residing in Almaty with a lower income, emphasizes home-cooked meals, avoids food delivery, and visits restaurants less frequently.

4.2.4 Comparison of the Households B, D (high-income) and C (low-income)

In terms of income Household B has the highest income, while Household C has the lowest. In terms of occupation and location Household B resides in an urban area, involved in both government and private sectors. In contrast, Households C and D are situated in rural areas, with a mix of occupations.

In terms of the family size Household D has the largest family (6 members), followed by Household C (5 members) and then Household B (4 members).

In terms of food preferences cultural diversity is evident, with each household having distinctive culinary preferences.

In terms of food budget and expenses Household B allocates the highest budget and incurs the highest daily expenses. Households C and D, while differing in income, have lower budgets and expenses.

In terms of eating out and food delivery urban Household B engages more frequently in eating out and food delivery compared to rural Households C and D.

In terms of diet composition Household D focuses on homemade and organic ingredients, setting it apart from the other two households.

4.3 Statistical analysis of the survey.

The survey which was created using Google Forms and was distributed through Telegram channel into chats with more than 1000 participants targeting young generation people from Kazakhstan. The survey questionnaire can be found

The age of young generation people was set according to the source Zakon.kz:

- “According to the norm of Art. 1 of the Law “On State Youth Policy”, citizens of the Republic of Kazakhstan from fourteen to thirty-five years of age are recognized as youth. This means that citizens of the Republic of Kazakhstan who have reached thirty-five years of age do not belong to the category of youth, says the MIOR response.” (Chernenko “Until what age are Kazakhstanis considered youth?,, Zakon.kz)

4.3.1 Dataset description.

The dataset with 157 valid answers in total, counts 90 persons (57.3%) as female and 67 (42.7%) as male respondents. There is no missing answers. The most representative range is between 22 and 25 years (43.3%), followed by the range of 18 and 21 years (30.6%). Next range is 26-29 years (22.3%), 30-33 years (2.5%) and the last less than 18 (1.3%).

Table 1 Gender

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	90	57.3	57.3	57.3
	male	67	42.7	42.7	100.0
	Total	157	100.0	100.0	

Source: Own composition according to survey in IBM SPSS Statistics.

Table 2 Age

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 18	2	1.3	1.3	1.3
	18-21	48	30.6	30.6	31.8
	22-25	68	43.3	43.3	75.2
	26-29	35	22.3	22.3	97.5
	30-33	4	2.5	2.5	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 3 The area where you live

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rural (village)	35	22.3	22.3	22.3
	Urban (city)	122	77.7	77.7	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

The area of living was divided into 2 options. Most of the respondents (77%) live in cities and 22.3% in rural area of living, such as village.

Table 4 Religion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agnosticism	1	.6	.6	.6
	Christianity	32	20.4	20.4	21.0
	I am not religious	60	38.2	38.2	59.2
	Islam	64	40.8	40.8	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

The majority of the respondents are Islamic (40.8%), 38.2% are not religious, 20.4% are Christians and one person set their answer for ‘Agnosticism’. which is not the religion, but is the view or belief that the existence of God, of the divine or the supernatural is unknown or unknowable.(Encyclopaedia Britannica, Newton Flew, 2023)

Table 5 The highest level of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	College	45	28.7	28.7	28.7
	High School	14	8.9	8.9	37.6
	Middle school	2	1.3	1.3	38.9
	University	96	61.1	61.1	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Majority of the respondents have a university degree (61.1%). College degree has 28%. Other respondents have high school degree (8.9%) and 2 people answered that they have only middle school education as a highest.

Table 6 Occupation

What is your current occupation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed student	48	30.6	30.6	30.6
	Full-time employed	51	32.5	32.5	63.1
	Self-employed	23	14.6	14.6	77.7
	Student	35	22.3	22.3	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

The respondents were also asked about their current occupation.

From the answers can be identified, that proportion of ‘Full-time employed’ respondents is the highest in percentage (32.5%), the ‘Employed students’ number are almost the same with the previous percentage (30.6%). The least of the responses had answer of ‘Self-employed’ (14.6%) and a little bit more than that the answer ‘Student’ (22.3%).

Table 7 The number of members in the household

What is the number of members in your household including you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	7.0	7.0	7.0
	2	20	12.7	12.7	19.7
	3	60	38.2	38.2	58.0
	4	58	36.9	36.9	94.9
	5	8	5.1	5.1	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

The most frequent answer for the question about the number of members in individual’s household is 3 with the share of 38.2%, another biggest share is 36.7% with answer 4. The least representative shares were for answers ‘2’ with 12.7%, ‘1’ with 7% and 5 with 5.1%. The answer ‘Other, please type the answer’ was also included, but no one chose it.

Table 8 Household members relation

People in your household are

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I live alone	11	7.0	7.0	7.0
	Your family members	115	73.2	73.2	80.3
	Your friends/partner/acquaintances	31	19.7	19.7	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Most of the respondents live with their family members – 73.2%. Other 19.7% live with friends, partner or acquaintances, and the last share of respondents 7% lives alone, which is the verification to previous question.

Table 9 The income of the household

The income of your household is (in your point of view)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Between high and middle	59	37.6	37.6	37.6
	Between middle and low	55	35.0	35.0	72.6
	High	8	5.1	5.1	77.7
	Middle	35	22.3	22.3	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

The income of the households in ethical reasons was not asked precisely, but defined from the point of view of respondent.

The biggest share of respondents (37.6%) answered about the income of their household as ‘Between high and middle’. Almost the same share (35%) has the answer ‘Between middle and low’. The answer ‘Middle’ in terms of household income is represented by 22.3% and the answer ‘High’ has a 5.1% of individuals.

Other tables of descriptive statistics from the data collected can be found in the Appendix.

4.3.2 Correlational research.

Correlation is a statistical metric used to assess the degree of association between two or more variables or factors. (Jain and Chetty, 2019)

In this section will be performed test of the factors identified in Literature review on the collected data of survey model (education, occupation and area of living).

Through the linear regression model will be investigated if education, place of living and occupation can explain income of respondents.

Presence of a relationship between two factors is primarily determined by the Pearson Correlation value (r). The Pearson Correlation coefficient value can range from -1 (perfectly negative relationship) to 1 (perfectly positive relationship):

0 - No correlation

-0.2 to 0 / 0 to 0.2 – very weak negative/ positive correlation

-0.4 to -0.2/0.2 to 0.4 – weak negative/positive correlation

-0.6 to -0.4/0.4 to 0.6 – moderate negative/positive correlation

-0.8 to -0.6/0.6 to 0.8 – strong negative/positive correlation

-1 to -0.8/0.8 to 1 – very strong negative/positive correlation

-1/1 – perfectly negative/positive correlation

The value of significance (2-tailed) or p represents the chances of error in the results.

The N value determines the number of observations considered for analysis.

Table 10 Correlations. Education, Occupation and Area.

		High income	Low income
Education	Pearson Correlation	-.312	-.024
	Sig. (2-tailed)	<.001	.763
	N	157	157
Occupation	Pearson Correlation	.433	-.579
	Sig. (2-tailed)	<.001	<.001
	N	157	157
Area	Pearson Correlation	-.215	.088
	Sig. (2-tailed)	.007	.274
	N	157	157

According to the results in the table above the strongest relationship has 'Occupation' in relation to the household income with the value of 0.433 for High income and -0.579 for Low income households.

The 0.433 value represents the moderate positive correlation meaning that when the occupation of the respondent is higher, the income of the household is also higher. The level

of significance is lower than 0.001, telling that the errors are minimized to this value, which is acceptable and the variables a statistically significant.

The -0.579 value tells us that there is a negative strong correlation between the occupation and low household income variables, with a meaning of when the respondent has less occupation their income of the household is lower. The significance level has a value of less than 0.001 indicating the minimum of errors. So, low income households strongly dependent on occupation.

The 'Education' variable representing the highest level of education and 'Area' variable representing the urban or rural area of living of the respondent has the Pearson correlation values of -0.312 and -0.215 accordingly in relation to High income of household. This two values indicate the weak and very weak negative relationship with statistically significant relationship (less than 0.001 and 0.007, accordingly). The weak relationship of this variables means that there is a correlation, but there might be some exceptions.

The same variables in relation to the low income household have $r=-0.024$ and 0.88 (Pearson Correlation coefficient) indicating no correlation with the level of significance 0.763 and 0.274 , which is not acceptable due to many errors.

The research question to be tested for correlation:

- How does young Kazakhstani people's income (low and high) affect their food preferences and eating habits (such as cost of food impact, trying new foods and cuisines, availability impact, nutritional content preference, frequency of cooking at home, frequency of food delivery, environmental impact, eating outside, fast food eating)?

From the table below we can investigate what kind of relationship exists or does not exist between the income of the household of the respondent and variables representing the food habits/preferences.

The first relationship between 'The frequency of eating with family' is weak considering both income variables (High income $r=-0.286$, Low income $r=0.370$), but is higher with Low income household. The relationship is statistically significant ($p=$ less than 0.01). This can tell us that Lower income households are more related to eating with family then High income household respondents.

The 'Food preferences alignment with family' indicates small statistically significant relationship with high income ($r=0.351$) and very weak and statistically insignificant relationship with low income($r=-0.093$). This can be interpreted as the high income representatives have their food preferences aligned with their family's food preferences more than Low income ones.

The 'Cost of food impact on food choices' and the 'Availability of different types of food in the area impact on food choices' correlates highly with the High income ($r=0.613$) and Low income($r=-0.501$) with statistically significant relationship. So, both of the representative groups of High and Low income households are influenced by cost of food and availability, and what is interesting, High income representatives are more influenced.

The 'Trying new foods and cuisines preference' has a weak correlation with 'High income household' ($r=-0.211$) and has a moderate relationship with 'Low income household' ($r=0.409$). The relationships are statistically significant. Low income households representatives in this survey are more likely trying more new foods and cuisines than High income ones.

'The Influence of friends on food choices' is very weak for High income ($r= 0.165$) and even weaker for Low income ($r=0.076$) and statistically insignificant for the case of Low income. High income households in this survey are more dependent on their friends food attitude.

The 'Social preference' variable stands for the question 'Do you usually prefer to eat alone or with someone?' and there is no relationship with the High income ($r=-0.070$) and there is a very weak relationship with Low income ($r= 0.175$). The Low income households are influenced by the factor of eating alone or with someone.

Table 11 Correlations. Food preferences and habits

		High income	Low income
Frequency Meals with family	Pearson Correlation	-.286	.370
	Sig. (2-tailed)	<.001	<.001
	N	157	157
Food preferences alignment with family	Pearson Correlation	.351	-.093
	Sig. (2-tailed)	<.001	.244
	N	157	157
Cost of food impact	Pearson Correlation	.613	-.501
	Sig. (2-tailed)	<.001	<.001
	N	157	157
New foods and cuisines preference	Pearson Correlation	-.211	.409
	Sig. (2-tailed)	.008	<.001
	N	157	157
Friends influence	Pearson Correlation	.165	.076
	Sig. (2-tailed)	.039	.345
	N	157	157
Social preference	Pearson Correlation	-.070	.175
	Sig. (2-tailed)	.382	.028
	N	157	157
Availability impact	Pearson Correlation	.613	-.501
	Sig. (2-tailed)	<.001	<.001
	N	157	157
Nutritional content	Pearson Correlation	.326	-.160
	Sig. (2-tailed)	<.001	.045
	N	157	157
Environmental impact	Pearson Correlation	-.003	.296
	Sig. (2-tailed)	.970	<.001
	N	157	157
Ads	Pearson Correlation	-.213	.117
	Sig. (2-tailed)	.007	.144
	N	157	157
Cultural origin	Pearson Correlation	.180	.044
	Sig. (2-tailed)	.024	.582
	N	157	157
Frequency cooking at home	Pearson Correlation	-.195	.300
	Sig. (2-tailed)	.014	<.001
	N	157	157
Frequency Fast Food Eating	Pearson Correlation	.176	-.022
	Sig. (2-tailed)	.027	.781
	N	157	157
Food delivery	Pearson Correlation	.215	.334
	Sig. (2-tailed)	.007	<.001
	N	157	157
Kazakh food frequency	Pearson Correlation	.080	-.192
	Sig. (2-tailed)	.320	.016
	N	157	157

There is a weak relationship for the variable 'Nutritional content', which stands for the question 'How does the nutritional content of food impact your food choices?'. The relationship between this factor and High income household variable is weak ($r=0.326$) and statistically significant. The relationship between 'Nutritional content' and Low income household is ($r=-0.160$) weaker. It can be concluded, that High income representatives are more dependent on the 'Nutritional content' than Low income ones.

The variable 'Environmental impact' stands for the question 'How much does the environment impact of food production impact your food choices?', which is relevant question nowadays. It has no relationship with High income ($r=-0.003$, $p=0.970$), but it also has a weak statistically significant relationship ($r=0.296$) with Low income households. Hence, the environmental impact of food production has an impact on low income household representatives in this survey.

The 'How much do you trust information about food and nutrition from social media, television?' is represented by variable 'Ads' and it has very small statistically insignificant correlation with Low income household($r=0.117$, $p=0.114$), whereas there is a weak relationship with High income household ($r=-0.213$). This follows, that High income household trusts the advertisement information about food in social media and etc.

The 'Cultural origin' variable stands for the question 'How much do you consider the cultural background or origin of the food when making your food choices?'. It has no correlation with Low income households ($r=0.044$, $p=0.582$) and has a very weak statistically significant correlation with High income households($r=0.180$, $p=0.024$). It follows that the cultural origin of food has some impact on a food choice of High income household representatives.

The 'Frequency of cooking meals at home' has negative small statistically significant relationship with High-income ($r=-0.195$) and small positive relationship with Low-income households ($r=0.3$). It indicates, that Low-income households are cooking more at home, than high-income households.

The variable 'Frequency of Fast Food eating' stands for question 'How often do you eat fast food?' and the correlation was not found between this variable and Low income households ($r=-0.022$, $p=0.781$). The high income household has a weak positive statistically significant relationship with 'Frequency of Fast Food eating'. Hence, in this survey high income household eats fast food, and the low-income household doesn't have a relation to it, but there is a high probability of error.

The 'Food delivery' variable stands for the question 'How often do you use food delivery services?' and has a small statistically significant relationship with both High income ($r=0.215$) and Low income households ($r=0.334$). That means, Low income households have bigger relation to the Food delivery and use it more than High income ones in this survey.

The variable 'Kazakh food frequency' is related to the question 'How often you eat Kazakh national food?'. It has no correlation with High income households ($p=0.08$, $r=0.320$) and very small positive correlation with Low income households ($r=-0.192$, $p=0.016$). That indicates, Low income households eat Kazakh food, when the High income households do not have relation to it, what can be explained by the fact from literature review that high-incomed people prefer more 'healthy' food.

5 Results and Discussion

4.4 Final summary of the results

The comparative analysis of food-consumption diaries and statistical analysis of the survey of young generation people in Kazakhstan shows significant differences between high-income and low-income households in terms of food preferences, habits, and overall lifestyle.

Urban and rural distinctions play a significant role in both analyses. Urban households (B and A) tend to have higher incomes, more diverse cuisine preferences, and greater engagement in eating out and food delivery compared to their rural counterparts (C and D).

Larger family sizes are associated with rural households (D) in both analyses, influencing food budgets, preferences, and expenses.

Both analyses highlight the influence of cultural preferences on food choices. For example, high-income households (B and D) show a preference for a broader range of cuisines, while low-income households (C) lean towards post-soviet and Kazakh cuisine.

The analyses show that high-income urban households (B) have higher frequencies of eating out and using food delivery services compared to other households. In contrast, low-income rural households (C and D) rarely engage in eating out or food delivery.

Both analyses indicate that environmental impact considerations in food choices have a stronger correlation with low-income households.

Both analyses suggest a significant correlation between occupation and income, with a stronger positive correlation in the statistical analysis. This implies that occupation plays a vital role in determining the income level of households.

6 Conclusion

In conclusion, The main objective of this diploma thesis was to identify the factors influencing daily nutrition of high-income and low-income households in Kazakhstan. This was identified through the literature review. Such factors as cost of food, food availability in the area of living, the type of area of living, education, occupation, the number of members in the household, the income of the individual or household, culture influence, social influence and advertising influence all are the factors influencing daily nutrition of high-income and low-income households.

Some of the factors (education, occupation and area of living) were tested on the survey sample. It was identified that, occupation is the highest correlated factor, on the second place stands education and the least correlated factor is the area of living (urban, rural).

1. How social and cultural factors influence food consumption patterns in Kazakhstan, and how these patterns differ between selected households in urban and rural?
2. How does young Kazakhstani people's household income affect their food preferences and eating habits?

The answers to the research questions are following.

Social and cultural factors significantly influence food consumption patterns in Kazakhstan, and these patterns vary between selected households in urban and rural areas.

Urban households tend to have higher incomes, more diverse cuisine preferences, and greater engagement in eating out and food delivery compared to their rural counterparts.

Larger family sizes are associated with rural households in both analyses, influencing food budgets, preferences, and expenses.

Both analyses highlight the influence of cultural preferences on food choices. For example, high-income households show a preference for a broader range of cuisines, while low-income households lean towards post-soviet and Kazakh cuisine.

The analyses show that high-income urban households have higher frequencies of eating out and using food delivery services compared to other households. In contrast, low-income rural households rarely engage in eating out or food delivery.

Both analyses indicate that environmental impact considerations in food choices have a stronger correlation with low-income households.

Both analyses suggest a significant correlation between occupation and income, with a stronger positive correlation in the statistical analysis. This implies that occupation plays a vital role in determining the income level of households.

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8 Appendix

Food consumption diaries.

Table 12. Household A food diary. Middle-income. Source: Own creation from the data obtained from household

Household A	Date	Day	Breakfast	Lunch	Dinner	Snacks (y/d)	Eating out (y/d)	Food delivery (y/d)	Expenses/day (KZT)
Week 1	01/11/2022	Tu	Boiled eggs, bread with butter, cottage cheese	Rice with chicken meat and vegetables	Boiled potatoes and canned fish	2	0	0	4500
	02/11/2022	We	Oat porridge, scrambled eggs, buckwheat porridge, bread, coffee	Rice with chicken meat and vegetables	Canned fish, watermelon	2	0	0	4500
	03/11/2022	Th	Oat porridge, yogurt, bread, coffee	Bauysaks, Olivier salad, kazy	Peimeni (meat dumplings)	1	0	0	4500
	04/11/2022	Fr	Bauysaks, avocado toasts	Buckwheat with beef stew, bauysaks	Pasta with sausages, kefir	3	0	0	4500
	05/11/2022	Sa	Bread, butter, sausage, cornflakes, tea	Meat cutlets with buckwheat porridge	Sausages with buckwheat, kefir	1	0	0	4200
	06/11/2022	Su	Fried eggs with sausage, cocoa drink, bread and butter	Borsch, bread crackers, tea	Chicken with fried potato, ai	3	0	0	4200
Week 2	07/11/2022	Mo	Fried slices of bread "grenki", sausage Borsch, bread, tea	Chebureks, salad from tomato and	Chebureks, salad from tomato and	2	0	0	4200
	08/11/2022	Tu	Hard boiled egg, cottage cheese	Cabbage pie	Pizza- KFC chicken wings, col	1	0	1	4200
	09/11/2022	We	Pancakes, cottage cheese	Beshbarmak, juice, tea	Beshbarmak, juice, tea, salar	1	0	0	4200
	10/11/2022	Th	Cheese pancakes with jam and sour	Cabbage soup, tea	dumplings Manty dumplings manty	2	0	0	4200
	11/11/2022	Fr	Cereals, millet porridge, yoghurt	Mashed potatoes with chicken	Pasta with cutlet, Korean carrot salad, juice	2	0	0	4200
	12/11/2022	Sa	Pies with potato, eggs, cabbage, tea, glazed cured bars	Olivier salad, tea	Shashlyk from lamb and duck, tomato salad	1	1	0	4500
	13/11/2022	Su	Oat porridge, coffee, sandwich	Mashed potatoes with fish	Pea soup with bread	2	0	0	4500
Week 3	14/11/2022	Mo	Omelette, banana bread	Plaf (risotto with carrot and beef meat)	pea soup with bread	2	0	0	4200
	15/11/2022	Tu	Sandwich with cheese and omelette	Chicken meat and mushrooms pie, tea, chocolate	Doner kebab	4	0	0	4500
	16/11/2022	We	Oat porridge, yoghurt,	Borsch	Chicken meat and mushrooms pie, walnuts	1	0	0	4500
	17/11/2022	Th	Pancakes with jam	Cutlets with pasta, Borsch	Cutlets with pasta	1	0	0	4200
	18/11/2022	Fr	Fried eggs and vegetables	Laghman noodles	Laghman noodles	1	1	0	4200
	19/11/2022	Sa	Millet porridge	Doner kebab, Laghman noodle	Pickle soup, crab stick salad	2	0	0	4200
	20/11/2022	Su	Cottage cheese pancakes	Pickle soup	Stuffed peppers	0	0	0	4200
Week 4	21/11/2022	Mo	Bread with butter and sausage, cotta	Stuffed peppers with mincemeat	Noodle soup with chicken m	2	0	0	4200
	22/11/2022	Tu	Bread, butter, sausage, cornflakes, te	Salmon fish, rice, salad	Samsa with beef meat, instant noodles	1	0	0	4200
	23/11/2022	We	Oat porridge, banana, ceshew nuts	Samsa with beef meat, salad	Salmon fish, rice, fried eggplants with tomatoes	1	0	0	4200
	24/11/2022	Th	Oat porridge, yoghurt	Samsa with beef meat, noodle	Peimeni, fried eggplants with tomatoes	2	0	0	4300
	25/11/2022	Fr	Fried slices of bread "grenki", sausage	noodle soup	Peimeni	1	0	0	4300
	26/11/2022	Sa	Scrambled eggs, vegetables	Baked chicken with potatoes	Pumpkin soup, risotto	1	1	0	4200
	27/11/2022	Su	Pancakes with jam and sour cream, croissant, coffee	Pasta with beef stew and veget	french fries	0	0	0	4200
Week 5	28/11/2022	Mo	Bauysaks, kazy, sausage, omelette	Vegetable stew, bauysaks	Georgian hinkali, hachapuri,	1	1	0	4200
	29/11/2022	Tu	Omelette, coffee, vegetables	Chicken noodle soup, bauysak	Salmon fish with bread	2	0	0	4200
	30/11/2022	We	Oat porridge, pancakes	Chicken noodle soup, samsa	Fried potato with vegetables, tangerines	2	0	0	4500
Household Composition: Low-income household from Almaty, 5 membe									
Income: approx. 600,000 KZT									
Food Budget: 130,000 - 145,000 KZT (approx.)									
Snacks included: Chocolate, Chips, Corn sticks, marmelade									

Table 13 Household B food diary. High-income. Source: Own creation from the data obtained from household

Household B	Date	Day	Breakfast	Lunch	Dinner	Snacks (t/d)	Eating out (v/d)	Food delivery (t/d)	Expenses/day (KZT)
Week 1									
	01/11/2022	Tu	Muesli with nuts, pancakes, banana, apple, mandarins, tea, coffee, juice	Chicken with buckwheat, salad	Pasta with mushrooms and vegetables, drinking yoghurt	3	0	1	16000
	02/11/2022	We	Scrambled eggs with salmon and avocado	Pumpkin soup, bread, salad Caesar, sea-buckthorn tea	Assorti from grilled sausages, grilled potato	2	0	1	16000
	03/11/2022	Th	Wholewheat grain bread, buckwheat porridge, yoghurt, tea, coffee	Baked chicken wings with vegetables and rice	Brisol with buckwheat	1	0	0	16000
	04/11/2022	Fr	Scrambled eggs with salmon and avocado	Beef with vegetables and rice	Soup with veggies and chicken	0	1	0	16000
	05/11/2022	Sa	Tortilla with vegetables and cottage cheese, omelette, bread, coffee, tea, juice	Croissants with salmon	Shashlyk from duck and lamb, salad, desert mochi	1	1	1	16000
	06/11/2022	Su	Oat porridge with different seeds	Meat nad cheese (baked), tea, juice	Pelmeni	0	0	0	16000
Week 2									
	07/11/2022	Mo	Omelette with cheese and sausages, musli, salad	Soup Minestrone	Brisket of duck	2	0	1	16000
	08/11/2022	Tu	Coffee with croissant filled with egg,	Organic grilled veggies with chicken steak	Pumpkin soup	1	0	1	16000
	09/11/2022	We	Cottage cheese pancakes, tea, coffee	Cutlets with veggies, mashed potatoes	Korean ramen	1	1	0	16000
	10/11/2022	Th	Cottage cheese pancakes	Cutlets with veggies	Cutlets with veggies,	0	1	0	16000
	11/11/2022	Fr	with jam and sour cream, tea, coffee	Vegetable soup with rice,	mashed potatoes	0	1	0	16000
	12/11/2022	Sa	Scrambled eggs, caviar, bread	Mushrooms nad beef pie	Sushi, tea, juice	0	1	0	16000
	13/11/2022	Su	Croissants with salmon, coffee, tea	Sushi, chicken with rice, cake	Lentil soup	0	1	0	16000
	14/11/2022	Mo	Wholewheat grain bread, buckwheat porridge, yoghurt, tea, coffee	Manty, salad	Lentil soup,	3	0	0	16000
Week 3									
	14/11/2022	Mo	Oat pancake with cheese and vegetables	Manty, salad	Solyanka soup with beef and sausages, salad	2	0	0	16000
	15/11/2022	Tu	Wholewheat grain bread, buckwheat porridge, yoghurt, tea, coffee	Solyanka soup	Beef meat with veggies in a pot	3	0	0	16000
	16/11/2022	We	Scrambled eggs,veggies, bread	Feta cheese, chickpea, veggies	Cutlets with pasta and veggies	1	0	0	16000
	17/11/2022	Th	Cheese omelette with veggies	Laghman with veggies	Cutlets with pasta and veggies	1	0	0	16000
	18/11/2022	Fr	Oat porridge with berries and nuts, tea, coffee, juice	Chicken with rice and veggies	Laghman with veggies	1	0	0	16000
	19/11/2022	Sa	Oat porridge with berries and nuts, scrambled eggs with sausage, coffee, juice	Borsch	Kuyrdak, kazy	2	0	0	16000
	20/11/2022	Su	Wrap with chickpea and veggies	Pasta with Shrimps in a creamy sauce	Borsch, beef burgers	3	0	0	16000
Week 4									
	21/11/2022	Mo	Tortilla with vegetables and cottage cheese, omelette, bread, coffee, tea, juice	Risotto with veggies and shrimps	Borsch, bread, tea	2	0	0	16000
	22/11/2022	Tu	Cottage cheese pancakes, tea, coffee	Mushroom soup	Lamb meat steak with bulghur	1	1	0	16000
	23/11/2022	We	Oat pancake with cheese and vegetables	Lamb meat steak with bulghur	Pilaf	1	0	0	16000
	24/11/2022	Th	Scrambled eggs with salmon and avocado	Pilaf	Korean ramen	2	0	0	16000
	25/11/2022	Fr	Cottage cheese pancakes, tea, coffee	Fish soup	Thai Pho Bo	1	1	0	16000
	26/11/2022	Sa	Rice porridge, omelette	Organic grilled veggies with chicken steak	Fish soup	1	2	0	16000
	27/11/2022	Su	Oat porridge	Laghman with veggies	Sushi	0	1	0	16000
Week 5									
	28/11/2022	Mo	Rice porridge, bread, nuts	Udon noodles with duck	Beef stroganov	1	1	0	16000
	29/11/2022	Tu	Muesli with nuts, pancakes, banana, apple, mandarins, tea, coffee, juice	Risotto with beans and veggies	Beef meat with veggies in a pot	2	0	0	16000
	30/11/2022	We	Omelette with veggies and avocado	Risotto with beans and veggies	Ramen with egg and chicken	2	0	0	16000
									480000
Household Composition: High-income household from Astana, 4 members									
Income: approx. 1.500.000 KZT									
Food Budget: up to 500.000 KZT (approx)									
Snacks included: protein bars, cookies, chocolate, different kinds of nuts, dried fruits									

Table 14 Household C food diary. Low-income. Source: Own creation from the data obtained from household

Household C									
Week No.	Date	Day	Breakfast	Lunch	Dinner	Snacks (t/d)	Eating out (t/d)	Food delivery (t/d)	Expenses/day (KZT)
Week 1									
	01/11/2022	Tu	Semolina porridge with bread, tea	Borsch, bread	Borsch, bread	0	0	0	2600
	02/11/2022	We	Boiled Eggs with bread and butter, tea	Fried chicken with potato	Borsch, bread	0	0	0	2600
	03/11/2022	Th	Rice porridge with bread, tea	Boiled eggs, bread, butter	Potato and rice soup	1	0	0	2600
	04/11/2022	Fr	Fried eggs, tea	Potato and rice soup	Bread and butter, cottage cheese	1	0	0	2600
	05/11/2022	Sa	Rice porridge with bread, tea	Orama with beef	Potato and rice soup	0	0	0	2600
	06/11/2022	Su	Bread with butter, tea	Orama with beef	Potato and rice soup	0	0	0	2600
Week 2									
	07/11/2022	Mo	Fried eggs, tea	Orama with beef	Bread and butter, cottage cheese	0	0	0	2600
	08/11/2022	Tu	Oat porridge, tea	Buckwheat soup	Buckwheat with beef stew	0	0	0	2600
	09/11/2022	We	Oat porridge, tea	Buckwheat with beef stew	Buckwheat soup	0	0	0	2600
	10/11/2022	Th	Buckwheat porridge with milk	Pilaf	Pilaf	0	0	0	2600
	11/11/2022	Fr	Semolina porridge with bread, tea	Potato with beef and onions, tea	Potato with beef and onions, tea	1	0	0	2600
	12/11/2022	Sa	Semolina porridge, boiled eggs	Buckwheat with chicken	Fried potato	0	0	0	2600
	13/11/2022	Su	Rice porridge with bread, tea	Buckwheat with chicken	Fried potato	0	0	0	2600
Week 3									
	14/11/2022	Mo	Fried eggs, bread, tea	Pasta with chicken meat	Pasta with chicken meat	0	0	0	2600
	15/11/2022	Tu	Omelette, bread, tea	Pasta with chicken meat	Kefir	0	0	0	2600
	16/11/2022	We	Oat porridge, tea	Potato with beef and onions, tea	Beef noodle soup	1	0	0	2600
	17/11/2022	Th	Cottage cheese with bread	Beef noodle soup	Beef noodle soup	1	0	0	2600
	18/11/2022	Fr	Boiled Eggs with bread and butter, tea	Pilaf	Pilaf	0	0	0	2600
	19/11/2022	Sa	Semolina porridge	Pilaf	Bread and butter, kefir	0	0	0	2600
	20/11/2022	Su	Bread with butter, tea	Beshbarmak	Bread and butter, kefir	0	0	0	2600
Week 4									
	21/11/2022	Mo	Beshbarmak	Beshbarmak	Beshbarmak	1	0	0	2600
	22/11/2022	Tu	Fried eggs, bread, tea	Beshbarmak	Beshbarmak	1	0	0	2600
	23/11/2022	We	Cottage cheese with bread	Buckwheat with chicken	Buckwheat with chicken	0	0	0	2600
	24/11/2022	Th	Rice porridge with bread, tea	Chicken noodle soup	Chicken noodle soup	0	0	0	2600
	25/11/2022	Fr	Rice porridge with bread, tea	Fried chicken with potato	Fried chicken with potato	0	0	0	2600
	26/11/2022	Sa	Fried croutons, sausage	Pasta with chicken meat	Fried potato	0	0	0	2600
	27/11/2022	Su	Cottage cheese with bread, butter	Beshbarmak	Fried potato	1	0	0	2600
Week 5									
	28/11/2022	Mo	Boiled eggs with bread	Buckwheat soup	Buckwheat soup	1	0	0	2600
	29/11/2022	Tu	Semolina porridge	Buckwheat soup	Pilaf	0	0	0	2600
	30/11/2022	We	Omelette, bread, tea	Pilaf	Potato with beef and onions, tea	0	0	0	2600
									78000
Household Composition: Low-income household, 5 members									
Income: 200,000 KZT									
Food Budget: 80,000 KZT (approx.)									
Snacks include fresh carrots, cucumbers, tomatoes, apples									
Empty cells: There was no food intake									

Table 15 Household D food diary. High-income. Source: Own creation from the data obtained from household

Household D									
Week No.	Date	Day	Breakfast	Lunch	Dinner	Eating out (t/d)	Food delivery (t/d)	Expenses/day (KZT)	
Week 1									
	01/11/2022	Tu	Baked bread with butter, Kaimak, tea with milk, black tea	Chicken noodle soup	Baked bread with butter, Kaimak, tea with milk, black tea	1	0	0	6600
	02/11/2022	We	Semolina porridge, tea	Beshbarmak	Vegetable soup with rice	3	0	0	6600
	03/11/2022	Th	Pancakes with jam, tea	Vegetable sloup with rice	Meat balls with mashed potato	1	0	0	6600
	04/11/2022	Fr	Baked bread with butter, cottage cheese, tea	Meat balls with mashed potato	Lentil soup	1	0	0	6600
	05/11/2022	Sa	Omelette, tea, bread	Lentil soup	Stuffed peppers with beef stew and rice, tea, bread	1	0	0	6600
	06/11/2022	Su	Boiled eggs, cow milk, homemade bread	Stuffed peppers with beef stew and rice, tea, bread	Beef noodle soup	2	0	0	6600
Week 2									
	07/11/2022	Mo	Oat porridge, homemade bread with butter	Beef noodle soup	Laghman	0	0	0	6600
	08/11/2022	Tu	Baked bread with butter, Kaimak, tea with milk, black tea	Laghman	Buckwheat soup	1	0	0	6600
	09/11/2022	We	Oat porridge, homemade bread with butter	Buckwheat soup	Pilaf	1	0	0	6600
	10/11/2022	Th	Omelette, tea, bread	Pilaf	Borsch	2	0	0	6600
	11/11/2022	Fr	Baked bread with butter, cottage cheese, tea	Borsch	Fried potatoes	1	0	0	6600
	12/11/2022	Sa	Semolina porridge, tea	Dumplings Manty with meat	Dumplings Manty with meat, salad	2	0	0	6600
	13/11/2022	Su	Oat porridge	Buckwheat with cutlets	Chicken soup with noodles	2	0	0	6600
Week 3									
	14/11/2022	Mo	Omelette, tea, bread	Chicken soup with noodles	Dumplings Manty with meat, salad	2	0	0	6600
	15/11/2022	Tu	Baked bread with butter, cottage cheese, tea	Chicken soup with noodles	Buckwheat soup	3	0	0	6600
	16/11/2022	We	Oat porridge	Buckwheat soup	Pilaf	0	0	0	6600
	17/11/2022	Th	Boiled eggs, cow milk, homemade bread	Pilaf	Meat balls with mashed potato	2	0	0	6600
	18/11/2022	Fr	Semolina porridge, tea	Meat balls with mashed potato	Beshbarmak	1	0	0	6600
	19/11/2022	Sa	Baked bread with butter, Kaimak, tea with milk, black tea	Beshbarmak	Borsch	2	0	0	6600
	20/11/2022	Su	Boiled eggs, cow milk, homemade bread	Borsch	Fried potatoes	2	0	0	6600
Week 4									
	21/11/2022	Mo	Semolina porridge, tea	Buckwheat with beef stew	Pearl-barley soup	3	0	0	6600
	22/11/2022	Tu	Omelette, tea, bread	Pearl-barley soup	Fried fish	1	0	0	6600
	23/11/2022	We	Baked bread with butter, cottage cheese, tea	Fried fish	Fried lamb liver with onions	2	0	0	6600
	24/11/2022	Th	Boiled eggs, cow milk, homemade bread	Lentil soup	Beshbarmak	2	0	0	6600
	25/11/2022	Fr	Oat porridge	Beshbarmak	Beef noodle soup	3	0	0	6600
	26/11/2022	Sa	Pancakes with jam	Beef noodle soup	Meat balls with mashed potato	1	0	0	6600
	27/11/2022	Su	Oat porridge	Meat balls with mashed potato	Buckwheat soup	3	0	0	6600
Week 5									
	28/11/2022	Mo	Semolina porridge, tea	Buckwheat soup	Fried potato with beef meat	2	0	0	6600
	29/11/2022	Tu	Pancakes with jam	Pasta with beef meat	Pasta with beef meat	2	0	0	6600
	30/11/2022	We	Boiled eggs, cow milk, homemade bread	Beef soup	Beshbarmak	1	0	0	6600
									198000
Household Composition: High-income household from Karagandy region, Nurken village, 6 members									
Income: 500,000-600,000 KZT									
Food Budget: 150,000-200,000 KZT (approx.)									
Snacks included: Cookies, Candies, Chocolate, Dried fruits, Apples, Bananas									

Questionnaire translated to English.

Survey. The influence of socioeconomic factors on food nutrition in Kazakhstan.

1. Gender

Male

Female

2. Religion

Christianity

Islam

I am not religious

Other (type the answer)

3. Age

*Short-answer text

4. The area where you live is

Urban (city)

Rural (village)

5. What is the highest level of your education?

Middle School

High School

College

University

None of the above

Other (type the answer)

6. What is your current occupation?

Student

Employed student

Full-time employed

Part-time employed

Self-employed

Unemployed

7. What is the number of members in your household including you?

1

2

3

4

5

Other (type the answer)

8. People in your household are

Your family members

Your friend/partner/acquaintance

I live alone

9. The income of your household is (in your point of view)

High

Between high and middle

Middle

Between middle and low

Low

10. How often do you eat meals at home with your family?

Daily

Several times a week

Occasionally

Rarely

Never

11. How much do your food preferences align with your family's food preferences?

Completely

Partly

Not at all

12. How much does the cost of food impact your food choices?

A lot

Somewhat

A little

Not at all

13. How often do you try new foods or cuisines?

Very often

Occasionally

Rarely

Never

14. How much influence do your friends have on your food choices?

Big

Partial

A little

None

15. Do you usually prefer to eat alone or with someone?

Alone

With someone

16. How much does the availability of different types of food in your area impact your food choices?

A lot

Somewhat

A little

Not at all

17. How much does the nutritional content of food impact your food choices?

A lot

Somewhat

A little

Not at all

18. How much does the environmental impact of food production impact your food choices?

A lot

Somewhat

A little

Not at all

19. How much do you trust information about food and nutrition from social media, television, or magazines?

A lot

Somewhat

A little

Not at all

20. How important is convenience when it comes to your food choices?

Very important

Somewhat important

Not very important

Not at all important

21. How much do you consider the cultural background or origin of the food when making your food choices?

A lot

Somewhat

A little

Not at all

22. How often do you cook meals at home?

Every day

Several times a week

Occasionally

Rarely

Never

23. How often do you eat fast food (e.g. burgers, fries, pizza)?

Multiple times a week

Once a week

Rarely

Never

24. When choosing a restaurant, which of the following factors is most important to you?

Price

Taste

Convenience/Location

Health/Nutritional value

Other (type the answer)

25. How often do you eat in a restaurant?

Every day

Several times a week

Occasionally

Rarely

Never

26. What criteria do you consider when choosing a restaurant? (please, tick all criteria you consider)

Type of cuisine

Price range

Location

Atmosphere

Quality of service

Quality of food

Healthfulness of food

Recommendation from friends/family

Reviews on websites/apps

Availability of vegetarian/vegan option

Other (type the answer)

27. How often do you use food delivery service?

Multiple times a week

Once a week

Rarely

Never

28. How often you eat Kazakh national food?

Every day

Multiple times a week

Once a week

Rarely

Occasionally

Never

Table 16 How often do you eat meals at home?

How often do you eat meals at home with your family?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	76	48.4	48.4	48.4
	Occasionally	23	14.6	14.6	63.1
	Rarely	11	7.0	7.0	70.1
	Several times a week	47	29.9	29.9	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 17 How much do your food preferences align with your family's food preferences?

How much do your food preferences align with your family's food preferences?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely	56	35.7	35.7	35.7
	Not at all	24	15.3	15.3	51.0
	Partly	77	49.0	49.0	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 18 How much does the cost of food impact your food choice?

How much does the cost of food impact your food choices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A little	11	7.0	7.0	7.0
	A lot	47	29.9	29.9	36.9
	Not at all	8	5.1	5.1	42.0
	Somewhat	91	58.0	58.0	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 19 How often do you try new foods or cuisines?

How often do you try new foods or cuisines?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Occasionally	92	58.6	58.6	58.6
	Rarely	26	16.6	16.6	75.2
	Very often	39	24.8	24.8	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 20 How much influence do your friends have on your food choices?

How much influence do your friends have on your food choices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A little	48	30.6	30.6	30.6
	Big	20	12.7	12.7	43.3
	None	23	14.6	14.6	58.0
	Partial	66	42.0	42.0	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 21 Do you usually prefer to eat alone or with someone?

Do you usually prefer to eat alone or with someone?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Alone	39	24.8	24.8	24.8
	With someone	118	75.2	75.2	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 22 How much does the availability of different types of food in your area impact your food choices?

How much does the availability of different types of food in your area impact your food choices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A little	50	31.8	31.8	31.8
	A lot	51	32.5	32.5	64.3
	Somewhat	56	35.7	35.7	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 23 How much does the nutritional content of food impact your food choices?

How much does the nutritional content of food impact your food choices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A little	43	27.4	27.4	27.4
	A lot	70	44.6	44.6	72.0
	Not at all	16	10.2	10.2	82.2
	Somewhat	28	17.8	17.8	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 24 How much does the environmental impact of food production impact your food choices?

How much does the environmental impact of food production impact your food choices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A little	47	29.9	29.9	29.9
	A lot	39	24.8	24.8	54.8
	Not at all	15	9.6	9.6	64.3
	Somewhat	56	35.7	35.7	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 25 How much do you trust information about food and nutrition from social media, television?

How much do you trust information about food and nutrition from social media, television, or magazines?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A little	32	20.4	20.4	20.4
	A lot	31	19.7	19.7	40.1
	Not at all	12	7.6	7.6	47.8
	Somewhat	82	52.2	52.2	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 26 How important is convenience when it comes to your food choices?

How important is convenience when it comes to your food choices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not very important	55	35.0	35.0	35.0
	Somewhat important	66	42.0	42.0	77.1
	Very important	36	22.9	22.9	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 27 How much do you consider the cultural origin of the food when making your food choices?

How much do you consider the cultural background or origin of the food when making your food choices?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A little	19	12.1	12.1	12.1
	A lot	43	27.4	27.4	39.5
	Not at all	19	12.1	12.1	51.6
	Somewhat	76	48.4	48.4	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 28 How often do you cook meals at home?

How often do you cook meals at home?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Every day	50	31.8	31.8	31.8
	Occasionally	53	33.8	33.8	65.6
	Rarely	15	9.6	9.6	75.2
	Several times a week	39	24.8	24.8	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 29 How often do you eat fast-food?

How often do you eat fast food (e.g. burgers, fries, pizza)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Multiple times a week	8	5.1	5.1	5.1
	Never	19	12.1	12.1	17.2
	Once a week	65	41.4	41.4	58.6
	Rarely	65	41.4	41.4	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 30 When choosing a restaurant, which of the following factors is most important to you?

When choosing a restaurant, which of the following factors is most important to you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Convenience/Location	8	5.1	5.1	5.1
	Health/Nutritional value	22	14.0	14.0	19.1
	Price	39	24.8	24.8	43.9
	Taste	88	56.1	56.1	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 31 How often do you eat outside?

How often do you eat outside?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Occasionally	98	62.4	62.4	62.4
	Rarely	51	32.5	32.5	94.9
	Several times a week	8	5.1	5.1	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 32 How often do you use food delivery services?

How often do you use food delivery services?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Multiple times a week	23	14.6	14.6	14.6
	Never	39	24.8	24.8	39.5
	Once a week	19	12.1	12.1	51.6
	Rarely	76	48.4	48.4	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.

Table 33 How often you eat Kazakh national food?

How often you eat Kazakh national food?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Every day	15	9.6	9.6	9.6
	Multiple times a week	32	20.4	20.4	29.9
	Never	56	35.7	35.7	65.6
	Occasionally	34	21.7	21.7	87.3
	Rarely	20	12.7	12.7	100.0
	Total	157	100.0	100.0	

Source: Own processing according to survey in IBM SPSS Statistics.