

**Behavioural and Sociodemographic Correlates of Obesity:
A Multiregional Mixed-Methods Analysis
of Primary Data from Mongolia**

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I confirm that this work is my own, except where otherwise specified

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ABSTRACT

This thesis examines the associations between sociodemographic characteristics, dietary behaviours, and obesity in contemporary Mongolia. A mixed-methods design was employed, combining structured and semi-structured interviews with both qualitative and quantitative analyses, to evaluate how dietary practices influence body weight across rural, urban, and peri-urban participants. Comparisons were made between rural nomads, urban residents, and peri-urban participants, the latter group comprising a substantial proportion of internal rural-to-urban migrants.

In addition to dietary practices, the analysis incorporated sociodemographic variables such as occupational status and local food environments, and examined intergenerational differences. In Ulaanbaatar, peri-urban men demonstrated higher mean body mass index (BMI, kg/m²) compared with other participant groups, although this difference was not statistically significant. By contrast, rural-to-urban migrants exhibited significantly higher BMI, with overweight and obesity more prevalent in this cohort than among non-migrants.

Regional variation in dietary behaviours was evident, particularly in relation to seasonal food consumption, meal frequencies, and cooking practices. Behaviours such as commensality and meal frequency were more strongly associated with regional and environmental factors than with age, indicating that occupational demands, lifestyle patterns, and local food environments exert greater influence on eating practices than generational differences.

The study underscores the multifaceted relationship between sociodemographic factors and dietary practices, indicating that migration, regional food environments, and occupational conditions are central to understanding obesity in contemporary Mongolia. Although

statistically significant associations were limited, the results provide valuable evidence on contextual influences shaping dietary behaviours and body weight. These findings offer a meaningful basis for policy-makers and public health practitioners in developing targeted strategies to address obesity across heterogeneous sociogeographical settings.

Keywords: Obesity, body mass index (BMI), dietary patterns, nutritional behaviours, sociodemographic determinants, regional food environments, internal migration, rural-to-urban migration, meal frequency, public health nutrition

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LIST OF ACRONYMS

BMI	Body Mass Index
CDC	Centres for Disease Control and Prevention
CIA	Central Intelligence Agency
CUREC	Central University Research Ethics Committee
FAOSTAT	Food and Agriculture Organisation Corporate Statistical Database
FFV	Fresh Fruit and Vegetable
IOM	International Organisation for Migration
MSG	Monosodium Glutamate
NHS	National Health Service
SPSS	Statistical Package for the Social Sciences
UN-Habitat	United Nations Human Settlements Programme
USDA	United States Department of Agriculture
WC	Waist Circumference
WHO	World Health Organisation

CHAPTER 1 – INTRODUCTION

1.1. OVERVIEW OF RESEARCH

The main focus of this research is investigating the variations in individual body mass index (BMI, kg/m²) based on geographical location and exploring their potential associations with sociodemographic factors and dietary behaviours in relation to modernity, urbanisation, and urbanism to gain valuable insights into the social determinants of body size. In this study, the raw data collected in rural, peri-urban, and urban Mongolia serve as the foundation for examining the ways in which individuals interpret and apply knowledge of healthy eating in their interactions and communication around food. The research encompasses modern rural areas where individuals lead nomadic lifestyles, as well as urban and peri-urban societies characterised by marketisation and social stratification. By examining these elements, the study seeks to offer micro-level insights to add knowledge in comprehending the interplay between obesity, dietary behaviours, and sociodemographic factors.

It also aims to provide a detailed and nuanced analysis of the dietary habits of Mongolian adults, taking into account various regional and sociodemographic factors. I take the biosocial approach, which enables me to delve into the social aspects of obesity, better understand the complex mechanisms underlying the development of obesity and gain valuable insights into the social determinants of body size. According to Harris and McDade (2018), the term “biosocial” denotes the dynamic, two-way interactions between biological processes and social relationships and contexts that shape human development over a lifetime. The biosocial approach views biological and social aspects as mutually influential, drawing on techniques and concepts from both biomedical and social/behavioural sciences (ibid). The biosocial

approach focuses on the complex interplay between individuals and their physical, social, and cultural surroundings (Martin & Zuckerman, 2016). This approach proposes that societal, political, economic, historical, and cultural factors affect biological and clinical processes, emphasising the need to understand them as interconnected biological and social processes (Hanna & Kleinman, 2019). Embracing this approach involves integrating and at times, challenging various forms of knowledge (ibid).

I have formulated a set of three questions which aid me to explore these factors and their relationships to obesity. The first question asks whether there are any discernible differences in the BMI of Mongolians based on their place of residence within the country. This topic is discussed in detail in Chapter 3.

The second question concentrates on the discrepancies in Mongolian dietary practices and food consumption depending on place of residence. Through a series of comprehensive interviews with a diverse group of individuals, I probe into the similarities, differences, and overlaps in dietary behaviours amongst the rural, peri-urban, and urban regions of Mongolia to explore the interplay between obesity, dietary behaviours and sociodemographic factors, with a specific focus on regional similarities, differences, and overlaps. This question is addressed in Chapter 4.

Lastly, the third question delves into whether food practices differ by age, including food selection criteria, commensality, and nutritional knowledge, and explores potential links with obesity. These dietary behaviours are an under-researched area in modern Mongolia, particularly in relation to potential generational similarities, differences, and overlaps, which this research aims to address. This issue is the focal point of Chapter 5. These three research questions interrogate the social, behavioural and environmental factors associated with obesity, which will be discussed in the literature review in Chapter 2.

Mongolia has been selected for this study because it has the highest adult prevalence of obesity in East Asia, standing at 20.6% (CIA, 2021). This study explores how urban life has impacted obesity rates in Mongolia, because historically, it has been observed that individuals residing in rural areas of low- and middle-income countries had lower BMIs than their urban counterparts (Assah, et al., 2011). This was largely attributed to the physically demanding nature of rural work, such as farming and collecting fuelwood and water (ibid).

However, a recent study by Bixby, et al. in 2019 has challenged this assumption. The study found that over 55% of the global increase in mean BMI from 1985 to 2017 was due to increases in rural areas, rising to over 80% in some regions. Moreover, the study (Bixby et al., 2019) showed that aside from women in sub-Saharan Africa, rural areas in low- and middle-income regions are experiencing the same or faster BMI growth rates than urban areas. As a result, the gap between urban and rural BMIs is closing, and in some countries, it is even reversing, particularly amongst women (ibid).

In the context of East Asia, however, the same study (Bixby et al., 2019) shows that the BMI of individuals dwelling in urban localities has consistently been higher than those residing in rural areas, as shown in Figure 1.1. Interestingly, this diverges from the trend observed in high-income Asia Pacific, high-income Western countries, and Central and Eastern Europe, where rural BMIs are only slightly higher than urban BMIs (see Figure 1.1).

Therefore, it is important to note that obesity trends in wealthy Western and Asia Pacific countries cannot be generalised to all regions of the world. The observed discrepancy in urban-rural BMI could be attributed to a multitude of factors, including but not limited to urbanisation, changes in lifestyles, food environments and dietary behaviours, as well as disparities in physical activity levels to name a few. These dietary behaviours and sociodemographic factors in the local area need to be carefully examined.

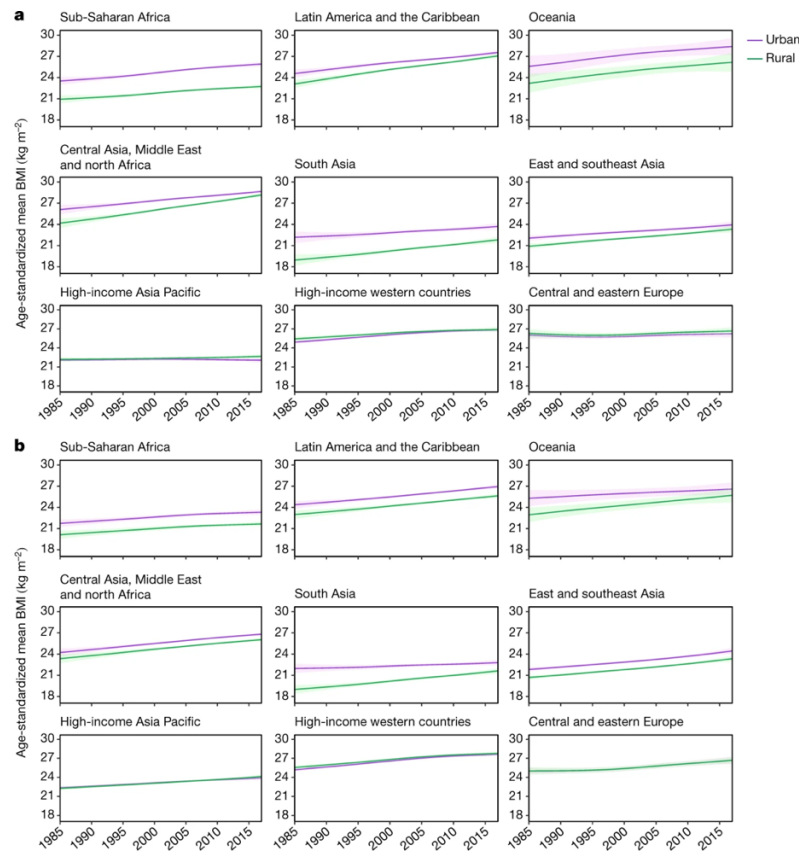


Figure 1.1. Trends in Age-Standardised Mean BMI (kg/m^2) by Rural and Urban Place of Residence. (Bixby et al., 2019).

a, Trends are shown for women in each region. b, Trends are shown for men in each region. The lines show the posterior mean estimates, and the shaded areas show the 95% credible intervals.

A surge in urbanisation throughout Mongolia has been reported by several studies, including those conducted by Asian Development Bank (2022), Byambadorj et al (2019), FAOSTAT (2021), and IOM (2023). This urbanisation trend has been accompanied by a corresponding increase in the incidence of obesity throughout the country, as analysed by Chimeddamba et al (2016) using nationally representative data. I will discuss urbanisation in Mongolia in more detail in Chapter 2.

To gain a more comprehensive understanding of the regional and local variations in dietary behaviours, as well as the potential contributing factors to obesity in different settings,

I conducted multi-sited fieldwork in three diverse regions of Mongolia: rural, peri-urban and urban Mongolia. This approach was crucial in uncovering unique characteristics of each region and how they differ from one another in relation to obesity and food consumption practices. As previously mentioned, obesity rates in Mongolia are the highest in East Asia, making this an intriguing opportunity to investigate regional and generational differences in obesity within the country.

Furthermore, the diverse lifestyles and food environments across different parts of Mongolia make it an ideal setting for exploring variations in food environments and understanding their impact on dietary behaviours and body size. The interplay between obesity and food environments varies according to gender, urbanicity (Wang et al., 2019), race, and poverty levels (Gailey & Bruckner, 2019). Studying the differences in lifestyle and dietary behaviours between these different geographical groups in the racially and ethnically homogeneous country of Mongolia can provide valuable insights into the complex factors that may contribute to obesity not only within Mongolia but beyond its borders as well.

The rural areas of Mongolia, where pastoral nomads reside, are typically located far from any major cities and are characterised by their challenging road accessibility. For this reason, a vehicle with off-road capabilities is necessary to access these regions. Therefore, in this study, rural areas are defined as remote rural areas, which are distinguishable from accessible rural areas that have more robust road networks. Meanwhile, the urban areas are further sub-divided into two categories, namely peri-urban and urban regions. The term “peri-urban” specifically refers to the informal settlements known as *ger* districts (гэр хороолол) located on the outskirts of Ulaanbaatar, while the term “urban” refers to the areas outside the *ger* districts within Ulaanbaatar. In order to provide a more comprehensive understanding of

the diverse regions where fieldwork was conducted, I will elaborate further on these three areas in Chapter 3.

This study employs the term “food environment” to denote environmental factors that may contribute to the accessibility and availability of food within a given community. This encompasses a range of social, economic, and geographic factors that may shape the food landscape and influence individual food choices and body size. The food environment of a community or region is significantly influenced by the social and human-built environments (Mah et al., 2016; Mah et al., 2019).

These factors play a crucial role in determining the accessibility, availability, and adequacy of food within a specific area (ibid). People interact with their food environments in a variety of ways, including through preferences and education, to shape their diets (Swinburn et al., 2013). Numerous studies have demonstrated that food environments evolve and adapt over time in response to a variety of external factors, including economic and political influences. The advent of neoliberal policies during the late 1960s and early 1970s substantially transformed the global food system (Ochoa, 2012).

While liberal markets have facilitated increased production in select areas, they have also exacerbated inequality, and marketing tactics have drawn consumers into the global food chain (ibid). Guthman (2011) argues that the prioritisation of profits over health in neoliberal economics has influenced food quality, built environments, and exposure to chemicals, all of which contribute to obesity and obesogenesis (18: 164). She suggests that this has resulted in political-economic contradictions of the neoliberal era being physically embodied. As per Nestle (2013:375), the food industry faces mounting pressure to boost sales in an intensely competitive market. To meet shareholders’ expectations, the industry enlarges food product sizes, which contributes to a food environment that fosters overeating (Nestle, 2023:21).

Consequently, a food environment that promotes obesity by encouraging people to consume more has emerged, where food is readily accessible, affordable, and socially acceptable to consume in substantial quantities and on a frequent basis. Mongolia includes both urban and rural regions that offer stark contrasts in terms of food access, acquisition, preparation, and consumption. This study also explores peri-urban areas in Ulaanbaatar, where the dietary behaviours of residents exhibit elements falling between those of individuals in rural and urban areas. The diets of individuals residing in different parts of Mongolia have been profoundly influenced by the characteristics of their food environments, which will be discussed in Chapter 2, 3, and 4.

Having discussed food environments, it is now important to explore the concept of “obesity.” The biomedically dominant definition of obesity is having a body mass index of 30 kg/m² or greater. Obesity also refers to an excess of body fat (Flegal et al., 2009; Mela & Rogers, 1998:3) and adipose tissue (Wellens et al., 1996). According to the World Health Organisation (2017), rates of obesity have nearly tripled since 1975. Although the prevalence of obesity varies within and between countries (Kanter & Caballero, 2012) and neighbourhoods (Drewnowski et al., 2014), rates of obesity have been increasing almost everywhere across the world (Flegal et al., 2012; Flegal et al., 2016; Webber, 2009; WHO 2021). In fact, until the 1980s, obesity rates were low, and there were few concerns about them (Ulijaszek, 2017: 11; Gittins, 2012: 35).

However, from 1980 to 2008, the average BMI amongst adults increased by approximately 1.1kg/m² per decade (Ulijaszek, 2017:12). A study conducted on adults aged 20 and above across 199 countries and territories showed that the age-standardised prevalence of obesity increased from 6.4% to 12.0% from 1980 to 2008 (Stevens et al., 2012). The same study also indicated an acceleration in the age-standardised prevalence of overweight, which

increased from 24.6% to 34.4% during the same period (ibid). Being overweight or obese is now more common than having a normal weight amongst adults in many European nations and the US (Verdich et al., 2005:17). The increasing prevalence of obesity worldwide has become a major public health concern. This is because as more individuals become overweight or obese, the incidence of weight-related health conditions also rises, which puts a significant financial burden on public health systems.

According to Haerens (2012:16), this is a growing crisis that needs immediate attention. For instance, in Australia, healthcare expenditures for obese individuals are at least 25% higher than for those with a normal weight, as noted by Gittins (2012:34). The rising rates of overweight and obesity across the world, including Mongolia, are concerning, as living with obesity has been linked to a host of health problems, such as coronary disease, type 2 diabetes, stroke, and certain types of cancer such as breast cancer and bowel cancer (NHS, 2014). I will discuss these figures in Mongolia in Chapter 2. The risk of these noncommunicable diseases increases even when a person is slightly overweight and grows more severe as the body mass index (BMI) climbs (WHO, 2014).

In regard to the factors behind the surge in obesity rates worldwide, it has been widely observed that obesity is multicausal and the integrated result of complex and diverse factors in many countries (Law et al., 2011; Swinburn et al., 2011; Webber, 2009; Jebb, 2007), Mongolia being one of them (Chimeddamba et al., 2016). As the world's urban population continues to grow, the production of food has become increasingly globalised and concentrated, as noted by Williams-Forson and Counihan in 2012. This trend is mirrored by the consolidation of food manufacturers, who leverage the benefits of the globalised industry to expand their market share, and the top ten retailers continue to exert a stronghold on the market as Lang noted in 2012. Guthman's research (2011) highlights the multifaceted nature of the obesity epidemic,

emphasising the role of corporate behaviour, state regulation, and political economy in producing degraded food and built environments that contribute to obesity. Moreover, according to Alkon et al. (2013), progressive public health officials and researchers often highlight obesogenic environments, under the assumption that people in low-income communities eat poorly. Obesogenic environments are environments in which healthy dietary choices are limited. Obesogenic environments particularly affect the more vulnerable sectors of society. Such obesogenic environments were only created in late modern society (Ulijaszek, 2017).

According to Cummins and Macintyre (2005), there is solid evidence, albeit mostly cross-sectional, indicating that environmental factors at the neighbourhood level influence diet and obesity. However, this evidence is primarily limited to studies conducted in the US (ibid). Further investigation is necessary to ascertain whether the food- and diet-related environmental factors contributing to obesity are unique to the US or if other developed nations are also experiencing similar effects, either in terms of available evidence or the magnitude and existence of contextual effects at the neighbourhood level.

Hawkes (2006) and Kjellstrom et al. (2007) list changes in dietary habits ascribable to modern urban food environments and the globalisation of the food supply and consumption patterns as partial contributors to the rise in obesity. In the past, food was predominantly produced and consumed within the same geographic location (Kjellstrom, et al., 2007).

However, in today's world, food links local and global spheres in intricate ways, shaped by both local and international geopolitical factors (Tierney & Ohnuki-Tierney, 2012; Ohnuki-Tierney, 1994). Consequently, consumption goes beyond a mere personal decision, serving as a crucial connection between households and the world around them in various ways (Williams-Forson & Counihan, 2012). According to Guthman's 2011 work, obesity is not

merely a personal issue, but rather an ecological one that necessitates a comprehensive understanding of the larger political-economic and cultural landscape in which personal decisions have an impact on ecologies. She asserts that effectively addressing the obesity issue requires a multifaceted approach that considers the intricate interplay of various factors across society, including corporate practices, government regulations, and the broader political economy, which contribute to or permit problematic built environments, irrespective of individual choices. According to the WHO (2021), changes in dietary and physical activity patterns, which could lead to obesity and overweight, may result from environmental and societal changes concerning different sectors such as education, health, environment, and food production and distribution.

In Mongolia, the combination of past geographical and climatic extremes, along with the rapid urbanisation, a globalised food industry, and increased sedentary lifestyles in recent years, have all played a role in the prevalent and severe double challenge of metabolic diseases and micronutrient deficiencies across the nation, according to Bater et al. (2019). The rapid urbanisation and globalisation of the food market may have led to an increase in the availability of processed and high-calorie foods, which may contribute to weight gain in urban Mongolia.

Chimeddamba et al. (2016) suggest that the rising obesity rates in Mongolia can be largely attributed to the adoption of Western lifestyle trends. Specifically, the increase is due to the consumption of high-fat foods and sugary drinks and the widespread use of cars (ibid). According to Ulijaszek (2007), obesity can be considered a “disorder of convenience” that is strongly linked to industrialised societies, which provide people with a growing range of convenient options for work, leisure, and food. This implies that environmental factors may have an impact not only on food consumption but also on food procurement and physical activity, which can become daily routines that contribute to obesity. Additionally, Wiedman

(2012) describes obesity as the conjuncture of different daily habits, routinised in social and cultural structures, for a long duration of time in a person's life.

According to Gálvez et al. (2020), biomedical explanations for metabolic conditions often attribute them to personal behaviour or lifestyle, despite their potential connections to other factors such as trade regulations, social and economic inequalities, and lack of food sovereignty. The concept of "individual choice" has been central to understanding how food, health, and wellbeing are connected (Brooks et al., 2013). Public health discussions about metabolic conditions tend to focus on individual responsibility (Chard, 2020), perhaps due to the perception that lifestyle choices are personal and self-determined (Gálvez et al., 2020).

Nonetheless, studies (Powell & Chaloupka, 2009; Caspi et al., 2012) suggest that financial constraints often limit the choices people have when it comes to selecting their food. Food choices are influenced by financial constraints and the surrounding environment, with some individuals having easier and more frequent access to nearby food outlets, while others experience irregular or limited access to such sources of food. Moreover, some of the interactive social factors that have been linked to obesity include social class, as noted by Brown and Konner (1987), and structural inequalities, as discussed in a recent study by Gálvez et al. (2020).

Gálvez (2020) contends that discussions surrounding obesity and diabetes should move beyond attributing blame to individuals and their behaviours and instead focus on understanding the broader structural forces at play. In a similar vein, Manderson (2020:656) posits that health issues are interconnected across various sectors, emphasising the need for structural and institutional changes to effectively tackle the intersection of illness and inequality.

Meanwhile, little about how these causes of obesity may be interrelated is known. In fact, isolating the effect of a single factor contributing to weight gain and the development of obesity can be difficult, which often leads to inconclusive or contradictory findings (Holmbäck, 2010; Newby et al., 2003; McAllister, et al., 2009). Due to the intricate nature of human food-related decision-making, Doucerain and Fellows (2012) contend that the body of literature on this topic lacks consistency. This is not surprising, given that the decision-making process involves a web of interconnected elements, encompassing social, psychological, and environmental factors, making it difficult to discern the contributions of these interrelated factors to obesity and their respective magnitudes. Further exploration of these multifaceted factors of obesity will be undertaken in Chapter 2.

Iain Wilkinson and Arthur Kleinman (2016: 96) have posited that anthropology advocates for a socially grounded understanding that is local, conceptual, processual, and experimental. For anthropologists, food and foodways are powerful tools for understanding different cultures and societies (Tierney & Ohnuki-Tierney, 2012). By examining these practices in the context of global and historical connections, anthropologists can gain insight into how individuals are shaped by their local environments while also being influenced by broader global trends (ibid).

The anthropological study of food uncovers a wealth of information about how people navigate the intricacies of daily life, highlighting the pivotal role that food plays in both local economies and households (Garth, 2013). As Garth (2013) suggests, this area of study provides rich and detailed insights into the diverse ways in which individuals experience the multifaceted nature of everyday existence. When combined with research from other disciplines, anthropological perspectives on obesity can help researchers to better comprehend the complex interplay of factors across different levels of society.

In fact, there has been increasing recognition that the medical approach alone is insufficient for understanding or preventing the rise in obesity and that a more holistic approach beyond a medical framing is crucial (Townshend, 2010). One of the key scholars who influenced my work is Palsson, who argues that the study of human beings is becoming increasingly fragmented into different categories, such as social or biological (2013:24). Palsson's work contends that this division overlooks the fact that people are born into and shaped by biosocial environments, which are characterised by complex interactions between biological, social, and cultural factors, highlighting the need to bridge the gap between nature and culture and to recognise the interdependence between biological and social processes in shaping human behaviour and development.

I have incorporated both qualitative and quantitative data analysis to facilitate a thorough investigation. The use of statistical analysis has proven to be highly effective in identifying patterns and differences and providing numerical insights. However, relying solely on quantitative data analysis may not always capture the nuances and complexities of dietary behaviours.

Qualitative data analysis provides a means to capture the perspectives and experiences of participants through in-depth interviews and observations. This method of analysis is particularly useful in understanding individual food practices and identifying segments of data that may be crucial in understanding the deeper context of these practices. Glaser and Strauss (1967:17-18) argue that qualitative and quantitative methods or data are not fundamentally at odds with one another and each form of data can be helpful.

According to Maxwell (2010:480), there is often debate surrounding the use of numbers in qualitative research. However, he argues that incorporating numbers can be a legitimate and valuable approach for researchers, as long as it is used in conjunction with an overall process

orientation to the research. Informal conversations were incorporated into this study only after obtaining explicit consent from the participants. While observation was initially introduced as a supplementary method, it was not systematically implemented. No specific time was allocated to observe particular activities such as cooking, grocery shopping, or physical exercise, as observation remained a secondary and supplementary component of the research. Consequently, its role was considerably less central than the more structured methods of statistical analysis and interviews.

It is important to note that while many anthropologists incorporate observational data into their research, its inclusion is not universally mandatory. Some studies may deliberately exclude observation, and its role varies depending on the research design. Nevertheless, the decision to expand upon the observational component was made in pursuit of a more holistic understanding of the research context.

This choice, although initially conflicting with my personal preferences and concerns about the scientific rigour of observation, particularly regarding its precision and reliability compared to other methods, reflects my growing appreciation of the unique and valuable insights that observational data can offer. I now acknowledge that the inclusion of detailed observations ultimately strengthens the thesis by providing a more comprehensive analysis and deeper understanding of the research subject.

Had this study not been situated within the field of anthropology, I might have approached observation differently or omitted it altogether. However, within the anthropological context, I recognise that detailed observation is a core component of ethnographic research, adding an essential layer of complexity and insight necessary for the successful completion of this study. Accordingly, I use qualitative data analysis alongside quantitative analysis to gain a more comprehensive and nuanced understanding of food

practices and their underlying cultural, social, and personal meanings in relation to obesity. In Chapter 3, a meticulous exposé of the employed techniques in this study will be presented to furnish a detailed comprehension of the research procedure.

1.2 OVERVIEW OF THE THESIS

This thesis investigates the potential associations between sociodemographic factors, dietary behaviours, and obesity rates, with particular focus on geographical location in Mongolia. It is organised into seven chapters; each designed to address specific aspects of the research and contribute to filling gaps in the existing literature. The research questions are formulated to explore under-researched areas and advance knowledge in the field of public health and nutrition.

Chapter 1 provides a comprehensive introduction to the study, outlining the research problem, primary objectives, and the broader significance of the investigation. This chapter also offers an overview of the theoretical frameworks that underpin the research, providing context for the analytical approach. Additionally, it details the methodology used to gather and analyse data, explaining the rationale behind the selection of methods. Ultimately, this introductory chapter lays the groundwork for the thesis, offering readers a clear understanding of the study's scope, aims, and structure.

Chapter 2 presents a comprehensive literature review that delves into the prevalence of obesity, socioeconomic disparities and dietary behaviours in modern-day Mongolia. The review contextualises and examines the literature on food practices, overweight and obesity, all of which are intertwined in the post-socialist Mongolian context. The chapter covers various factors underlying these issues and explores the current state of research on obesity in Mongolia and worldwide. Additionally, the chapter provides historical background on the field sites by reviewing the literature on cultural significance and implications of traditional and contemporary food practices and urbanisation and changes in lifestyles in Mongolia, from nomadic lifestyle to city living. Overall, Chapter 2 offers an in-depth and detailed description

of the present state of obesity, socioeconomic disparities, and dietary behaviours in post-socialist Mongolia.

In Chapter 3, detailed information is provided on the field sites, participants, and methods utilised during this study. Specifically, the chapter covers the rural, peri-urban, and urban locations in Mongolia where fieldwork was conducted, while also offering an overview of the social, cultural, and economic backgrounds of the participants who reside in these areas. The various techniques, tools, and sampling methods utilised to gather data are described in depth, as is the research design. Additionally, the chapter delves into the measurement of variables collected, including BMI, exercise, sociodemographic factors, and dietary behaviours. Methods employed for analysis are presented, and potential biases that could impact the research are examined.

In Chapter 4, the issue of obesity and its association with regional, dietary, and sociodemographic factors is analysed statistically. The chapter uncovers emerging patterns and correlations through this analysis. To conduct a detailed analysis of body size, the chapter examines the height, weight, and BMI of Mongolians, as well as gender and regional variations. Moreover, the chapter explores obesity prevalence across different age groups, regions, and genders in my sample. Additionally, the chapter investigates the connection between obesity and sociodemographic factors such as marital status and internal migration, as well as the relationship between obesity and dietary behaviours, to address the research questions outlined earlier in this chapter. The chapter also discusses physical activity and its relationships with region, sociodemographic factors, and dietary behaviours, respectively. By utilising statistical analysis, the chapter quantifies and compares the association between obesity and possible risk factors, including regional, sociodemographic, and behavioural factors.

In Chapter 4, obesity and its associations with regional, dietary, and sociodemographic factors in Mongolia are analysed statistically, revealing emerging patterns and correlations. The chapter examines the height, weight, and BMI of Mongolians, as well as variations by gender and region, and further investigates obesity prevalence across age groups, regions, and sexes. It also explores associations between obesity, sociodemographic factors such as marital status and internal migration, dietary behaviours, and physical activity, thereby quantifying how these determinants relate to individual body size within the study sample. As supplementary information, Section 4.2 provides a descriptive overview of body size based on BMI, Section 4.3 applies statistical analysis to assess obesity prevalence across age groups and regions, and Section 4.4 stratifies body size using standard BMI categories (normal weight 18.5 – 24.9 kg/m²; overweight 25.0 – 29.9 kg/m²; obese \geq 30.0 kg/m²), including binary distinctions between obese and non-obese individuals.

Chapter 5 presents a thorough analysis of dietary and food consumption habits observed in Mongolia, with a specific emphasis on examining regional similarities, differences, and overlaps. The analysis investigates the factors that contribute to these disparities and provides a nuanced understanding of the complex relationship between regional dietary patterns and the escalating levels of obesity in Mongolia, viewed through the lens of modernity and urbanism. This chapter carefully reviews and discusses the regional differences in meal frequency, cooking frequency, and seasonal food intake practices in rural, peri-urban, and urban Mongolia.

Chapter 6 offers a comprehensive analysis of the complex relationship between diet and generation. I delve into generational variances and differences in dietary habits to shed light on familiar food practices that have been passed down over time, as well as new eating behaviours that are now accepted amongst young adults. The focus of this chapter is on exploring the possible implications of these similarities and differences in dietary patterns for

the rising rates of obesity in both younger and older adults in my sample. This chapter carefully reviews and discusses generational similarities and differences in food consumption, food commensality, food selection criteria, and calorie and nutritional knowledge across rural, peri-urban, and urban Mongolia.

Finally, in Chapter 7, I give the key findings. The chapter concludes with a comprehensive discussion of these findings, shedding light on their implications for understanding obesity in Mongolia. Additionally, the research methods employed are critically evaluated, and key insights into food consumption practices and obesity in the Mongolian context are highlighted, with reference to globalisation, urbanity, and urbanisation. Based on these insights, the chapter concludes with suggestions for future research directions in this field.

CHAPTER 2 – LITERATURE REVIEW

2.1. HISTORICAL BACKGROUND OF MONGOLIA

Mongolia, previously known as the Mongolian People's Republic, is a democratic country located in East Asia (see Figure 2.1). It holds the distinction of being the least densely populated country globally, as noted by Narankhuu et al. in 2018. It is important to note that Mongolia should not be confused with Inner Mongolia, which is an autonomous region of the People's Republic of China. According to anthropologist Caroline Humphrey, Mongolian society in the early 1990s was culturally homogeneous and had a distinct lifestyle (1994: 23).

From 1921 to 1990, Mongolia was a client state of the Soviet Union. During this period, the Soviet Union appointed “advisors” to rule various institutions in Mongolia, from factories to schools (Humphrey, 1994). As a result, Mongolia was often referred to as the “sixteenth republic” of the USSR by outsiders (Ginsburg, 1995:459). Unlike other East Asian countries, such as the Lao People's Democratic Republic, the People's Republic of China, and the Socialist Republic of Vietnam, Mongolia has undergone political change in tandem with economic reform (ibid).

Industrialisation reached Mongolia through other communist countries during the communist period, and since the Second World War, such countries have provided factories that produce a wide range of products, including sausages, carpets, cashmere sweaters, and copper ore, as reported by Fritz in 2008. However, growing unrest in the Soviet Union's constituent national republics led to movements to declare independence, and the concept of perestroika in the Soviet Union from 1985 - 1991, along with the democratic movements across

Eastern Europe, had a profound impact on Mongolian politics and economics, as noted by Michie in 2017.



Figure 2.1. Map of Mongolia.

The World Factbook 2021. Washington, DC: Central Intelligence Agency, 2021.

Following the historic fall of the Berlin Wall in 1989 and the eventual collapse of the Soviet Union in 1991, free-market capitalism experienced a global surge (Michie, 2017). Mongolia, in particular, underwent significant social, political, and cultural reforms in the 1990s - before and after the adoption of a parliamentary system and market economy (Humphrey, 2018; Sneath, 2018).

These reforms were primarily centred around the development of urban-based markets and mining, instead of the traditional pastoralism (Janes, 2010). In 1990, Mongolia was one of the poorest communist countries globally, with an annual per capita income of roughly \$500 (Fritz, 2008). As a result, the country's economy was heavily reliant on international assistance, more so than any other former Soviet bloc nation (Ginsburg, 1995). In 1991, the government

introduced rationing cards to provide the basic necessities of life (Fritz, 2008; Kaplopinski, 2004).

Securing food supplies was a considerable challenge, as over 80% of consumer goods were imported to Mongolia at the time, according to Hannam (1992). Furthermore, despite the fact that livestock outnumbered humans by more than twelve to one, meat was largely unavailable in the cities (Ginsburg, 1995:465).

Throughout the Soviet era in Mongolia, efforts to promote vegetable production and consumption were shaped by a context of chronic rationing, severe privation, and widespread uncertainty (Murphy, 1956; Denizer, 2003; Sõukand & Kalle, 2007). The Soviet Union's centrally planned agricultural policies, which sought to enhance domestic food security, placed significant emphasis on diversifying crop production, particularly vegetables, as a response to the economic constraints of the period. However, this push for increased vegetable cultivation took place within a broader context of food scarcity, particularly in urban areas, where rationing and shortages were common.

Barlow (1990) contends that Soviet economic policies in Mongolia often led to inefficient food distribution systems, which further exacerbated the uncertainty surrounding food availability, despite efforts to diversify agricultural output. Tseren (2002) argues that these policies were part of a wider Soviet strategy to introduce industrial agriculture to the Mongolian context, but the challenges of adapting Soviet models to the harsh Mongolian climate often resulted in inadequate food supplies and a continued reliance on rationing. Similarly, Dugarjav (1996) suggests that while the aim was to achieve food self-sufficiency, the Soviet system of agricultural centralisation frequently led to the misallocation of resources, contributing to ongoing food insecurity in both rural and urban areas. Furthermore, the Soviet emphasis on vegetable production was not only a response to food shortages but also aligned with the

broader socialist agenda to promote dietary diversity (Tserendorj, 1998). In this context, the promotion of vegetable cultivation emerged as a dual strategy: a means to address immediate food needs and a reflection of the broader social and economic instability that characterised Soviet rule in Mongolia.

Despite an increase in gross domestic product per capita in post-socialist Mongolia since 2000 (FAOSTAT, 2021; Figure 2.2), studies have revealed mixed social and economic outcomes resulting from the market economy and political transformation. Economic development in Mongolia has led to economic upheaval, the rapid emergence of wealthy new elites, and the concentration of wealth (Kaplonski, 2004; Sneath, 2018), along with rising rates of poverty, crime, and inequality in the twenty-first century (Doojav & Bayarjargal, 2017; Johnson, 2008; Kaplonski, 2004). Since the collapse of the Soviet Union, the disparity between those who possess wealth and those who do not has become more pronounced, leading to a significant social and economic divide, with the wealthy often enjoying advantages and opportunities that are not available to the less affluent. According to Johnson's analysis in 2008, the wealthy individuals who held prominent positions in society prior to the collapse of communism and the implementation of market reform policies are still reaping the benefits of the new system.

Meanwhile, individuals from the lower socioeconomic strata continue to encounter significant barriers in accessing essential social and economic resources (Johnson, 2008). Economic inequality remains prevalent in post-socialist Mongolia (Sneath, 2018; Doojav & Bayarjargal, 2017; Johnson, 2008), with a high proportion of wealth owned by the super-rich (Sneath, 2018). Data from 2009 – 2010 indicated that 39% of the population lived in poverty (Gan-Ochir & Ariun-Erdene, 2017), and the unemployment rate stood at 7.9% in 2016 and 8% in 2017 (CIA, 2021). The contemporary social and economic challenges in present-day

Mongolia have undergone substantial transformation as a result of shifts in political and economic structures. These transformations have significantly influenced the lifestyle, social dynamics, and economic prospects of the Mongolian populace in the context of modern Mongolia.

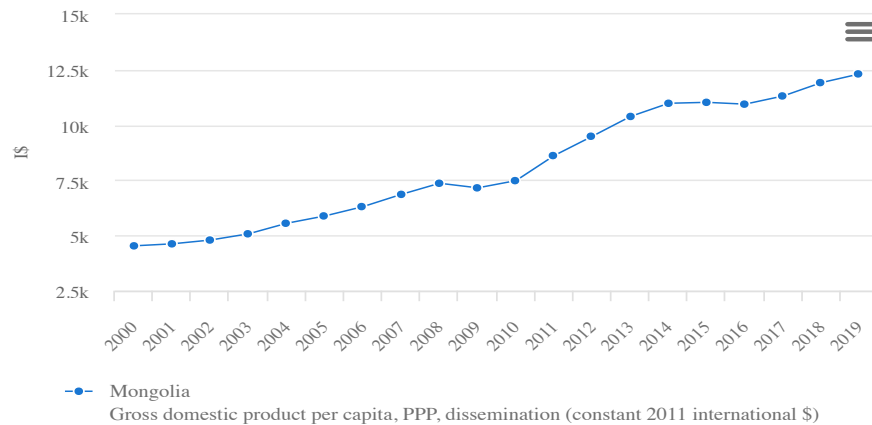


Figure 2.2. Gross domestic product per capita in Mongolia. Food and Agricultural Organisation Corporate Statistical Database, 2021.

The definition of “modern” has been a subject of discourse in Mongolia, with some relating it to new or cosmopolitan ideas rather than traditional or native ones. During the Soviet modernisation period, Mongolia’s elite embraced new values, lifestyles, and a political culture centred around Marxist, modernist, and urban ideologies from Ulaanbaatar and Moscow (Sneath, 2018:146; Sneath, 2003:43-44). Barnard and Spencer (2010) state that modernity is closely linked to capitalism, industrialisation, and the modern West.

In his work, King (2004) draws attention to the fact that the concept of a “modern city” was not merely a characteristic of recent times but was geographically constrained to Western Europe and North America. This suggests that the development of the modern city was a phenomenon that was unique to these regions and may have been influenced by a range of

historical, cultural, and economic factors that were specific to these areas. According to Wittrock (2000; 59), modernity is a global phenomenon that affects people's behaviour and habits regardless of their culture, ethnicity, or location. In other words, people from all parts of the world feel the impact of modernity in various aspects of their lives.

Robinson's (2006) analysis illuminates the intricate and variegated nature of modernity as both a concept and experience that is contingent upon diverse regional and cultural contexts. Despite modernity's often-referenced association with Western, colonial, or global processes, she argues that it is also shaped by entrenched cultural practices and regional dynamics, which reflect the unique histories and identities of various communities.

In Mongolia, state socialism invested heavily in urban and industrial centres, transforming associated ways of life (Sneath, 2003: 44). The idea of "modernity" in Mongolia seems to be associated with ideas and concepts valued and standardised in urban capitals, such as Ulaanbaatar and Moscow, rather than distant locations where people have long-lasting nomadic lifestyles. Despite varying interpretations, modernism became a benchmark and ideal for Mongolians (Sneath, 2003: 44).

Anthropologist Setha Low (1996) posits that cities more generally are not just a collection of buildings and infrastructure, but a space where people engage in various practices that shape their experiences. Low has put forward the argument that cities are the unique intersection between the macro-level processes of society and the micro-level actions of individuals (1996). She contends that cities act as a conduit that connects people and their culture with the larger societal processes that influence their lives (ibid). Cities function as vibrant centres of cultural and socio-political activity, exerting a profound influence on the daily lives of their inhabitants. They shape various aspects of people's lives, impacting decisions related to daily food choices, physical activities, and overall lifestyle. In this sense,

cities encompass multifaceted and diverse dimensions, and their significance, characteristics, and interpretation seem to be fluid, evolving over time in response to cultural, economic, social, and political factors.

However, as noted by Bridge and Watson (2003), who have studied the growing complexity and globalisation of cities, it has become increasingly challenging to construct cultural markers that simplify the image of the cities. This complexity has made it difficult for people to relate to their cities as cultural entities and has led to a sense of disconnection from one's urban environment. Despite this challenge, Kostof (1991), an architectural historian, asserts that cities share certain premises that are consistent. These include the presence of energised crowds of people, physical circumscription to separate urban order from non-urban, specialised differentiation of work, wealth inequality, and a source of income (ibid).

These premises can be applied to Ulaanbaatar in a post-socialist context, demonstrating that cities are not simply abstract concepts, but concrete manifestations of cultural and socio-political practices. Ulaanbaatar's primacy has been underscored by a remarkable surge in urbanisation subsequent to the dissolution of the Soviet sphere (Diener & Hagen, 2013). For pro-urbanists with a passion for cities and urban living, these places are full of potential, and they see cities as environments bursting with diversity, culture, and excitement where strangers can peacefully coexist and engage with one another (Bridge & Watson, 2003: 10).

However, negative perceptions of cities have been present in literature, art, and politics since the beginning of their existence, and these views often associate cities with societal breakdown, corruption, illness, immorality, disorder, pollution, congestion, and the endangerment of social norms (ibid). Having reviewed the historical background of Mongolia in this section, the following chapter provides an account of the prevalence and trend of obesity in the modern-day Mongolian context.

2.2. PREVALENCE OF OBESITY IN POST-SOCIALIST MONGOLIA

The post-socialist era in Mongolia has brought about significant social, political, and economic changes, which have coincided with a notable increase in obesity rates in the country. In 2009, Otgontuya et al. conducted a study on a national level,¹ which revealed that 32.8% of Mongolians were overweight and 10% were obese. As of 2021, Mongolia has the highest percentage of adult obesity in East Asia, with a prevalence rate of 20.6% (CIA, 2021). This means that more than one in five adults in Mongolia are currently classified as obese, which is a serious concern for the country's healthcare system and public health in general.

It is important to note that these recent rates of obesity suggest that economic growth alone does not necessarily lead to improved health and well-being for all (Kjellstrom et al., 2007). Studies (CIA, 2021; Chimeddamba et al., 2017; Chimeddamba et al., 2016; Figure 2.3) report increasing rates of obesity amongst Mongolians following the dissolution of the Soviet Union and the introduction of the free market economy. Specifically, the prevalence of overweight and obesity in Mongolia increased distinctly between 2005 and 2013 amongst all age groups, both men and women, according to cross-sectional surveys conducted by Chimeddamba et al. in 2016. The study showed that the age-standardised prevalence of obesity in Mongolia, denoted by the international BMI cut-off values, in men and women between 2005 and 2013 increased from about 11% to 18% and from 19% to 26%, respectively.² These findings may suggest significant changes in the diets and lifestyles of Mongolians over the past

¹ A study (Otgontuya et al., 2009) conducted on Mongolian adults, with a sample size of 408 individuals, aged 46.7±12.7 years. Individuals from urban areas comprised 61.2% of the study sample, with individuals from rural areas making up the remaining 38.8%. This is reflective of the 60:40 urban-rural ratio in the general population of Mongolia.

² In this international BMI classification, a BMI of 18.5-24.9 kg/m² is classified as normal weight, 25.0-29.9 kg/m² as overweight, and 30.0 kg/m² and over as obese (Chimeddamba et al., 2016).

eight years, coinciding with the country's rapid economic development, potentially contributing to the rise in obesity rates.

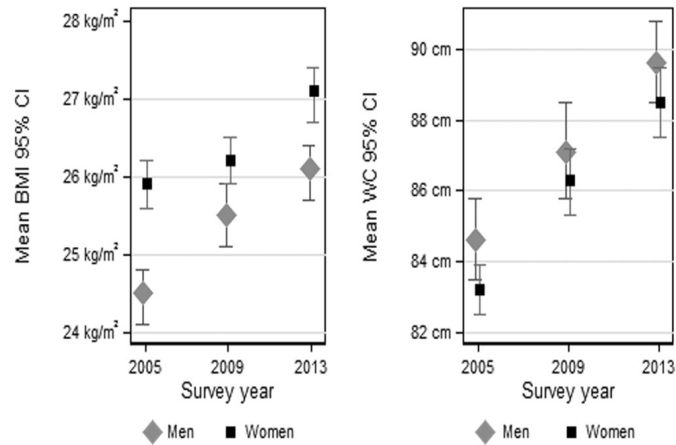


Figure 2.3. Age-standardised mean Body Mass Index and Waist Circumference in the total sample of Mongolian adults aged 18 to 64 years by sex, 2005, 2009, and 2013. Chimeddaba et al., 2016.

It is widely recognised worldwide that women are more prone than men to obesity, primarily due to differences in body fat and soft tissue distribution (Lovejoy & Sainsbury, 2009; Brown & Konner, 1987). This observation has also been noted in Mongolia. Research conducted in Mongolia (Chimeddamba et al., 2016; Otgontuya et al., 2009) has revealed a similar trend. In Mongolia, the prevalence of obesity was significantly higher in women (13.3%) than men (7.5%) (Otgontuya et al., 2009). Furthermore, women aged 55-64 years had the highest proportion (78.4%) of abdominal obesity (ibid). These findings indicate that there may be other contributing factors leading to higher BMI amongst Mongolian men in my study, which will be explored further in Chapter 4.

Elevated rates of obesity have been documented not only in post-socialist Mongolia but also in other post-socialist nations. Research indicates that the collapse of the Soviet Union resulted in substantial alterations to the socio-economic conditions, food markets, and dietary behaviours in numerous post-socialist countries, including Mongolia (Bater, 2019;

Chimeddamba et al., 2016), Poland (Szynszecka & Bhakta, 2010), as well as Azerbaijan, Armenia, Kyrgyzstan, and Kazakhstan (Watson et al., 2013). According to a study conducted by Koziel et al. in 2006, the number of overweight young adults in Poland increased gradually across all groups between 1965 and 2001. This trend can be attributed to the country's transition to a capitalist market economy and changes in lifestyles and dietary habits as noted by Szynszecka and Bhakta in 2010. In fact, the prevalence of overweight and obesity has been rapidly increasing in several post-socialist Eastern European countries as reported by Ulijaszek and Koziel (2007).

This trend is not limited to Eastern Europe but has also been observed in countries beyond the region, including Azerbaijan, Armenia, Kyrgyzstan, and Kazakhstan, according to Watson et al. (2013). Ulijaszek & Koziel (2007) report that the increase in obesity rates observed in East European nations after the shift towards free-market economies can be attributed to the decline in physical activity, rise in real income, and the consumption of sedentary lifestyle-promoting products like cars, televisions, and computers. These findings highlight the impact of societal and economic changes in post-socialist contexts.

According to Elizabeth Dunn's research in 2008, the industrialisation of the food system in Georgia during the Soviet era had a significant impact on the people's culinary practices and tastes. The Soviet government established many industrial canning operations, which provided food to the people and altered their dietary habits. Dunn's analysis suggests that this change in the food system was a deliberate attempt by the Soviet government to demonstrate the strength and effectiveness of the state. By providing food to the people through industrial means, the Soviet government sought to showcase its power and influence over the lives of its citizens. Overall, Dunn's research sheds light on the ways in which political systems

can shape people's food preferences and practices, and how food can be used as a tool for political expression and control.

Turning now to the effects of urbanisation on obesity, there has been a significant shift in how populations are distributed globally - with a notable trend towards urban centres. According to reports from the World Health Organisation (WHO) and UN-Habitat, as of 2016, the majority of the world's population now resides in urban areas. This represents a marked change from less than ten years ago, when the majority of people still lived in rural areas. The trend towards urbanisation was also believed to be one of the driving forces behind the global increase in obesity (Popkin, 2006; UN-Habitat, 2016; Wagner & Brath, 2012; WHO, 2016; Yusuf et al., 2001). Interestingly, a study conducted in Mongolia (Chimeddamba, et al., 2016) found that physically active nomadic lifestyles were associated with a low population body mass index (BMI). However, the effects of irregular physical activity, growing western food consumption, and other modern lifestyle factors on obesity in urban Mongolia have yet to be systematically assessed.

These findings indicate that urbanisation is linked to substantial shifts in lifestyle, dietary patterns, physical activity, and environmental factors, all of which contribute to the growing obesity epidemic. While previous studies have examined obesity, the underlying factors of this intricate relationship remain incompletely comprehended and warrant additional exploration. Having discussed the prevalence of obesity in post-socialist Mongolia, I will delve into the cultural importance and ramifications of present-day dietary behaviours in the subsequent section.

2.3. METABOLIC SHIFTS AND OBESITY IN THE CONTEXT OF AGEING AND MIGRATION: THE INTERPLAY OF BIOLOGICAL, BEHAVIOURAL AND ENVIRONMENTAL FACTORS

A recent longitudinal study by Shen et al. (2024), published in *Nature Aging*, provides evidence of age-related metabolic shifts. The researchers analysed over 135,000 molecular and microbial measurements from blood, stool, and oral swabs collected from 108 individuals aged between 25 and 75 years. Rather than a gradual decline, the study identified two significant “bursts” of biological ageing occurring around the ages of 44 and 60. At approximately 44 years, notable molecular changes were observed in lipid metabolism, as well as in the body’s ability to process alcohol and caffeine, alongside markers of cardiovascular health. Around age 60, more pronounced shifts were detected in carbohydrate metabolism, immune regulation, and renal function. These metabolic changes occurred in both men and women, suggesting they are not solely attributable to hormonal transitions such as menopause. Shen et al. (2024)’s findings suggest that metabolic ageing may accelerate in midlife and early older age, underscoring the importance of early preventive strategies to mitigate associated health risks.

Recent research continues to affirm that metabolism is significantly altered with advancing age. Palmer and Jensen (2022), writing in the *Journal of Clinical Investigation*, highlight several physiological changes associated with ageing, including increased central adiposity, sarcopenia, and altered adipose tissue function. These metabolic alterations contribute to elevated free fatty acid release, which may in turn induce insulin resistance. The authors also note that a sedentary lifestyle compounds these age-related metabolic shifts,

though interventions such as caloric restriction, resistance training, and pharmacological therapies can offer mitigating effects.

A large-scale findings by Pontzer et al. (2021) further refine our understanding of how energy expenditure changes across the life course. Their study, which examined over 6,400 individuals ranging from infancy to old age, revealed that total daily energy expenditure remains remarkably stable from early adulthood until around age 60, after which it declines significantly. This suggests that the most notable metabolic changes associated with ageing occur later than previously assumed, offering a revised framework for interpreting age-related shifts in energy balance.

Further evidence is provided by Curl et al. (2024), who explored glucose kinetics and metabolic flexibility in younger versus older adults. Their findings, published in the *American Journal of Physiology-Endocrinology and Metabolism*, indicate that older individuals exhibit diminished glucose metabolism and reduced metabolic flexibility, which may underpin the increased prevalence of metabolic disorders in later life.

Similarly, a study by Monferrer-Marín et al. (2022) examined physically active women over the age of 60 and found that despite regular exercise, metabolic flexibility remained significantly reduced. This cross-sectional pilot study suggests that the ageing process itself, independent of physical inactivity, contributes to declining metabolic efficiency. Together, these studies underscore the multifaceted nature of metabolic ageing and highlight the necessity of both preventative and therapeutic strategies tailored to the ageing population.

One of the earliest studies to investigate the relationship between metabolic rate and ageing was conducted by Ravussin et al. (1982), who demonstrated that resting metabolic rate (RMR) decreases progressively with age. This decline in RMR has been associated with an

increased risk of obesity in older adults, even when caloric intake remains constant. The study also found that reductions in RMR were linked not only to ageing itself but also to increases in body fat percentage—both common physiological changes in later life.

Roubenoff and Hughes (2000) further underscore the critical role of muscle mass in maintaining metabolic rate, noting that sarcopenia, or the loss of skeletal muscle mass, accelerates after the age of 60. Given that muscle tissue is a key determinant of RMR, this age-related muscle decline significantly contributes to metabolic slowdown. Accordingly, interventions that preserve or enhance muscle mass—such as resistance training or protein supplementation—are vital for mitigating the effects of ageing on metabolism.

Expanding on this physiological perspective, Gonzalez-Freire et al. (2015) highlight the importance of mitochondrial function in the ageing process. Their research shows that mitochondrial efficiency diminishes with age, impairing the body's capacity to produce energy. However, the role of mitochondria extends beyond energy metabolism; they also regulate cellular stress responses and are essential for maintaining cellular homeostasis over time.

Despite all these recent and not recent studies on metabolism and aging, it is important to recognise that biological ageing does not occur in a vacuum. Contextual and environmental factors — such as chronic stress, urban food environments, socioeconomic status, and educational attainment—also shape metabolic health in complex ways. Chronic stress, for instance, has been shown to dysregulate the hypothalamic-pituitary-adrenal (HPA) axis, elevating cortisol levels and promoting fat accumulation, particularly around the abdomen (Tomiyama, 2019). These stress-related physiological responses can compound the metabolic effects of ageing and contribute to obesity risk. Brewis and colleagues have explored the intricate relationship between stress and obesity, emphasising how social, psychological, and cultural factors contribute to weight gain. They argue that socio-economic stressors, such as

poverty and inequality, lead to unhealthy behaviours like overeating, which can exacerbate obesity (Brewis et al., 2012; Brewis & McGarvey, 2008). Chronic stress, particularly from environmental and social factors, is linked to physiological changes, including elevated cortisol levels, which affect appetite regulation and fat storage (Brewis, 2003; Brewis & Ruhl, 2010). Societal pressures, especially those related to body image, further contribute to stress, particularly among women, who are often more susceptible to these cultural stressors (Brewis & Sargent, 2011). Moreover, the authors argue that effective obesity prevention and intervention strategies must address not only individual behaviours but also the broader social and cultural stressors that influence health outcomes (Brewis, 2014).

Additionally, the characteristics of local food environments exert a powerful influence on dietary behaviour and metabolic outcomes. As Mackenbach et al. (2019) demonstrate, individuals living in neighbourhoods with greater access to fast food and fewer healthy food options are more likely to engage in unhealthy eating behaviours and experience higher rates of obesity. These effects are further amplified by socioeconomic inequalities. Dinsa et al. (2012) report that in many developing countries, lower educational attainment and income levels are associated with higher obesity prevalence, particularly among women. Education not only shapes food choices and health literacy but also influences broader lifestyle patterns that affect metabolic health.

Longitudinal data also reveal that generational shifts are reshaping obesity trajectories. Johnson et al. (2015), drawing on coordinated analyses of five UK birth cohorts, found that younger generations are experiencing overweight and obesity at earlier stages in life compared to their predecessors. This earlier onset of excess weight increases the cumulative exposure to obesity-related health risks, underscoring the urgency of addressing metabolic health across the lifespan.

To address this complexity, this study investigated not only the relationship between age and body mass index (BMI, kg/m²), but also other sociodemographic factors such as areas of residence, gender, internal migration, marital status, and occupation, as well as behaviours such as meal frequency, cooking frequency, food commensality, food selection criteria, and seasonal food consumptions, all of which did not have to be explored if I assumed that obesity is inevitable for everyone due to the metabolism slowing down with age. Exploring these factors show that I am not advocating for that. Aside from internal migrants being nearly twice as likely to be overweight or obese compared to non-migrants, these relationships between obesity and sociodemographic and dietary behaviours were not statistically significant. This means that other potential factors contributing obesity should be explored carefully in modern Mongolian context. Also, more long-term research on the effects on migration on health should be conducted.

The relationship between migration and obesity is shaped by a complex interplay of biological, behavioural, socio-economic, and environmental determinants. Empirical research increasingly demonstrates that migration can significantly influence body weight trajectories and the risk of obesity, particularly in relation to acculturation, lifestyle transitions, and structural determinants of health (Delavari et al., 2013; Murphy et al., 2017). A key mechanism linking migration to increased obesity prevalence is dietary acculturation — the process through which migrants adopt the dietary norms and behaviours of the host society. In many high-income settings, this transition often involves a departure from traditional diets rich in whole foods and plant-based ingredients towards Westernised dietary patterns characterised by high intake of processed, energy-dense foods (Delavari et al., 2013). These dietary shifts are commonly accompanied by reductions in physical activity and more sedentary lifestyles, collectively contributing to increased body mass index (BMI) and adiposity over time (Sanou

et al., 2014). However, the extent and direction of these changes are not uniform and are influenced by ethnicity, gender, and cultural context.

Newly arrived migrants frequently exhibit more favourable health indicators than native-born populations—a phenomenon termed the “healthy migrant effect” (Razum, 2006). This advantage, however, tends to diminish with prolonged duration of residence in the host country. Longitudinal evidence suggests that obesity prevalence among migrant populations can converge with or surpass that of the host population within one or two decades of migration (Murphy et al., 2017). This deterioration in health status is attributed to sustained exposure to obesogenic environments, psychosocial stressors, and socioeconomic marginalisation (Osei-Kwasi et al., 2016).

Socio-economic status (SES) emerges as a critical determinant of obesity risk amongst migrants. Lower income levels, food insecurity, limited educational attainment, and inadequate access to health services are all associated with increased rates of overweight and obesity (Kobayashi et al., 2015). Simultaneously, cultural norms and values relating to body image and health may influence weight-related behaviours and perceptions. In some migrant communities, larger body size may be positively associated with social status and wellbeing, complicating public health messaging aimed at promoting weight reduction (Garnweidner et al., 2012). Moreover, language barriers, health literacy limitations, and experiences of discrimination may obstruct engagement with health-promoting practices (Tovar et al., 2013).

The effects of migration on obesity are also mediated by gender and ethnicity. Several studies have noted that women may be more adversely affected due to cultural restrictions on physical activity, domestic responsibilities, and limited engagement with formal health systems (Delavari et al., 2013; Goel et al., 2004). Furthermore, disparities in obesity prevalence between

ethnic subgroups underscore the heterogeneity of migrant experiences, highlighting the inadequacy of “one-size-fits-all” approaches to intervention.

Addressing the rising burden of obesity amongst migrant populations necessitates culturally competent and contextually grounded public health interventions. Evidence suggests that interventions must go beyond behavioural change, addressing structural inequities that shape dietary practices and physical activity patterns (Osei-Kwasi et al., 2016). Early intervention is critical, as health-promoting behaviours established shortly after migration may help preserve the initial health advantage (Tovar et al., 2013). Public health strategies should prioritise community engagement, culturally appropriate education, and accessible services to effectively mitigate obesity risk across diverse migrant populations.

However, these research is based on international migration, as opposed to domestic, internal migration. Internal migration — especially from rural to urban areas — has been increasingly recognised as a significant factor influencing obesity risk. As individuals relocate within countries, particularly from rural to urban environments, they are exposed to new dietary patterns, lifestyles, and social norms that often contribute to an elevated risk of overweight and obesity.

In India, a cross-sectional study by Ebrahim et al. (2010) found that rural-to-urban migrants exhibited higher levels of obesity and diabetes compared to their rural non-migrant counterparts. Importantly, the prevalence of obesity amongst male migrants approached that of long-term urban residents, with the risk increasing with the duration of urban residence. This supports the idea that urban environments exert a cumulative influence on metabolic health, partly due to increased access to energy-dense foods and reduced physical activity levels.

Similarly, in Peru, data from the Demographic and Health Surveys (2005–2012) revealed that both rural-to-urban and intra-urban migrants were significantly more likely to be obese than individuals residing in rural areas (Carrillo-Larco et al., 2019). The study noted that urban exposure itself—regardless of migration status—was a key determinant of obesity, reflecting broader trends of the nutrition transition in low- and middle-income countries.

Further evidence comes from Kenya, where Onyango et al. (2019) analysed data from the 2014 Kenya Demographic and Health Survey. Their findings indicated that rural-to-urban migrant women were more likely to experience a nutrition transition, resulting in a higher prevalence of overweight and obesity. Risk factors included age, household wealth, duration of urban stay, and marital status — highlighting the complex interplay between individual, environmental, and socio-economic determinants.

These findings are consistent with the global trend of urbanisation-associated weight gain, particularly in transitional economies undergoing rapid demographic and dietary change. Internal migrants often experience a disruption of traditional dietary patterns and physical routines, replacing them with more sedentary behaviours and processed food consumption commonly found in urban contexts (Popkin, 2014). This phenomenon underscores the urgent need for targeted public health policies that consider the unique health risks of internal migrants, including culturally tailored health promotion and improved urban planning to support active lifestyles.

In the case of Mongolia, Lindskog (2014) highlights the systemic challenges confronting the country’s healthcare infrastructure in the context of accelerating rural-to-urban migration. The study underscores that the substantial influx of internal migrants into urban centres such as Ulaanbaatar has placed considerable strain on existing health services. This increased pressure may compromise the health system’s capacity to effectively manage non-

communicable diseases, including obesity, which are becoming more prevalent amidst ongoing demographic and lifestyle transformations.

These findings raise important, albeit speculative, questions regarding a broader constellation of contextual factors—such as psychological stress, urban planning, social networks, pharmaceutical use, food systems, education, and political governance that may influence health outcomes amongst internal migrants.

In fact, obesity has increasingly been recognised not only as a public health issue, but also as a socially and politically complex phenomenon shaped by historical processes, environmental contexts, and policy discourses. Ulijaszek and McLennan (2016) argue that the expanding body of interdisciplinary research highlights a range of distinct yet interrelated factors contributing to the development of obesity. From an anthropological standpoint, food environments extend beyond mere physical access to food; they encompass social practices of production, preparation, distribution, and consumption—activities embedded in wider socio-economic and cultural contexts (Ulijaszek & McLennan, 2016). This perspective is consistent with Brewis (2011), who explores how obesity must be understood within cultural and biocultural frameworks that reflect the diverse ways people relate to food, health, and the body.

Giles and Brennan (2022) similarly contend that environments external to the body, such as cultural norms, built environments, and food marketing systems, mediate individuals' experiences of obesity. The concept of “obesogenic environments,” originally proposed by Swinburn, Egger, and Raza (1999), has since become central to understanding how urban design, economic systems, and social policy interact to create conditions conducive to weight gain. Drewnowski et al. (2020) have further elaborated this framework, demonstrating how spatial disparities in access to nutritious food and recreational infrastructure contribute to persistent obesity trends, particularly in urban and marginalised communities.

Despite such insights, policy responses in countries like the United Kingdom have remained predominantly individualistic. Ulijaszek and McLennan (2016) critique this focus, asserting that British obesity policy from the Blair years to 2015 continued to emphasise personal responsibility, despite overwhelming evidence pointing to the societal and structural dimensions of the issue. Theis and White (2021) reinforce this critique in their systematic analysis of English policy, highlighting the persistent failure to translate evidence into holistic and coordinated interventions. According to McLaughlin et al. (2024), one reason for this policy inertia is a lack of systems thinking. They argue that holistic modelling approaches can provide more realistic and equitable pathways for addressing obesity, accounting for the dynamic interactions between policy, environment, and health outcomes.

The relevance of these structural critiques extends well beyond the UK. Roberto et al. (2015) document how global obesity prevention efforts frequently falter due to entrenched barriers—including industry resistance, fragmented governance, and neoliberal policy orientations. They advocate for bold, integrated strategies, such as taxing sugary beverages and restricting food marketing, which have shown success in some contexts but remain politically contested in many.

In the Pacific Islands, McLennan and Ulijaszek (2015) offer a powerful example of how colonial legacies and global economic transformations have created fertile ground for the obesity epidemic. They argue that the processes initiated during colonial rule—dispossession, dependence on imported foods, and the erosion of subsistence economies—have fundamentally reshaped food systems and bodily norms. These transformations are not static but evolve in response to shifting global forces and local adaptations. Their analysis is supported by Yates-Doerr (2015), whose ethnographic work in Guatemala reveals how

international nutrition interventions often clash with local meanings of health and identity, sometimes exacerbating the very conditions they seek to resolve.

Popkin, Adair, and Ng (2012) refer to this global dynamic as the “nutrition transition” — a process wherein low- and middle-income countries experience rapid dietary and lifestyle changes driven by urbanisation, economic growth, and trade liberalisation. This transition is often characterised by a shift from traditional diets to highly processed, calorie-dense foods, contributing to rising rates of obesity and related diseases. Jaacks et al. (2019) propose a “four-stage obesity transition” model to characterise how different societies experience the epidemic, urging policymakers to tailor responses to local epidemiological and socio-economic conditions.

Collectively, these interdisciplinary contributions challenge the dominant narrative that frames obesity as a problem of individual behaviour. Instead, they call for an approach that is historically informed, structurally aware, and culturally situated. As Morris and Lancy (2015) argue, anthropologists are uniquely positioned to address the lived realities of obesity, bridging public health imperatives with the social worlds of the people most affected. Their work illustrates how prevention and intervention strategies must be grounded in local knowledge, historical consciousness, and an understanding of how global systems shape everyday life.

Addressing obesity requires more than behavioural change messaging or dietary guidelines. It demands a radical rethinking of the environmental, political, and historical structures that produce obesity in the first place. As the literature reviewed here makes clear, obesity is not simply a matter of personal choice but a manifestation of broader social forces — forces that can only be meaningfully challenged through interdisciplinary, inclusive, and systemic strategies.

2.4. CULTURAL SIGNIFICANCE AND IMPLICATIONS OF CONTEMPORARY DIETARY BEHAVIOURS

In this section, I will delve into the intricate nature of dietary behaviours, exploring their significance and implications. While some implications are overt and easily discernible, others may be more covert, ambiguous, nuanced, and implied. The term “di³et” refers to the regular intake of food and beverages by individuals, animals, or communities. As noted by Belasco (2005: 223), a good diet is more about statistics than taste or tradition. It is important to recognise that food consumption significantly impacts the development of obesity and other health outcomes (Allcott et al., 2019). When deciding what to eat, various factors come into play, such as health, convenience, nutrition, personal values, and economic considerations (Williams-Forson & Counihan, 2012: 2). The relationship between socioeconomic status and food consumption is intricate (Baumann et al., 2019). Therefore, it is important to note that food consumption is not solely driven by necessity, as one’s tastes are intricately linked to a broader social system that serves to differentiate individuals (Bourdieu, 1984).

As food is central to every economy (Williams-Forson & Counihan, 2012), factors like nutritional value, food symbolism (Elliot, 2014), cost, taste, and physical and social wellbeing (Paxson, 2013) all play critical roles in determining how people consume food. Anthropologists have long emphasised the cultural construction of symbolic meanings of food and food-related practices, from production to consumption. These meanings are shaped by a range of factors, including the markets in which foods are produced and consumed, the ecological settings in which they are cultivated (Vivanco, 2018) and the social customs and cultural beliefs that surround them (Vaughan, 2020). The daily decisions we make about what we eat are deeply

tied to our beliefs, customs, and interpretations of healthy eating. As Abbots and Lavis (2013:9) remind us, “every mouthful is political, visceral, and relational.” Our food choices are shaped by a multitude of factors, including our personal values, our knowledge of health and nutrition, and the economic and political contexts in which we live (Williams-Forson & Counihan, 2012). Cultural norms and taboos also play significant roles in determining what we eat. Traditional, cultural, and religious beliefs and practices all contribute to the establishment of food-related norms and taboos (Swinburn et al., 2013; Tierney & Ohnuki-Tierney, 2012).

Moreover, through our food choices, we signal our social differentiation and highlight the divisions of social groups and hierarchy (Tierney & Ohnuki-Tierney, 2012). Certain foods may even come to define our collective self and others (Abbots, 2016; Gillette, 2016; Staples, 2016; Ohnuki-Tierney, 1994). Meal patterns also serve as a means of expressing our individual and family values, as well as our traditional beliefs and convictions (Jerome, 1980: 313). As Jerome (1980) notes, our food choices reflect not only our personal preferences, but also our lifestyles. Therefore, whether consciously or unconsciously, our dietary behaviours convey a wealth of non-verbal information about our personal tastes, beliefs, social standing, and overall lifestyles.

In his 1966 essay *The Culinary Triangle*, published in *New Society*, French anthropologist Claude Lévi-Strauss explores the relationship between food, culture, and identity through the lens of structural anthropology. He argues that food, far from being a purely biological necessity, is deeply embedded in the social and cultural structures of human societies. Food, in this framework, is a medium through which societies organise meaning, particularly via symbolic oppositions such as raw/cooked or nature/culture.

Two decades later, in his influential 1988 essay *Food, Self and Identity*, French anthropologist Claude Fischler builds on this structuralist tradition while incorporating both psychological and sociocultural perspectives. Like Lévi-Strauss, Fischler asserts that food is far more than a source of nourishment — it is a central element in the construction of individual and collective identity. He explores how food practices shape self-perception and group belonging, arguing that food functions symbolically, and that choices around food are deeply embedded in cultural and psychological frameworks.

Fischler maintains that the act of eating, the selection of food, and the ways in which food is prepared and consumed are all practices that convey social meaning. These practices, he contends, are central to signalling group membership and affirming cultural or ethnic identity. Food taboos, preferences, and rituals serve as markers of social boundaries, demarcating the line between “us” and “them”. What one considers edible or inedible, desirable or repulsive, reflects and reinforces these boundaries.

A central point in Fischler’s argument is the notion that eating is a form of self-definition. Through the act of consumption, food is incorporated not only physically but also symbolically; individuals quite literally become what they eat. This process, he argues, is psychologically loaded, as individuals construct and reinforce their identities through their food choices. Eating, then, is not merely about sustaining the body — it is a mode of incorporation through which the self is both metaphorically and materially constituted. Food, therefore, becomes a vital site where cultural meanings and social identities are produced and maintained.

In *Food in the Social Order: Studies of Food and Festivities in Three American Communities* (2003), British anthropologist Mary Douglas explores the role of food in structuring social life. Focusing on case studies from American communities, Douglas argues that food operates as a symbol of social order, marking group identity, social status, and

community cohesion. Her structuralist approach highlights how food rituals and festive practices encode cultural meanings, serving as a grammar of social life through which boundaries and hierarchies are expressed and sustained.

Food-and-nutrition anthropologist Ellen Messer (2007; 2022) similarly foregrounds the relationship between food, identity, and broader political-economic structures. Her work emphasises that food practices are not only shaped by culture, but also by systems of power, inequality, and resistance. Messer advocates for a food systems perspective in the study of identity, arguing that personal and collective identities are forged at the intersection of cultural practices and structural conditions. In this view, food is both a deeply personal experience and a site of political negotiation—linked to belonging, exclusion, and contestation.

Taken together, these four scholars underscore that food is never merely sustenance. It serves as a symbolic medium through which cultural meanings are articulated, social structures are reinforced, and identities are constructed. Across these perspectives, food emerges as a key marker of social boundaries, helping to define inclusion and exclusion, sameness and difference. The theoretical insights offered by Lévi-Strauss, Fischler, Douglas, and Messer are highly relevant to the context of contemporary Mongolian society, where food practices are similarly embedded in questions of identity, belonging, and cultural continuity. These frameworks inform the analysis undertaken in this research, offering critical tools for understanding the interplay between dietary practices and social meaning in modern Mongolia.

Lévi-Strauss (1966) argues that food choices and practices are deeply intertwined with the construction of identity. Through the categorisation of what is considered edible or inedible, societies draw symbolic boundaries that define distinctions between “us” and “them.” What is deemed “acceptable” or “civilised” food, according to Lévi-Strauss, reflects broader cultural values and social norms. Food is thus not merely a means of sustenance but a symbolic system

through which communities construct and communicate cultural hierarchies and moral orders. In many societies, food serves as a marker of social class, ethnicity, or nationality; specific foods are linked to religious or ritual practices, while dietary taboos help delineate social and moral boundaries (Ab Karim et al., 2020; Pieroni, 2025).

In her article *Food, Culture, Political and Economic Identity: Revitalising the Food-systems Perspective in the Study of Food-based Identity*, Ellen Messer (2007) underscores the integral role of food in the construction and negotiation of identity. She emphasises that food practices are shaped by intersecting social, cultural, religious, and political dynamics, and that these practices help define the boundaries of both individual and collective identities. Messer argues that food is not simply about consumption, but about belonging, exclusion, and expression. The ways in which people select, prepare, and consume food are deeply tied to broader systems of power, belief, and social organisation. This systems-oriented perspective is particularly valuable for understanding how food mediates relationships not only between people and communities, but also between individuals and the state, the market, or religious institutions (Messer, 2007; Pires, 2019).

Anthropological studies of food also demonstrate how culinary practices are implicated in broader social processes such as migration, secularisation, and pluralism. Davies and Thate (2017) examine how individuals negotiate tensions between personal identity and communal religious affiliation in contexts marked by religious diversity and secular influence. Their work is particularly instructive in understanding how food-related practices, such as religious dietary restrictions, fasting, or communal feasting, become embedded within wider frameworks of belief, identity, and belonging. Religious food practices, in this sense, are not just expressions of faith but also tools for maintaining cultural coherence, negotiating inclusion, and resisting assimilation in pluralistic societies.

This anthropological emphasis on food as a symbolic and identity-laden practice has been echoed across recent literature. For example, Gerber and Folta (2022) argue that food-related behaviours are not only shaped by identity but also actively shape it, through mechanisms of social reinforcement, cultural narrative, and embodied experience. As Pieroni (2025) notes in a recent review, the anthropology of food has increasingly turned to questions of power, gender, migration, and sustainability—broadening the analytical lens beyond traditional symbolic interpretations and situating food more explicitly within political and economic systems.

Taken together, these perspectives suggest that food is a dynamic and culturally loaded medium through which identities are constructed, negotiated, and performed. Whether through religious observance, national cuisine, dietary taboos, or systems of production and consumption, food mediates complex social relations. Theoretical frameworks developed by scholars such as Lévi-Strauss, Messer, and more recent contributors including Pieroni and Gerber, offer critical tools for analysing how food continues to function as a central marker of social and cultural identity in contemporary societies.

Anthropologists have long acknowledged the conceptual challenges of studying identity. Rather than viewing identity as a static or essentialised category, it is increasingly understood as fluid, relational, and shaped by historical, cultural, and political processes. Appadurai (1996), for example, discusses how globalisation reshapes identity, with individuals engaging in global flows of media, capital, and ideas. This complexity is further intensified by digital media and transnational networks, which disrupt conventional markers of cultural belonging.

Hall (1990) similarly emphasises the shifting and contested nature of cultural identity. His work highlights the importance of understanding identity as a process — constantly being

formed and reformed in relation to broader social dynamics. In the Mongolian context, this is evident in how urban and rural participants differently express relationships to tradition, modernity, and place. These expressions, while insightful, should not be interpreted as fixed or universally representative.

An intersectional perspective (Crenshaw, 1989) further complicates identity by recognising how multiple social categories — such as class, gender, age, and ethnicity — intersect to shape lived experience. For instance, a rural nomadic woman’s perspective on food and health may differ not only from her urban counterparts but also from other women in her region due to these intersecting factors. Generalising identity across regions or demographics risks overlooking such nuances.

Moreover, identity is not merely self-defined but often emerges through power relations and political representation. Bhabha (2012) and Said (2019) both critique how dominant discourses can marginalise or distort local understandings of self and other. In this study, care was taken to avoid imposing external frameworks onto participants’ experiences. Nonetheless, representing identity through research involves its own challenges, including potential simplification or misinterpretation.

The relationship between food and identity is a complex and multifaceted one. Various studies have shown that food holds symbolic, social, and nutritional meanings and values that are closely tied to our sense of self. For instance, symbolic, social or nutritional meanings and values with regard to food are closely connected to identity (Polese et al., 2020; Vivanco, 2018; Lum & De Ferrière le Vayer, 2016; Albon, 2015; Cheung & Chee-Beng, 2007; Leynse, 2006; Castellanos & Bergstresser, 2006), unity (Vivanco, 2018), social relationships (Hemmings et al., 2016; Tierney & Ohnuki-Tierney, 2012; Cheung & Chee-Beng, 2007), divisions, and social

boundaries (Vivanco, 2018; Tierney & Ohnuki-Tierney, 2012), which involve class, status and unequal distribution of power (Tierney & Ohnuki-Tierney, 2012).

As Cohen (2013) highlights, eating is a set of activities and experiences beyond the actual consumption of food. Eating per se is a multi-dimensional act that entails an intricate and nuanced representation of relationality (Abbots & Lavis, 2013). And in the globalised world we live in, food and consumption are often seen as acts of self-identification through the collection of options offered by the capitalist market, giving truth to the old saying, “you are what you eat” (Friedman, 1990:314). As food travels around the world, its meanings and values change, and it may represent cultural imperialism, local power, cultural resistance, and transnational identity (Williams-Forsen & Counihan, 2012). For instance, diasporas use certain foods to create a sense of connection to their home countries (Abbots, 2016), while Muslims utilise food to materialise, embody, and affirm their religious identity (Gillette, 2016).

Similarly, upper-middle-class families use food to display their social status (Allen & Sachs, 2012). As per the scholarly works of anthropologists Tierney and Ohnuki-Tierney (2012), the connotations and significances attributed to food items within a particular society are not only complex but also a by-product of cultural construction, which is liable to undergo transformations over time. Additionally, as food circulates as commodities, it shapes the worlds from which it originates and through which it moves (Abbots & Lavis, 2013: 5). Thus, eating encompasses our social interactions, cultural traditions, and personal relationships with food, and is an integral part of our social and cultural lives.

Richards (1939: 8) observes that the meanings attached to food items are rooted in the political, religious, and economic frameworks of a society, necessitating thorough anthropological investigation. Her research amongst the Bemba people of Northern Rhodesia (now Zambia) reveals how colonialism and the rise of a cash-based economy significantly

disrupted traditional food production and consumption patterns. These shifts, often imposed through external economic structures, led to a decline in dietary diversity and nutritional adequacy, illustrating how colonial power shaped local foodways and social identities.

The fluidity of food-based identities is explored in Messer's (2022) discussion of migration, globalisation, and intercultural exchange. As communities relocate or engage with different cultural influences, they often adapt their food practices, blending new ingredients or methods with traditional dishes, while maintaining essential elements of their culinary heritage. Tookes (2015), for example, illustrates how Barbadian immigrants in the United States use traditional meals such as flying fish and cou-cou to maintain cultural identity and express authenticity within diasporic contexts. This echoes broader anthropological theories of migration and identity, such as Glick Schiller, Basch, and Szanton Blanc's (1995) concept of transmigrants — individuals who simultaneously inhabit social fields across borders and sustain transnational connections that shape their food and identity practices.

However, globalisation also presents challenges. Messer (2007) cautions that the expansion of global food markets and fast-food industries threatens to homogenise culinary practices, undermining local food cultures and weakening food-based identities. Yet, as Sutton et al. (2013) argue, food has also emerged as a medium of protest and collective agency. In various contemporary social movements, communal meals and food distribution serve as acts of resistance, reinforcing solidarity and contesting dominant economic paradigms.

In response to the homogenising tendencies of globalisation, communities worldwide are mobilising to reclaim and revitalise their local food practices. These acts of cultural preservation are not simply nostalgic; they represent efforts to assert autonomy, resist market pressures, and reassert local values in the face of global standardisation (Grey & Patel, 2015). This aligns with Arjun Appadurai's (1996) theory of global cultural flows, which argues that

globalisation is not merely a process of homogenisation, but a dynamic field of overlapping and disjunctive “scapes” through which people create new identities and cultural expressions, including through food.

Fischler (1988) further enriches this discussion by conceptualising eating as a dual process of incorporation and distinction. Ingesting food involves integrating elements of the external world into the body, while simultaneously reaffirming the boundary between self and other. This symbolic function of eating underscores its role in both personal identity formation and the delineation of collective cultural boundaries. Additionally, Marc Augé’s (1995) concept of “non-places” invites further reflection on how modern food consumption increasingly takes place in transient, commercialised spaces, such as airports and malls, where social relationships and cultural meaning are diminished, highlighting the tension between placelessness and rootedness in food practices.

Together, these perspectives illustrate that food is a profoundly meaningful and contested domain. It reflects historical legacies, mediates power relations, and serves as a medium through which individuals and communities articulate who they are and how they wish to relate to the world. By situating food within broader anthropological theories of globalisation, migration, and modernity, we gain a deeper understanding of how identity, power, and culture are continually made and remade through everyday acts of eating.

From shared meals with family and friends to elaborate ceremonies and rituals, eating is closely intertwined with our identities, beliefs, and values, and plays a vital role in shaping our experiences and relationships. Therefore, food consumption may be understood as a “community identity maker,” according to Lum & De Ferrière le Vayer (2016:8). Apart from this, food consumption is an action that is performed daily and a means to purchase an identity, as noted by Polese et al. (2020), affirming who we are and our beliefs, origins, and hopes for

the future (Gillette, 2016). Hence, food is more than just an edible object or physical necessity; it is an intersection of experience, identity, and memory unique to individuals, families, and communities in a given locale, interwoven in a highly intricate net.

Furthermore, eating is not just a physiological process but also a social practice that involves establishing and maintaining relationships over time and space. According to Saleh (2013: 105, 117), the act of eating reflects the historicities of bodies and their connections to particular places, and it can also enact histories and share memories. Therefore, what, where, and how to eat is an intricate practice that involves a complex interplay between the body and social elements (Abbots, 2013:136). In this regard, food is not just a means of sustenance, but also a reflection of social relationships and cultural practices. It encompasses a series of activities, from acquiring raw ingredients to preparing and consuming them, that are deeply intertwined with the places and people involved. Consumption links individuals and households to the outside world in numerous ways (Williams-Forson & Counihan, 2012). As noted by Campbell (2017: 3-4), there is a wealth of symbolism associated with food that can be used to gain insights into the social dynamics of a particular context.

It is important to consider that food choices are influenced by various factors beyond price and proximity to healthy food, as suggested by Kolb (2022). Studies (Kolb, 2022: 29; Allcott et al., 2019: 1815; Abeykoon et al., 2017; An & Sturm 2012:131) indicate that proximity to healthy food has minimal effect on dietary choices and health outcomes, despite a strong connection between poverty and obesity in the United States. Following the end of socialism in Mongolia, the newly wealthy were able to afford lavish food and drinks despite increasing poverty in the country (Kaplonski, 2004). Accordingly, understanding the social, political and economic contexts of food consumption is essential for gaining insight into the

complex nature of food choices and consumption patterns. The subsequent chapter will explore literature on traditional and contemporary dietary behaviours in Mongolia.

2.5. TRADITIONAL AND CONTEMPORARY DIETARY BEHAVIOURS IN MONGOLIA

While traditional Mongolian food consisting of meat and dairy from livestock is still consumed amongst rural pastoral nomads, the urban wealthy in consume such food compared to their rural counterparts, even though many of them still enjoy meat. Pastoralism has been in decline since the decline in state socialism (Sneath, 2018). Due to the inadequacy of the food system during the socialist era, Mongolians sought alternative means through their social connections. During the Soviet era, Mongolians relied on personal relationships instead of official channels to access resources (Humphrey 1994; Kaplonski, 2004, Sneath, 2006). This informal method of obtaining food persisted even after the dissolution of the Soviet Union. According to Humphrey (1994:43), in the early years of post-Soviet democracy, Mongolians primarily acquired food through social networks rather than from shops. They obtained supplies through networks of acquaintances and relatives, which often extended into rural areas during food shortages (Kaplonski, 2004:32-33). Therefore, social networks played a vital role in ensuring the availability of necessary sustenance (ibid). Overall, social organisation in Mongolia was predicated upon Mongolians having such networks and using them to gain information (Humphrey, 1994: 43). People utilised their survival skills and local safety nets effectively in order to secure food supplies.

As basic staples and luxuries became available in the markets, the increase in food availability led to the decreasing importance of social networks for food security (Kaplonski, 2004). However, Mongolians still depended on personal connections for job security despite the decreasing importance of social networks overall. In fact, private networks have remained essential for Mongolians (Humphrey, 1994; Kaplonski, 2004; Sneath, 2006). As Sneath (2006: 6) highlights, individual personhood in Mongolia is more closely tied to relationships, obligations and responsibilities within one's social network, rather than individual autonomy and independence. This underscores the crucial role of social networks in Mongolian society, not only for ensuring food security but also for shaping various aspects of social, economic, and political life in the nation.

The ways of life of rural nomadic and settled urban communities have a significant impact on food consumption patterns. This is well illustrated by the dietary preferences of Mongolians, who show a strong inclination towards meat, whether it is bone-in or boneless (Ruhlmann, 2019). Dairy products are also derived from different livestock, including cows, yaks, goats, and camels (Watanabe, 2011). Traditional Mongolian diets are characterised by a substantial consumption of animal-based foods such as meat and fermented dairy products, which are often complemented by flour and food grains like oat and millet. However, fruits, vegetables, and fish are relatively uncommon in these diets (Li et al., 2016; Park et al., 2015; Tserendejid et al., 2013; Ishii & Samejima, 1999). These traditional food production methods and consumption patterns are still prevalent in Mongolia, particularly in rural regions.

Meanwhile, the dietary habits of urban residents in Mongolia have undergone a significant shift in recent years, with an increased consumption of starches such as rice and pasta over meat. This trend was first observed in 2000, as reported by Ruhlmann (2019). A study conducted by Ishii and Samejima (1999) over 20 years ago found that the average energy

intake per person in a nomadic household was approximately 2200 kcal, which was just sufficient for maintaining health. Nonetheless, a recent study by Bater (2019) has reported that the Mongolian population faces widespread micronutrient deficiencies and metabolic diseases, which are also linked to factors such as urbanisation, changes in lifestyles, and the globalisation of the food market. Despite the extensive research conducted on Mongolian food consumption over the past few decades, data on food or nutrient consumption at the individual level amongst Mongolians are still not available (Bromage et al., 2020). The varied lifestyles, ranging from nomadic to settled, in Mongolia, along with the corresponding dietary habits across different regions, pose a considerable challenge for researchers studying dietary transitions and drawing conclusions about dietary behaviours in Mongolia. The subsequent section delves into the topic of urbanisation in Mongolia and its potential influence on dietary behaviours in the country.

2.6. FOOD COMMENSALITY IN MONGOLIA

Food commensality is the act of eating together. The term “commensality” derives from the Latin word “mensa,” which means table. Nonetheless, in this research, it is utilised to signify the act of eating together, sharing meals and moments, beyond merely sitting at the same table. The rationale for this stems from my observations and interviews during visits and stays at households in peri-urban *ger* districts and remote rural areas as detailed in Section 3.3.1, where the table was not always utilised for eating. The term “commensality” has been in use since the early 17th century, as per the Oxford English Dictionary (2024). The earliest recorded instance of this noun dates back to 1611 and can be attributed to the lexicographer Randle Cotgrave (*ibid*). This historical information suggests that the concept of commensality has been present in the English language for several centuries.

The topic of commensality has been a subject of enduring interest amongst anthropologists as a key element in the formation and expression of group identities (Tierney & Ohnuki-Tierney, 2012: 119). Whether it is a familial gathering, a corporate luncheon, or a casual rendezvous with companions, the act of eating together can serve to cultivate stronger relationships and fortify existing bonds. The concept of food commensality is multifaceted and complex, encompassing various social, cultural, and psychological dimensions.

In his work on food consumption, anthropologist Arjun Appadurai (1981) posits that food is not just a physical substance but is entangled socially and materially in many elements of human life and has the ability to evoke emotions. He examined food consumption in South Asia in the late 20th century, which led him to conclude that food serves two opposing semiotic functions. On the one hand, it constructs social relations characterised by equality, intimacy, or solidarity, while on the other hand, it creates relations characterised by rank, distance or segmentation (Appadurai, 1981). However, Appadurai also notes that food has the possibility of homogenising the actors who consume it. These findings are not exclusive to South Asia, as my own study of food sharing amongst Mongolian participants revealed similar social dynamics characterised by intimacy and segmentation, providing further insight, which I will elaborate on in Chapters 5 and 6.

Food has traditionally been consumed by social groups, with solitary dining being a modern phenomenon (Tierney & Ohnuki-Tierney, 2012: 121). According to social and medical anthropologist Hanna Garth (2013: 4), our sense of self and identity are not static entities but rather are socially and culturally constructed through our interpersonal performances, relationships, and behaviours. Therefore, our identity is not predetermined, but is a fluid and continuous journey that is shaped by our environment and those around us (ibid). As Schacht (2013) suggests, food is a visible manifestation of what is at the core of a people.

Ultimately, sharing a meal with others is a fundamental aspect of human interaction, and it goes beyond just satiating hunger. Whether it is a family gathering or a community celebration, the experience of food commensality is an opportunity to connect with others, form new relationships, and create cherished memories. It allows people to express their cultural and social identities and fosters a sense of togetherness that is fundamental to human existence. In this sense, food commensality is a powerful tool that allows people to come together and bond over a common experience, creating a sense of unity and belonging that is difficult to replicate in other social settings. Chapter 6 delves into food commensality, with a particular emphasis on the variations that exist across generations in rural, peri-urban and urban Mongolia.

2.7. URBANISATION IN MONGOLIA: FROM NOMADIC LIFESTYLE TO CITY LIVING

Mongolia has experienced a high volume of internal migration, mostly rural-to-urban, in the past 30 years, according to a report by the International Organisation for Migration (IOM) in 2023. In 1992, Mongolia adopted its first national constitution after a democratic revolution and the shift towards a market economy, and this constitution granted people the freedom to move and own property, and allowed for privatisation (ibid). In 1950, only a fifth of Mongolians resided in urban areas (Asian Development Bank, 2022). Subsequently, with the transition from a centrally planned to a market-based economy in 1991, Mongolia has experienced rapid rural-urban migration (ibid).

Despite policies aimed at limiting internal migration, urbanisation gained momentum throughout the 1990s as Mongolia transitioned from a centralised communist economy to a

market-oriented system that embraced liberalism, as noted by Byambadorj et al. in 2019. The implementation of agricultural privatisation and livestock ownership for animal husbandry led to a moderate increase in urban-to-rural migration until 1999 (IOM, 2023). As per studies conducted by Sneath in 2003 and 2018, there has been a substantial increase in the urban population of Mongolia.

In 2018, 68.4% of the total population of Mongolia was found to be residing in urban areas, as depicted by Figure 2.4 and Figure 2.5 (FAOSTAT, 2021). As of July 2021, the total population of Mongolia stands at approximately 3,198,918, out of which 68.8% of people are urban dwellers, as per the latest estimates by the CIA. The capital city of Mongolia, Ulaanbaatar, is home to approximately 1.615 million people and is the most densely populated city in the country. The urban population in Mongolia represents roughly 70% of the total population, which is notably higher than the average urbanisation ratio in Asia, which is around 50% (Asian Development Bank, 2022).

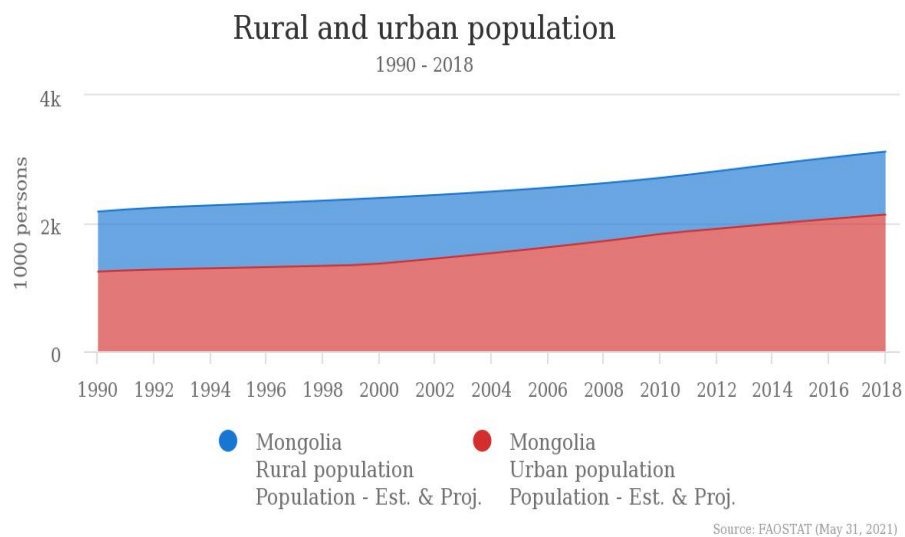


Figure 2.4. Rural and urban population of Mongolia, 1990-2018.

Food and Agriculture Organisation Corporate Statistical Database, 2021.

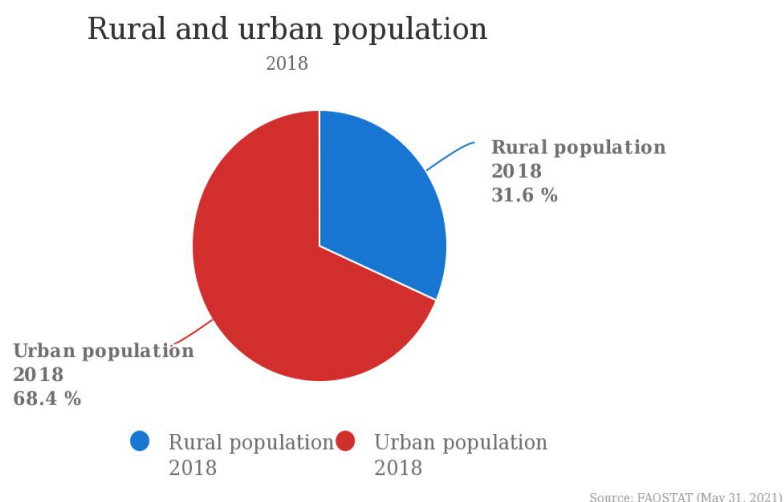


Figure 2.5. Rural and urban population of Mongolia in 2018.

Food and Agriculture Organisation Corporate Statistical Database, 2021.

There are several reasons and incentives for people to leave rural areas and move into Ulaanbaatar. Since the end of state socialism in the 1990s, rural areas have experienced a significant economic decline, and as a result, inequality has risen as the economy has grown, according to Anderson and Hooper (2017: 190). Gombodorj and Badamdorj (2010:90) emphasise that the loss of livestock during natural disasters and the lack of governmental policies for urban management have all contributed to the increased urban population. The country’s agricultural production is hampered by its climate, which is characterised by a short growing season, low precipitation, and high evaporation (Hofmann et al.,2016.)

According to the 2022 report from the World Health Organisation, approximately 25% of Mongolians face moderate to severe food insecurity. Additionally, a significant amount of the food available on the market, such as fresh fruits and vegetables, is imported (WHO, 2022). Moderate food insecurity involves compromising on food quality and variety, reducing food quantity, and occasionally skipping meals (Food and Agriculture Organisation of the United Nations, 2024). Individuals experiencing moderate food insecurity are typically uncertain

about their ability to obtain food, lack sufficient money or resources for a healthy diet, and may have to skip meals or run out of food on occasion (ibid). Severe food insecurity refers to having no food for a day or more. Those experiencing severe food insecurity have run out of food and have gone an entire day without eating at times during the year (ibid).

Additionally, the current lack of standardisation in the food inspection system and food industry may heighten food safety risks throughout the production chain (WHO, 2022). In 2017, Mongolia imported goods totalling \$4.2 billion, with China and Russia contributing 33% and 25% of the total imports, respectively (USDA, 2018). As per a 2018 report from the United States Department of Agriculture, Mongolia's poultry and related products are predominantly sourced from Russia and other European countries. Mongolia's agricultural production includes milk, wheat, goat milk, potatoes, mutton, sheep milk, beef, goat meat, horse meat and carrots/turnips (CIA, 2019), with raw milk from cattle being the most produced item (FAOSTAT, 2024).

Batima et al (2008) noted that the well-being of nomadic populations in Mongolia is intricately linked to pastoral livestock herding, which is highly susceptible to the effects of climate change, such as drought and severe winters. The years 1999 – 2002 and 2010 witnessed particularly harsh winter blizzards, which, when coupled with pastureland deterioration, created extremely difficult conditions for rural herders (IOM, 2023). During the consecutive blizzards from 1999 to 2002, nearly one-third of the total livestock perished, while the 2010 blizzard caused the loss of 22 percent of all livestock, according to IOM (2023). As a result of these circumstances, rural communities have been displaced, with many herders migrating to urban centres in search of better livelihood opportunities (ibid).

By contrast, Ulaanbaatar distinguishes itself from rural areas in several significant ways. Firstly, Ulaanbaatar is widely recognised as a symbol of technology, modernity, and wealth, as

noted by Sneath (2006). The city has become a hub of education, with numerous university campuses providing a range of educational opportunities for students, as highlighted in studies by Vickers and Kumar (2014) and Gombodorj and Badamdorj (2010). During the state socialist period, a modernist-centralist scheme emerged which placed great value on educational attainment (Sneath, 2003: 45). This shift created new prospects for urban residents to progress in their professions and enhance their socioeconomic standing. Moreover, Ulaanbaatar is home to several mining companies and foreign investment firms, which has led to the creation of numerous job opportunities, as reported by Edwards (2016). As per the 2023 report from IMO, it has been noted that the insufficiency of public infrastructure in rural areas continues to persist, and a combination of economic, ecological, demographic, and other factors has prompted rural people to flock to Ulaanbaatar presumably in pursuit of better job and educational prospects, ultimately seeking financial stability. The following section delves into the literature concerning globalisation and its potential impact on food environments in Ulaanbaatar.

2.8 THE TRANSFORMATION OF MONGOLIA'S TRADE

ROUTES: FROM EMPIRE TO GLOBALISATION

Prior to the 20th century, Mongolia served as a crucial transit corridor, exemplified by the significant Kyakhta trade route (early 18th to early 20th century). This route facilitated substantial economic interaction between the Russian Empire and Qing China, traversing Mongolian territory and enabling the exchange of Siberian furs and Chinese commodities such as cotton, silk, and tea (Gerasimov, 2005). The Kyakhta route underscored Mongolia's geographical importance as a vital link between these major empires, fostering not only

economic exchange but also the movement of cultural ideas and technologies across the Eurasian steppes.

The 20th century witnessed a radical reshaping of Mongolia's trade routes due to its profound alliance with the Soviet Union. From 1924 until the early 1990s, Mongolia's external trade became overwhelmingly dependent on the USSR, reaching approximately 90% by 1989 (Khachatryan, 1997). Soviet influence extended beyond trade, encompassing substantial financial and infrastructural support. A key infrastructural development was the Trans-Mongolian Railway (completed in 1956), connecting Ulan-Ude in Russia with Ulaanbaatar and extending into China. This railway became a critical artery for the transportation of goods between the USSR and China, transiting through Mongolia and solidifying its role within the Soviet economic sphere.

Mongolia's economy during this period was deeply integrated into the Soviet bloc through its membership in the Council for Mutual Economic Assistance (CMEA), facilitating trade within the Eastern Bloc. However, this integration also rendered Mongolia highly reliant on Soviet economic policies and trade relations, a dynamic that presented both advantages and limitations. The collapse of the Soviet Union in 1991 marked a critical juncture, compelling Mongolia to reassess its established trade relationships and actively seek new economic partners to ensure its future economic stability.

In the post-Cold War era, Mongolia strategically embarked on a path of trade diversification. By the early 21st century, the People's Republic of China had ascended to become Mongolia's largest trading partner, a dominant position it maintains today. A significant surge in bilateral trade occurred in 2007 (China Briefing, 2016), reaching US\$1.13 billion, representing a remarkable 90% increase from the preceding year. This rapid growth was primarily fuelled by China's escalating demand for Mongolia's abundant natural resources,

particularly coal and copper, coupled with the development of crucial infrastructure such as enhanced road and railway networks directly connecting the two nations.

Mongolia's active participation in China's ambitious Belt and Road Initiative (BRI) has further solidified their intricate trade relationship. The BRI encompasses numerous projects aimed at upgrading transportation infrastructure, including the construction of new railway lines and highways, which not only facilitate trade with China but also enhance connectivity with Russia. Mongolia's own "Steppe Road" initiative (United Nations, 2016) exemplifies its proactive efforts to bolster regional connectivity, focusing on increased trade and cooperation between China, Mongolia, and Russia through improved infrastructure and streamlined logistics networks.

While China has become the undisputed primary trade partner, Mongolia has also endeavoured to cultivate trade relations with other nations, including the United States. Despite a partnership focused on political, military, and economic cooperation, the volume of trade with the US remains comparatively small relative to the substantial trade flows with its immediate neighbours, underscoring the enduring influence of geographical proximity and established infrastructure.

Mongolia's contemporary trade routes are characterised by a confluence of historical pathways and modern infrastructure developments. The Trans-Mongolian Railway continues to serve as a vital artery for trade between Russia and China, while emerging initiatives like the "Steppe Road" (United Nations, 2016) highlight Mongolia's active engagement in regional economic integration. Mongolia's membership in international trade organisations, notably the World Trade Organisation (WTO), has further enhanced its access to global markets beyond its immediate geographical confines.

Furthermore, ongoing infrastructure development, including the construction of additional railway lines and extensive road networks, has significantly improved Mongolia's capacity to efficiently export its rich natural resources to international markets. Although its landlocked status has historically presented logistical challenges for trade, Mongolia's strategic location between Russia and China has paradoxically allowed it to capitalise on its role as a crucial transit country. This has enabled Mongolia to establish itself as a key player in regional trade networks, particularly through the development of sophisticated multi-modal transport corridors designed to optimise the movement of goods across the Eurasian landmass.

Mongolia's trade routes have undergone a profound transformation over the centuries, intricately shaped by evolving political alliances, dynamic economic partnerships, and significant infrastructural advancements. From its historical function as a critical conduit for trade between China and Russia to its contemporary position as a vital partner within the Belt and Road Initiative (China Briefing, 2016; United Nations, 2016), Mongolia's trade routes have consistently been central to its economic development trajectory. The ongoing expansion of infrastructure and the cultivation of strategic partnerships with neighbouring countries ensure that Mongolia will continue to play a significant and evolving role in both regional and global trade networks for the foreseeable future.

Mongolia maintains a significant level of internal meat production, primarily driven by its extensive livestock sector, which constitutes a major part of the national economy (Purevsuren & Kim, 2017; UNCTAD, 2021). This domestic production has historically satisfied local demand, positioning Mongolia as potentially self-sufficient with export capabilities (Purevsuren & Kim, 2017). The meat processing industry has seen development since the 1990s, influenced by increasing domestic consumption linked to economic growth and urbanization (Munkhdelger, 2020). While traditional herding practices remain important,

a shift towards a more structured meat processing sector with export ambitions is evident (UNCTAD, 2021). However, the sector faces challenges related to infrastructure, quality standards for export, and the impact of climate-related events on livestock (Munkhdelger, 2020; Batima, 2003).

2.8.1. CHINA’S ROLE IN MONGOLIAN FOODWAYS

China has historically played a complex and often ambivalent role in shaping Mongolian foodways, both as a source of cultural influence and as an economic actor. During the Qing period (1691–1911), Mongolia was formally incorporated into the Chinese imperial system, which facilitated the introduction of Chinese goods—most notably tea, rice, wheat flour, and sugar—into Mongolian diets, particularly amongst urban populations and social elites (Atwood, 2004; Bulag, 2002). These imports laid the foundations for lasting culinary practices, even as they reflected broader processes of political subjugation and cultural exchange.

Following the establishment of the Mongolian People’s Republic in 1924, Mongolia aligned itself more closely with the Soviet Union. While official ties with China weakened during the mid-20th century due to ideological and geopolitical tensions, cross-border trade and informal exchanges persisted, particularly in regions proximate to the Sino-Mongolian border (Sneath, 2006). Chinese food products and culinary techniques remained present—if not always unambiguously embraced—in the broader landscape of Mongolian consumption (Fernandez-Gimenez, 1999).

In the post-socialist period, the role of China has become increasingly pronounced. As Mongolia's largest trading partner, China today provides a significant proportion of the country's imported foodstuffs, particularly fresh produce and processed goods that are otherwise difficult to obtain in Mongolia's harsh climate, especially during winter (Rossabi, 2013). In urban areas, Chinese fruits, vegetables, and convenience foods have become widespread, contributing to changing consumption patterns and food availability. This growing dependence has raised concerns among some Mongolians regarding food safety, quality, and the potential erosion of national food sovereignty (Murphy, 2017).

Culturally, the relationship remains fraught with ambivalence. While Chinese foods are readily consumed and sometimes admired for their taste or novelty, they are also frequently characterised in public discourse as foreign, overly commercialised, or potentially threatening to Mongolian culinary traditions and national identity (Bulag, 2002; High, 2013). In this context, food operates not only as sustenance but also as a symbolic boundary marker—distinguishing “the local” from “the foreign,” the traditional from the modern. Nevertheless, for younger and urban Mongolians, Chinese foodways—mediated through online platforms, restaurants, and transnational mobility—can also signify modernity, cosmopolitan aspiration, and lifestyle transformation (Delaplace, 2014).

2.9. GLOBALISATION AND CHANGES IN FOOD

ENVIRONMENTS IN ULAANBAATAR

The urbanisation in Mongolia discussed in the previous section, along with the globalisation of the food market, may have brought about changes in food environments in

Ulaanbaatar. Globalisation has had a significant impact on the diffusion of a range of healthy and unhealthy foods and dietary behaviours. As reported by Kjellstrom et al. (2007), the increased interconnectedness of the world has led to the spread of different food cultures, with people adopting different dietary habits based on their access to food. This has also resulted in nutrition transition, as people's dietary patterns shift towards increased consumption of foods high in fats and sweeteners. Unfortunately, this change in dietary patterns has led to both undernutrition and the rise of obesity, as noted by Hawkes (2006).

According to Garth (2014), with the emergence of global patterns of commodity circulation, local food consumption and practices often require adjustment. Garth (2014) further argues that the impact of globalisation and development has led to changes in local cuisine, potentially altering or eliminating certain dishes. Access to various food sources, such as supermarkets, convenient stores, and fast-food restaurants, and the types of food they offer play a vital role in the types of foods people purchase, as pointed out by D'Angelo et al. (2011). Additionally, Morland et al. (2002) argue that the local food environment can impact residents' dietary habits and whether they meet dietary guidelines. Altogether, the combined influences of urbanisation and globalisation seem to have led to profound changes in the food environments of Ulaanbaatar, influencing dietary habits and potentially impacting the health of its residents.

Moreover, food distribution has not only been affected in terms of the types of food available in markets but also with the emergence of new forms of distribution such as fast-food restaurants (Garth, 2013: 10). The fast-food industry has witnessed a remarkable expansion in recent years, with McDonald's emerging as a symbol of the rapid, conspicuous, and momentous presence of such food products in the contemporary world (Tierney & Ohnuki-Tierney, 2012). These fast-food chains have expanded globally, including in Mongolia, where

the local cuisine is still relatively unknown outside the country. This illustrates the dominant influence of globalisation, whereby Western food cultures have a substantial impact on other regions, while the influence of other cultures appears to be less pronounced, given the limited presence of Mongolian restaurants in Western Europe and North America.

This type of phenomenon has been described by Robinson (2006) as a result of how accounts of urban modernity have developed from the experiences of a few iconic Western cities. According to LiPuma (2001), the histories of colonisation and capitalist expansion have led to the emergence of “Western” products such as consumer goods and cultural practices that have become deeply ingrained in local concepts of modernity. James Cantalupo, the former President of McDonald’s International, emphasised that McDonald’s aims to integrate into the local culture as much as possible. He objected to the term “multinational” and instead preferred the term “multilocal.” This means that McDonald’s puts in great effort to seek out local suppliers and partners whenever they open new branches (Watson, 2006: 12). This approach seems to have allowed McDonald’s to seamlessly incorporate local flavours into their menu, creating a blend of both familiar and international cuisine, seen in Mongolia and numerous other countries worldwide.

In my study, it was observed that many young adults in Ulaanbaatar reported consuming globalised food items, such as pizza, chicken, and hamburgers, which were not traditionally part of their parents’ diet. This shift in dietary patterns amongst the younger generation is indicative of the influence of globalisation and the growing interconnectedness of cultures and economies worldwide. As noted by Popkin (2006), urbanisation has had a more pronounced impact on low- and middle-income countries in comparison to higher-income countries. In Mongolia, the swift urbanisation and globalisation of the food market have led to

significant micronutrient deficiencies and metabolic disorders, as indicated by Bater et al (2019).

Additionally, according to Reardon et al (2003), women, in particular, have been motivated to opt for shopping convenience and processed food products in order to save time on cooking. The urbanisation trend has been instrumental in reshaping the lifestyle, food choices, and dietary habits of individuals. These changes may have contributed to the global increase in obesity rates concurrent with urbanisation.

Ulaanbaatar today could be characterised by residential segregation that distinguishes the wealthy inhabitants from the rest of the city, including *ger* districts today. The *ger* districts located on the outskirts of Ulaanbaatar are characterised by the prevalence of traditional felt tents as the typical form of housing for the residents (Anderson & Hooper, 2017).

It is challenging to provide exact figures, but it appears likely that approximately 60% of Ulaanbaatar's population resides in *ger* neighbourhoods (Diener & Hagen, 2013:623). Fundamental premises of cities, regardless of their origin, birthplace, form, or makers, include that they are places made up of buildings and people (Kostof, 1991). While Ulaanbaatar has buildings, all of them are located outside the *ger* districts, indicating that these districts are unique within the capital city. As mentioned earlier in this chapter, *ger* districts located on the outskirts of Ulaanbaatar are notable for their use of traditional felt tents as the primary type of housing for inhabitants (Anderson & Hooper, 2017). The people living in these areas face significant challenges due to limited access to social capital and opportunities to improve their situations, primarily because politicians tend to prioritise the demands and needs of wealthier city dwellers over the marginalised residents of the *ger* districts (Johnson, 2008). Moreover, people who earn below the average wage in Ulaanbaatar are less likely to know people in the service professions, such as lawyers, librarians, and teachers, indicating less access to legal and

educational resources amongst low-income people (Lin & Erickson, 2008). As a result, the lack of basic services in peripheral areas such as indoor plumbing, water, and heating, along with limited access to health, educational, and financial services, makes the lives of internal migrants in these areas extremely challenging (Johnson, 2008). These issues are further compounded by the climatic conditions of the region, which can be especially harsh during the winter months when temperatures can drop to as low as - 40 degrees Celsius. The lack of basic amenities and social opportunities presents a significant obstacle to residents' ability to improve their lives and the lives of their families.

In areas where there is a lack of access to nutritious food choices, especially in communities with high poverty rates, the social and food environments can play significant roles in the rise of obesity, according to research by Gailey and Brunkner in 2019. Furthermore, Inagami et al. in 2006 found that both the selection of a grocery store and the distance travelled to reach it are independently linked to body mass index (BMI). Additionally, residents of underprivileged areas who patronise grocery stores located in disadvantaged neighbourhoods are more likely to have higher BMIs (ibid). These findings raise concerns about the dietary intake and health status of peri-urban *ger* residents, particularly when they are compared to their more affluent urban counterparts.

The concept of a “divided city” has been used to represent the covert barriers that are created by racial and class divisions. These divisions are often described using a plethora of metaphors, including but not limited to uptown and downtown, upscale and ghetto, and in the United States, black and white (Low, 1996). Low's (1996) research suggests that the process of creating a “divided city” has been studied primarily in the US. The implications of this concept are far-reaching, as it highlights the ways in which social and economic disparities can manifest in the built environment and impact the lives of those who reside within it.

Exploring the topic of division within Ulaanbaatar proves to be a fascinating endeavour, particularly when one considers that Mongolia is a nation with a relatively uniform racial composition. Despite the fact that the vast majority of the population shares the same ethnicity, there are several factors that contribute to divisions within the capital city. For instance, differences in socio-economic status, disparities between urban and suburban areas, and the limited opportunities for upward social and economic mobility all play roles in shaping the divisions within Ulaanbaatar.

The economic disparities have become increasingly pronounced in the post-socialist era and are crucial to consider when examining to what extent people have access to certain types of foods that have become available in the global food market. The following section of this chapter moves on to discuss implications of modernity in Mongolia.

2.10. IMPLICATIONS OF MODERNITY IN POST-SOCIALIST MONGOLIA

The idea, concept and images of modernity in Mongolia are multi-dimensional. According to Robinson (2006: 21), the idea of an “urban modern” has been intertwined with a counterpoint, the idea of the primitive. Robinson’s (2006) critical analysis of modernity highlights the problematic associations between the emergence of certain social formations and the notion of progress. Over the last century, anthropologists have largely disavowed the use of evolutionary paradigms to explain cultural transformations, which often imply a directional shift towards a specific, typically Western, standard (Tierney & Ohnuki-Tierney, 2012: 118). According to Tierney and Ohnuki-Tierney (2012), it is fallacious to assume a linear progression in the history of humankind, from hunter-gatherer to agriculturalist to factory worker, in terms

of food security and abundance. Such a progression implies an inherent superiority of one lifestyle over the others.

Similarly, Merrifield et al. (2013) note that modernity can be viewed as a top-down portrayal that perpetuates hegemonic principles. Robinson (2006: 4) highlights that the contemporary interpretations of the term “modern” have predominantly been shaped by scholars from the early twentieth century in the Western world. Robinson (2006: 4) contends that within the realm of urban studies, the concept of the “modern” has traditionally been associated with Western cities or the perceived diffusion of “Western” modernity across the world. This observation is not unexpected, given that, as King (2004) emphasises, the political, social, spatial and cultural ideas defining the “modern city” were introduced to various colonial territories, such as French North Africa, Indo-China, British India, Dutch East Indies, and other regions, as a means of asserting colonial dominance. This process involved the imposition of Western values and practices on these territories, resulting in the creation of urban spaces that were often modelled after European cities. In this sense, the concept of the “modern city” may be intertwined with the history of colonialism to some extent.

According to Robinson (2006:21), the concept of the “primitive” has frequently been employed as a convenient category in discussions about the development and character of urban life in the West. This classification has contributed to the erroneous perception that only these cities are truly modern (ibid). The Soviet government may have used modernity as a symbol to construct a superior and idealised representation of urban life in Ulaanbaatar, comparable to that of Moscow, which would distinguish it from traditional nomadic lifestyles. According to Park’s definition in 1952, a city is considered the natural home of civilised individuals. Some argue that the concept of city life may not have been sustainable or even possible (Robinson, 2006). Despite this, Mongolia, like many other countries, experiences a

clear political and economic power dynamic where modernity and urbanism are associated with the superiority of Ulaanbaatar even though the city remains dependent on rural areas both within and outside of Mongolia for food production.

Bridge and Watson (2003) emphasise that modern consumption is a multifaceted concept that necessitates scrutiny from chronological, geographical, and social standpoints. This implies that the manner in which individuals consume goods and services has evolved over time and varies across regions and social strata. Understanding the historical and social context of modern consumption is therefore essential for comprehending its complete meaning and significance. Robinson's (2006) study underscores the importance of modernity and progress in discussions about urban living and the future of cities. Progress is a crucial goal aimed at enhancing the lives of urban dwellers, particularly those who are disadvantaged, through targeted policy efforts (Robinson, 2006). In contrast, urban modernity encompasses the cultural experience of living in a modern city and embracing new ideas and advancements (ibid). This suggests that urban modernity encompasses not only physical transformations but also social and cultural changes stemming from these transformations, illustrating the unequal power dynamics between the modern and the less modern.

Furthermore, it is crucial to recognise that the term "modernity" can hold various connotations across different languages and communities, shaped by its origins, evolution, and usage within local contexts. Even within a single group of people, the meanings and interpretations of "modernity" can differ based on individual beliefs, experiences, and social circles. This highlights the subjective nature of the concept and underscores the importance of considering multiple perspectives when attempting to understand and define it.

In fact, the interpretation of the term "modernity" varies and remains a contentious issue in academic discussions. Some scholars, such as Ekholm-Friedman and Friedman (1995),

argue that modernity is a complex and ambiguous term that fails to capture the intricacies of the contemporary world. Giddens (1998) describes modernity as a “shorthand term for modern society or industrial civilisation.” According to Robinson’s (2006) work, modernity cannot be viewed as a cohesive or consistent entity, but rather a multifaceted and conflicting landscape where different stakeholders and interests intersect and vie for power. The concept of modernity is frequently scrutinised for its uncertainties and connotations, rendering it a contested topic in scholarly discussions.

In this research, my focus will be on specific practices, norms, and beliefs related to food that are indicative of modernity, rather than getting into the discourse around modernity or altogether excluding it. In doing so, this study aims to present a more refined and context-sensitive examination of the subject matter. In the following chapter, I will delve into the methods employed for this study in relation to obesity, diet and dietary behaviours.

2.11. MIXED-METHODS APPROACHES IN MEDICAL ANTHROPOLOGY RESEARCH

Medical anthropology plays a critical role in public health and medicine by examining the socio-cultural dimensions of health, illness, and healthcare systems. Traditionally reliant on qualitative methods such as ethnography and participant observation, contemporary medical anthropological research increasingly incorporates mixed-methods approaches and statistical analysis to enhance the depth, validity, and applicability of findings (Creswell & Plano Clark, 2018; Bernard, 2017). This methodological integration provides a more comprehensive understanding of health behaviours, disparities, and interventions, bridging the gap between social inquiry and empirical evidence (Johnson et al., 2020).

A mixed-methods approach is particularly valuable in medical anthropology, as it allows researchers to triangulate qualitative insights with quantitative data, thereby ensuring findings are robust and well-supported (Tashakkori & Teddlie, 2010). For instance, ethnographic studies investigating barriers to healthcare can be complemented by statistical analyses of patient demographics, treatment adherence, and disease prevalence (Brown et al., 2015). This dual perspective not only uncovers personal narratives but also provides measurable trends to inform healthcare policy and intervention strategies. Additionally, mixed-methods research enables longitudinal studies, where qualitative interviews capture evolving patient experiences while statistical models assess changes in health indicators over time (Pawson et al., 2005). Such an approach is particularly useful for evaluating community-based health programmes and identifying factors influencing healthcare accessibility among marginalised populations.

Incorporating statistical techniques into medical anthropology research allows scholars to quantify the impact of socio-cultural determinants on health outcomes. Methods such as regression analysis, factor analysis, and structural equation modelling are commonly employed to identify relationships between cultural practices, social inequalities, and disease prevalence (Bernard, 2017; Pawson et al., 2005). For example, studies exploring the relationship between socioeconomic status and chronic disease prevalence benefit from statistical modelling to highlight disparities and inform targeted interventions (Singer & Baer, 2018). Additionally, biocultural approaches use statistical analysis to examine how genetic predispositions interact with environmental and cultural factors, contributing to a more nuanced understanding of health risks and resilience (Kleinman, 1980).

The application of rigorous reporting standards in mixed-methods studies further enhances their credibility, advocating for transparent integration of qualitative and quantitative

findings (Brown et al., 2015). By combining statistical insights with ethnographic depth, medical anthropology contributes to evidence-based public health strategies and culturally competent healthcare practices.

The integration of mixed-methods and statistical analysis in medical anthropology is increasingly recognised as essential for addressing complex public health challenges. This approach enables researchers to provide contextually rich yet empirically grounded insights, ensuring that healthcare interventions are both culturally sensitive and scientifically validated (Johnson et al., 2020). As medical anthropology continues to evolve, methodological pluralism will remain crucial for advancing interdisciplinary collaborations and informing equitable healthcare policies.

Mixed-methods research enhances medical anthropology by combining qualitative depth with quantitative precision (Creswell & Plano Clark, 2018). This methodological pluralism allows researchers to triangulate findings, ensuring that qualitative narratives are supported by statistical evidence (Johnson et al., 2020). For instance, ethnographic studies on healthcare accessibility can be complemented by survey-based statistical analyses measuring patient demographics, treatment adherence, and health outcomes (Brown et al., 2015). Similarly, longitudinal studies can integrate qualitative interviews with quantitative health indicators to assess the effectiveness of community-based health programmes (Pawson et al., 2005). Moreover, statistical techniques such as regression analysis and factor analysis help quantify the impact of socio-cultural determinants on health disparities (Bernard, 2017). By integrating these methods, medical anthropologists can produce evidence-based recommendations that are both culturally informed and empirically validated.

2.12. ASYMMETRICAL ENGAGEMENTS BETWEEN MEDICAL ANTHROPOLOGY AND PUBLIC HEALTH

Anthropology frequently adopts a relativistic perspective, where researchers are embedded within communities to gain an insider's understanding of culture. This stands in stark contrast to the positivist approach predominant in medical and public health research, which prioritises objective facts and universal truths (Trostle, 2005). Anthropological research is often grounded in personal narratives and community experiences, while public health relies on standardised, numerical data to inform policy (Geertz, 1973). Although critiques of Western-derived measures in contexts such as Mongolia may not always be widely accepted, acknowledging these critiques remains a central tenet of anthropological scholarship.

A significant tension arises in the application of Western-derived metrics, such as calorie intake, BMI, and meal frequency, in non-Western populations. Anthropologists contend that these measures frequently overlook local cultural practices and norms, which can lead to an oversimplified or inaccurate understanding of health (Berkes, 2012). While anthropological perspectives offer valuable insights into food practices and social norms, they may not always align with the practical demands of public health policies, which require generalisable, quantitative findings that can be applied across diverse populations (Trostle, 2005). This epistemological divide is further complicated by the growing demand for policies that can be scaled across different cultural settings, to which anthropology's qualitative, context-driven approaches may appear less suited (Geertz, 1973; Hammersley, 2013).

Public health policy often prioritises objective metrics such as BMI and calorie intake, viewing them as universally applicable across a wide range of populations. However, anthropologists emphasise the importance of understanding the cultural meanings associated

with health-related terms such as "obesity" or "malnutrition," which can vary significantly depending on the local context. Critically examining these terms within their cultural settings is a crucial aspect of anthropological research, yet this remains underexplored in many public health studies (Sonomtseren et al., 2016; Delgermaa et al., 2023). While some public health scholars may dismiss the focus on local meanings as subjective, it is precisely this subjectivity that enables anthropology to offer insights that extend beyond numerical data. For example, qualitative research can uncover how cultural norms surrounding food and health shape both individual and collective behaviour in ways that quantitative measures cannot (Scrinis, 2013).

Nevertheless, integrating anthropological insights into public health is not without its challenges. While the critiques of objective health metrics are valid, public health often requires easily measurable, generalisable data to guide large-scale interventions. As such, anthropologists advocating for subjective or narrative-based approaches may appear detached from the practicalities of global health policy, which prioritises measurable outcomes (Berkes, 2012; Hammersley, 2013).

As a researcher who employs objective measurements, I am acutely aware of their limitations, particularly when viewed from an anthropological perspective. While metrics such as calorie intake and BMI are widely accepted for their objectivity and ease of measurement (Sacks et al., 2009), they may fail to account for the complex, culturally specific understandings of health and nutrition that prevail in diverse populations (Scrinis, 2013). My affiliation with the Department of Anthropology has prompted me to critically evaluate the use of these Western-derived metrics in non-Western contexts, such as Mongolia, where traditional knowledge systems and cultural practices may not align with the assumptions underpinning these measures (Löfgren, 2004). Recognising these limitations is essential, as anthropologists have long argued that health interventions must be sensitive to local cultural norms to avoid

reinforcing ethnocentric biases or imposing inappropriate standards (Berkes, 2012; Hammersley, 2013).

Daily tasks observed during fieldwork, such as fetching water, often involve significant physical exertion and measurable energy expenditure. While these actions may be analytically framed as “calorie-burning activities” within biomedical and public health paradigms, doing so uncritically risks imposing a Western epistemological framework on practices that may hold different cultural meanings. Although these activities contribute to caloric output, reducing them to biological function overlooks their embeddedness in kinship structures, environmental contexts, and symbolic significance (Yates-Doerr, 2012; Lock & Nguyen, 2010).

Yates-Doerr (2012) illustrates in her work on nutritional education in Guatemala that translating terms like “calories” into non-Western contexts can have profound epistemic consequences, altering how bodies and health are conceptualised. This issue is longstanding. In *Land, Labour and Diet in Northern Rhodesia* (1939), Audrey Richards advocated for an ethnographic method grounded in embodied experience and reflexive observation—approaches that remain essential for avoiding epistemic imposition.

More recent anthropological approaches have extended this legacy by emphasising self-reflexivity as a critical methodological tool. Scholars such as Davies (2008) and England (1994) argue that a researcher’s positionality, training, and embodied experiences inevitably shape interpretation. Activities such as fetching water may be understood as labour, social practice, or ritual, depending on the epistemological lens through which they are viewed.

Cultural understandings of labour and bodily movement differ significantly across contexts. Sahlins (1972) showed that some hunter-gatherer societies perceived labour as integrated into daily life rather than as burdensome. Bourdieu (1977) similarly argued that

bodily practices are not simply functional but carry deep symbolic meaning. Thus, describing such practices in biomedical terms alone risks flattening cultural nuance and reinforcing mechanistic understandings of the body.

Nonetheless, biomedical metrics such as energy expenditure retain analytic value, particularly in public health. Tools like Metabolic Equivalent Tasks (METs) inform global recommendations (WHO, 2020), while initiatives like PACE (Physical Activity Calorie Equivalent) labelling have influenced consumer behaviour (Dalton et al., 2017). Urban design policies encouraging walking or cycling also rely on such metrics (Sallis et al., 2015).

Anthropologists have used these metrics to highlight inequalities. Panter-Brick (2002), for example, employed energy expenditure data to examine gendered labour burdens in subsistence economies. When applied with contextual sensitivity and methodological reflexivity, biomedical tools can enrich anthropological analysis.

Incorporating anthropological perspectives, which emphasise the importance of cultural meanings, subjective experiences, and local knowledge (Geertz, 1973), offers a more nuanced and contextually grounded understanding of health. This approach aligns with the calls from anthropologists to move beyond standardised, universalised health models, advocating instead for an embrace of the complex, multifaceted nature of health as it is understood and experienced in diverse cultural settings (Trostle, 2005; Lock, 2013). By integrating both objective health metrics and the rich cultural insights offered by anthropology, a more comprehensive, culturally sensitive framework for understanding health can be developed—one that not only enhances the scientific rigour of health interventions but also respects and accounts for the varied ways in which health is conceptualised globally.

Medical anthropologists frequently engage with and cite public health literature, particularly epidemiological studies, health policy reports, and intervention evaluations. As Janes and Corbett (2009) observe, medical anthropology has evolved alongside public health, with anthropologists critically drawing on public health research to ground their analyses of health disparities, disease patterns, and policy failures. Singer and Baer (2018) similarly note that empirical data from public health studies often forms the starting point for anthropological critiques that emphasise structural inequalities, political economy, and cultural context. Farmer's (2004) work exemplifies this approach, extensively citing public health and epidemiological research while arguing that structural violence and historical processes must be incorporated into any meaningful understanding of global health inequalities.

However, while public health journals are routinely cited within medical anthropology, the reverse is far less common. In mainstream public health and global health research — especially within epidemiology, biostatistics, and clinical medicine — anthropological work is rarely cited (Lambert & McKeivitt, 2002). Although some areas of public health, such as research on social determinants of health and health systems strengthening, have increasingly drawn on anthropological insights, this engagement remains selective and often superficial (Janes & Corbett, 2009). As Adams (2016) argues, key anthropological concepts such as “structural violence” or “cultural competence” have been absorbed into global health discourse without full acknowledgment of their disciplinary origins or critical depth. Thus, while medical anthropology critically engages with public health literature, anthropological contributions are less frequently cited, fully integrated, or theoretically engaged within the broader fields of public and global health.

The disparity in funding between medical anthropology and public or global health research is rooted not only in different research priorities, but also in contrasting ideas about

what constitutes worth-funding, trustworthy, and objective science. Within the dominant paradigms of global and public health, research is often considered most fundable when it is perceived as trusted, objective, unbiased, and non-subjective, that is, when it appears unaffected by the researcher's positionality, political commitments, or interpretive frameworks (Adams, 2016; Erikson, 2015; Kelly & Mclean, 2020). Quantitative, epidemiological, and biomedical research models align with this ideal, offering metrics and outcomes that seem universal, replicable, and detached from the social contexts in which they are produced.

Conversely, medical anthropology is fundamentally rooted in interpretive, critical, and reflexive approaches that explicitly acknowledge the positionality of the researcher and the philosophical imagination required to understand human health experiences (Biehl & Petryna, 2013; Béhague, 2019). Ethnographic work embraces subjectivity as a necessary lens for uncovering structural violence, historical entanglements, and lived realities that are not easily reduced to standardised measures (Inhorn, 2017; Crane, 2020). This methodological commitment is often misperceived by funding institutions as a weakness — a departure from the ideal of neutrality — even though anthropological insights are crucial for explaining why many interventions fail or produce unintended consequences (Storeng & Béhague, 2016; Adams, 2016).

Moreover, the philosophical depth and critical thinking embedded in anthropological analysis — qualities that allow anthropologists to theorise the relationships between power, health, and inequality — are often at odds with funding structures that demand deliverable outcomes, measurable results, and immediate policy relevance (Béhague, 2019; Kelly & Mclean, 2020). As a result, global and public health research, with its emphasis on numerical evidence and “scalable solutions,” is much more heavily funded than medical anthropology,

whose qualitative, historically embedded, and socially situated knowledge production resists easy incorporation into global health's audit cultures.

The privileging of research perceived as “unbiased,” “non-subjective,” and “uninfluenced by positionality” systematically disadvantages anthropological work, reinforcing a research paradigm that favours technical, metric-driven interventions over structural critique and humanistic understanding. Through my engagement with scholars from a variety of disciplines, I have come to recognise that research which leans heavily on quantitative analysis tends to be more persuasive to the general public, medical professionals, and policymakers. In contrast, ethnographic analysis, with its depth and contextual nuance, is predominantly celebrated within the field of anthropology. However, this distinction is not always clear-cut, as anthropologists themselves may challenge such categorisations.

Throughout this research, I have faced the dilemma of producing work that has tangible societal impact and appeals to broader research communities, even if the impact is modest. The core challenge lies in balancing the need to generate research that is both academically rigorous and relevant to a wider audience. In particular, I have wrestled with the limitations inherent in individual anthropological work, where raw data is typically collected and analysed in ways that primarily resonate with fellow anthropologists but may not effectively engage or communicate with a broader public or scholars outside the discipline. Some biological and evolutionary anthropologists utilise large-scale secondary data, while social and qualitative medical anthropologists often work closely with a smaller number of participants. I find myself positioned between these approaches, having collected the raw data independently and conducted statistical analyses while also integrating ethnographic interpretations.

Ethnographic analysis, although deeply valuable within the discipline, tends to resonate predominantly with anthropologists, yet may struggle to engage, persuade, or communicate

effectively with a wider public or scholars outside the field. Despite this, many individuals from various sectors have expressed interest in the insights derived from ethnographic methods. This tension underscores a broader challenge within medical anthropology: bridging the gap between ethnographic insights and the demand for evidence that is accessible, actionable, and impactful across diverse sectors of society.

As such, this research has provided me with the opportunity to critically reflect on the boundaries that exist not only between divisions and disciplines but also within subdisciplines. It has also prompted deeper reflection on the process of conducting research in medical anthropology through the utilisation of mixed-methods approaches.

CHAPTER 3 – FIELD SITES AND METHODS

3.1. INTRODUCTION

In this chapter, I outline the research design, methods, limitations, research ethics and changes made to this project in response to the pandemic. In the course of my research, I have undertaken scoping literature reviews to systematically map the existing body of knowledge on obesity and dietary behaviours. The primary objectives of these scoping reviews were to synthesise current findings, clarify key definitions and concepts, and identify gaps or under-explored areas that warrant further investigation. This process not only helped in establishing a comprehensive understanding of the field but also provided a solid foundation for the formulation of research questions and the design of subsequent studies. By reviewing a broad range of literature, scoping reviews enable the identification of trends and inconsistencies, thereby guiding future research priorities. The detailed findings and synthesis of these studies are presented in the preceding chapter on the Literature Review.

I employ both quantitative and qualitative methods to investigate body size, as estimated using the Body Mass Index, in relation to sociodemographic factors and dietary behaviours. To understand the inter-relationships amongst these factors, I describe with quantitative data analysis and explore further with qualitative data to draw on the strengths of each, obtain broader perspectives and facilitate a more comprehensive understanding of dietary behaviours and the possible interplay between those behaviours, BMI, and sociodemographic factors. The discussion of the prevalence of obesity is limited to the geographical areas from which the data was obtained.

During data collection, I was based in Ulaanbaatar and conducted research across the city as well as the surrounding rural and peri-urban areas, as detailed in Section 3.2. Extended overnight visits to rural areas, as described in Section 3.3.1, were facilitated by local contacts with whom I had established prior acquaintance before the development of the research design and the commencement of data collection for this study. The participants recruited for this study, however, were unknown to me prior to the initiation of the research. Detailed information about the participants is provided in Sections 3.2 and 3.2.1, while the recruitment methods are outlined in Section 3.3.1 of this chapter.

30.4% (n = 38) of men and 36.3% (n = 98) of women were not measured or reported their weight, and likewise, 32.0% (n = 40) of men and 31.5% (n = 85) of women did not agree to be measured or could not feasibly be measured due to the format of online interviews and data collection. Individuals were excluded from the BMI (kg/m²) analysis if they had missing data on either weight or height (n = 143).

Semi-structured, in-depth interviews were conducted during onsite, multi-sited fieldwork in Mongolia, and online interviews were also undertaken in response to the pandemic. As shown in Table 3.1., 395 participants (125 males and 270 females) with a median age of 35 (18 to 71) years in three areas (rural, urban, and peri-urban Mongolia) responded to questions exploring diet and food consumption practices. I interviewed local Mongolian people who agreed to participate in the research voluntarily. Any Mongolian people willing to participate were welcome to participate as long as they were within the criteria of my study and lived in Mongolia during my data collection.

Table 3.1. Participant Demographics. (n = 395).

	<i>MEN</i>	<i>WOMEN</i>	<i>TOTAL</i>
<i>COUNTRYSIDE</i>	44 (11.1%)	67 (17.0%)	111 (28.1%)
<i>PERI-URBAN</i>	52 (13.2%)	85 (21.5%)	137 (34.7%)
<i>URBAN</i>	29 (7.3%)	118 (29.9%)	147 (37.2%)
<i>TOTAL</i>	125 (31.6%)	270 (68.4%)	395

During my fieldwork, a few essential tools such as a portable height measuring scale, tape measure, and weight scale were used to measure and record important metrics such as the weight, height and waist circumference of the people that I was studying. By using these tools, I was able to collect precise data on the physical characteristics of my Mongolian participants, which proved to be a crucial part of my research.

To collect interview data, I employed a portable audio-recording device to capture participants' verbatim responses for subsequent thematic analysis, as detailed in Section 3.5. A laptop was primarily used to record notes during each interview and to document informal observations. These notes were reviewed daily to ensure accuracy and to facilitate the expansion of my observations and insights.

Although digital recording was the primary method, pen and paper were used exclusively in rural areas where the use of a laptop was not feasible. In these instances, all data were subsequently transcribed into digital format on the laptop, thereby ensuring consistent data organisation and easy retrieval. This approach was particularly beneficial for later stages of the research, as it facilitated the quantitative analysis, which required all datasets to be digitised, cleaned, and structured.

A discernible gender imbalance is evident within the demographic composition of the study participants when compared with national statistics, with women being overrepresented. According to the National Statistical Office of Mongolia (2021), the national gender distribution is 50.3% male and 49.7% female. This diverges from the proportions observed in the present study, where a greater proportion of participants were female. As participation was voluntary, this imbalance may be attributable to gender-related differences in willingness to participate, with women demonstrating a higher propensity to engage in interviews. Several factors may account for this disparity, including prevailing social norms, culturally ascribed gender roles, and the health-related focus of the study, or a combination of these influences. The existence of such an imbalance warrants closer examination to elucidate its determinants and to assess its potential implications for the design and interpretation of future research. The same participants were included in both the quantitative and qualitative analyses. In the subsequent section, I will provide a more detailed description of the participants.

3.1.1. FIELD SITE SELECTION

The collection of raw data in medical anthropology is crucial for capturing unmediated, first-hand information through methods such as interviews, focus groups, and clinical observations (Bernard, 2017; Guest, Namey, & Mitchell, 2013). This primary data is invaluable as it allows researchers to access authentic, context-specific insights that secondary sources cannot provide (Hammersley & Atkinson, 2007; Ritchie et al., 2014). By engaging directly with communities, anthropologists can identify health trends that might otherwise remain unnoticed, thus contributing to a more nuanced understanding of health dynamics within specific populations (Singer, 2009; Napier et al., 2014).

One of the most significant advantages of raw data collection is its capacity to uncover emerging health issues in real time. For instance, ethnographic studies of infectious disease outbreaks have provided critical insights into community responses, healthcare-seeking behaviours, and local treatment strategies (Farmer, 2003; Hewlett & Amola, 2003). These findings are not only invaluable for anthropological inquiry but also have practical implications for public health interventions. As discussed by Geertz (1973), understanding local cultural practices and health systems is essential for crafting interventions that are both culturally relevant and effective. Moreover, culturally embedded approaches to health promotion have been shown to improve health outcomes and community participation in interventions (Kleinman & Benson, 2006). Thus, raw data plays a pivotal role in guiding policymakers and public health officials in the development of targeted and contextually appropriate health initiatives (Pool & Geissler, 2005).

Data collection in the field is integral to the discipline of anthropology, where fieldwork has long been regarded as essential for the completion of doctoral research (Malinowski, 1922; Eriksen, 2015). In line with this tradition, I conducted fieldwork in Mongolia for this research on obesity, which allowed me to gather context-specific data that would have been impossible to obtain through secondary sources alone. Field engagement not only facilitated a deeper understanding of local food systems and social norms but also enabled rapport-building, a crucial element in eliciting honest and reflective responses from participants (DeWalt & DeWalt, 2011).

Mongolia was selected as the focus of this study primarily due to its notably high prevalence of adult obesity, currently the highest in East Asia at 20.6% (CIA, 2021). Despite the considerable scale of this public health issue, there remains a notable scarcity of research specifically addressing obesity within the Mongolian context (Ganbat et al., 2020; Jamiyan et

al., 2022). This underrepresentation in the literature provided a compelling justification for conducting primary, field-based research, which could yield nuanced, contextually informed insights unattainable through secondary analysis alone.

Within the field of anthropology, a central principle emphasises the importance of critical reflection, requiring researchers to consider not only their choice of research topics but also the deeper epistemological, ethical, and personal motivations that underpin the selection of field sites. This expectation is firmly rooted in the discipline's commitment to reflexivity, positionality, and the situated nature of knowledge production (England, 1994; Rose, 1997; Gupta and Ferguson, 1997). Reflecting upon these disciplinary expectations, I recognised additional layers of rationale beyond the high obesity prevalence, which further reinforced my decision to conduct fieldwork in Mongolia.

In retrospect, my choice was shaped significantly by a broader commitment to conducting socially engaged research. Obesity represents a critical global health challenge, contributing substantially to non-communicable diseases such as cardiovascular illnesses, type 2 diabetes, and certain cancers (WHO, 2021). These conditions not only affect individual health but also place increasing financial burdens on healthcare systems globally, particularly in nations undergoing rapid nutritional and lifestyle transitions such as Mongolia (Popkin, 2006; Swinburn et al., 2011). This research provided an opportunity to examine the sociocultural dimensions and contributing factors of obesity within a regional Mongolian context, thereby enriching local understandings and enabling comparative international analyses. Through this focus, I also aimed to highlight the importance of conducting research in peripheral regions often neglected in global health literature, thus contributing to broader scholarly conversations on health inequalities and global research priorities.

My prior fieldwork experiences in Canada, the United States and the United Kingdom, which encompassed individual, collaborative and classroom-based projects undertaken during periods of residence, informed my decision to pursue research in Mongolia, a context in which I had not previously conducted fieldwork. Consequently, my understanding of the Mongolian setting developed primarily through direct engagement with participants once data collection had commenced, rather than through prior immersion or familiarity.

During my undergraduate studies in the United States, I participated in a small number of projects in collaboration with universities, hospitals, and NGOs internationally, including, to a limited extent, Mongolia. These collaborations, conducted both online and in person, were primarily overseen by American supervisors, and I worked most closely with American colleagues, with additional involvement from Canadian and Western European collaborators. English was the principal language of communication throughout. Although I had positive interactions with Mongolian staff and maintained a small circle of Mongolian friends, these experiences did not amount to sustained cultural immersion or the development of an extensive local network, contrary to what might sometimes be assumed.

It is important to emphasise that physical presence in a country or having some local contacts and experience of engaging with them, does not necessarily confer cultural immersion, extensive networks, or insider knowledge. Positionality is reflexively constructed by the researcher and cannot be inferred superficially (England, 1994; Rose, 1997; Sultana, 2007; Wilson et al., 2022). Rose (1997) argues that knowledge is always situated, cautioning against the attribution of insider status on the basis of geography or institutional affiliation alone. Sultana (2007) highlights the ethical and methodological importance of recognising the contingent and constructed nature of positionality through field encounters. More recently,

Wilson et al. (2022) reiterate that researchers' identities and positionalities shape their engagement with participants and must be articulated reflexively rather than assumed.

My activities in, and in relation to, Mongolia, both prior to and during fieldwork, did not provide substantial cultural exposure or integration into local life. The knowledge presented in the present study arises directly from the research questions and the data generated through fieldwork, rather than from prior familiarity with the Mongolian context. This limited pre-existing engagement may have influenced the framing of the study, resulting in a research design and set of questions that are comparatively broad and transferable across contexts such as the United States, the United Kingdom, and Canada, rather than being specifically tailored to Mongolia. By foregrounding the boundaries of my positionality, this study emphasises that physical presence or prior engagement in a country does not automatically confer insider knowledge, cultural immersion, or longstanding local connections.

A pivotal influence on my decision to conduct long-term fieldwork in Mongolia was a conversation with a professor I deeply admire, who has consistently supported my academic development. She emphasised the formative potential of doctoral fieldwork in anthropology, particularly when conducted in locations where few scholars have worked or are likely to work. Such experiences, she argued, equip researchers with distinctive insights and valuable personal, academic, and professional perspectives that have enduring benefits beyond academia (Cerwonka & Malkki, 2007; Gupta & Ferguson, 1997). Drawing upon her own experiences and those of her colleagues, she highlighted practical considerations, noting that long-term fieldwork in low- and middle-income countries often requires good physical health and minimal reliance on advanced healthcare infrastructure, conditions typically more feasible during earlier stages of a researcher's career. Conversely, she pointed out that research in

contexts such as the United States or Canada could more easily be pursued later in life, even under constrained health or mobility conditions (Nordstrom & Robben, 1995).

Her reflections prompted deeper contemplation regarding the embodied and material dimensions of fieldwork — factors often overlooked in methodological discussions. I came to understand that long-term fieldwork in certain locations is feasible only under particular personal and temporal conditions, realities that must not be overlooked or taken for granted (Nordstrom & Robben, 1995; Jansen & Notsu, 2022).

More broadly, this perspective encouraged me to view fieldwork as both an academic pursuit and a unique personal and professional opportunity. Anthropological scholars widely acknowledge long-term fieldwork not merely as a methodological approach for data collection, but as a transformative journey profoundly reshaping researchers' worldviews, assumptions, and self-understandings (Clifford, 1986; Cerwonka & Malkki, 2007). Ultimately, while Mongolia's notably high obesity prevalence initially provided a compelling rationale for site selection, it was the convergence of these practical, intellectual, and aspirational considerations that solidified my decision to undertake this research.

3.2. PARTICIPANTS AND FIELD SITES

This section provides a brief overview of the three areas where I conducted multi-sited fieldwork and the participants I worked with in each area. Table 3.2. characterises the three types of living in rural, peri-urban and urban areas I am looking at in this research.

Table 3.2. Three Types of Living. (n = 395).

<i>Participants</i>	<i>Pastoral Nomads</i> (<i>Нүүдлийн малчид</i>)	<i>Ger dwellers</i> (<i>Гэр хорооллын оршин суугчид</i>)	<i>City Dwellers</i> (<i>Хотын оршин суугчид</i>)
<i>(n = 395)</i>	<i>(n = 111; 28.1%)</i>	<i>(n = 137; 34.7%)</i>	<i>(n = 147; 37.2%)</i>
<i>Regions</i>	<i>Rural</i>	<i>Peri-Urban</i>	<i>Urban</i>
<i>Area of Residence</i>	<i>Countryside (хөдөө) outside Ulaanbaatar</i>	<i>Ger districts (гэр хороолол)</i>	<i>Ulaanbaatar excluding the ger districts</i>
<i>Types of Housings</i>	<i>Portable tent (гэр)</i>	<i>Portable tent (гэр) and/or wooden houses (модон байшин)</i>	<i>House (байшин) or apartment building (байр)</i>
<i>Common Lifestyles</i>	<i>Nomadic/non-settled lifestyles that involve periodical moving within rural Mongolia</i>	<i>Settled or semi-nomadic Lifestyles</i>	<i>Settled lifestyles</i>
<i>Common Occupations</i>	<i>Pastoral nomads</i>	<i>Semi-nomads, skilled workers, and informal workers</i>	<i>Higher and lower professionals</i>
<i>Resources/Assets</i>	<i>Livestock such as sheep, goats and horses</i>	<i>Cars for some people</i>	<i>Housings, apartments, rental properties, business, cars, investments</i>

Firstly, the pastoral nomads (нүүдлийн малчид) were individuals who moved periodically with their livestock and resided in portable tents, known as *ger* (гэр), in the rural areas of Mongolia. Commonly referred to as countryside (хөдөө), these areas exist outside Ulaanbaatar, the bustling capital and most populous city that serves as a major urban centre

and prominent regional hub of commerce, finance, and consumption. There was no easy access to these remote areas from Ulaanbaatar by road, and a vehicle with off-road capabilities was always necessary. The off-road trips between the city and rural areas were only feasible during daytime, making it impractical to return to the countryside within a day or a few days due to time constraints.

During my interviews, I found that none of the pastoral nomads I spoke to visited Ulaanbaatar frequently. However, many nomads occasionally visited their relatives such as siblings, children, grandchildren, cousins, and others in Ulaanbaatar. Some nomads had friends in the city, but most of their social circle resided in rural regions, owing to their nomadic lifestyles and responsibilities tending to livestock. They typically did not stay in Ulaanbaatar for extended periods unless their help was needed by someone they knew in the city.

Visiting and staying in Ulaanbaatar was common amongst nomads when their immediate or extended family members were unwell or hospitalised due to accidents, illnesses or childbirth. In terms of food preparation, many rural nomads I interviewed were self-sufficient, producing their own food without relying on external sources. As highlighted in Chapter 2, the rural population in Mongolia has decreased over time, with 68.8% of the population being urban in 2021 (CIA, 2021). This study includes the declining rural population, as discussed in Chapter 2, for the purpose of rural-urban comparison.

Secondly, the ger dwellers (гэр хорооллын оршин суугчид) in this study were people living in ger districts (гэр хороолол) on the outskirts of Ulaanbaatar, which had a significant influx of migrants from rural areas. A large number of the peri-urban ger dwellers interviewed were in-migrants with rural heritage who moved into Ulaanbaatar in pursuit of employment or educational opportunities that were unobtainable in rural provinces such as Govi-Altai. Alternatively, some belonged to households with a history of rural-urban migration and were

born and raised in the *ger* districts. Ulaanbaatar residents were classified into two distinct groups on the basis of regional and socioeconomic differences, one residing in houses (байшин) or apartments (орон сууц) in Ulaanbaatar and another living in portable tents (гэр) or wooden houses (модон байшин) in the *ger* districts (гэр хороолол) on the city's outskirts, acknowledging what Allen (1999) describes as the marked diversity and difference within a city or city life.

Many *ger* dwellers had spent most of their lives dwelling in portable tents (гэр) and/or wooden houses (модон байшин) in the *ger* districts. A considerable number of *ger* dwellers I met were engaged in skilled or physical labour, with some working as informal labourers whose working arrangements were not subject to certain employment benefits. Common occupations amongst peri-urban residents included roles such as cleaners, restaurant cooks, and long-distance transportation drivers, each with varying working conditions.

Within the informal economy, a prevalent sense of job insecurity was experienced. It was common for individuals to frequently change jobs in pursuit of immediate financial gain, although this practice seldom led to improved job security or career progression. Many *ger* dwellers worked in precarious and unsafe conditions as day labourers, temporary employees, or zero-hour contract workers, often for extended and irregular hours, particularly when compared to the working conditions of individuals residing outside the *ger* districts in Ulaanbaatar.

The relatively low wages and limited opportunities for career advancement failed to provide adequate resources for a satisfactory standard of living or social protection, particularly for those lacking a close network of family, friends, or acquaintances within the city.

Many people in all three regions in Mongolia repeatedly said it was about connections, who they knew, and who knew them that led to job opportunities. Some peri-urban residents were permanent transient residents who had semi-nomadic lifestyles and moved back and forth between the *ger* districts and rural Mongolia within the borders or between the *ger* districts and countries abroad, such as Dubai, Russia, and South Korea, for various reasons, to maintain their livelihoods. For instance, some *ger* dwellers I met reported that they moved to Dubai and worked as construction workers and lived with other nonlocal workers when they did not have construction jobs in Mongolia during winter.⁴

Located not too far from the wealthier Ulaanbaatar neighbourhoods, the *ger* districts seemed socially segregated from the rest of the city, and those living there often felt more connected to the rural areas they originally came from. *Ger* dwellers sometimes visited and were visited by people from rural regions or other disadvantaged Ulaanbaatar neighbourhoods, whereas many had barely any close personal connections with people in majority-wealthier Ulaanbaatar neighbourhoods outside the *ger* districts.

Younger adults who grew up in the *ger* districts in Ulaanbaatar were more likely to have friends and acquaintances residing in the city than were older adults who originally hailed from rural regions and had been brought up as nomads with pastoralist livelihoods. It was evident that migration in Mongolia is often internal and almost always occurs in one direction, from countryside to urban cities, mostly Ulaanbaatar, without crossing international boundaries.

Unlike in countries where rural regions still offer job opportunities and basic infrastructure like roads, railways, and clean water systems, urban-to-rural migration in

⁴ Climate determines the materials used, affecting the durability and longevity of the constructed buildings. Concrete and cement will form ice particles that reduce their stability and strength. Climate also affects the safety of workers due to slippery ground and extra padding and clothing, leading to less mobility and more accidents.

Mongolia seemed unrealistic and unfeasible, especially for those who were raised in urban cities. In this study, the phrase “internal and domestic migrants” refers only to rural-to-urban migrants, excluding intra-rural migrants, intra-urban migrants, and urban-to-rural migrants.

Thirdly, the urban residents in this study are people living in Ulaanbaatar outside the *ger* districts. Even though living alone was not very common across Mongolia, there were more single-person Ulaanbaatar households in my data than in rural and peri-urban households, which mainly consisted of people who lived with their families. Upon conducting a demographic analysis of the subjects, it was observed that a significant proportion of participants residing in the built-up areas of Ulaanbaatar neighbourhoods were professionals who lived in either houses (байшин) or apartment buildings (байр), and in the majority of cases, owned their own cars.

In the context of my study, a significant portion of the urban participants comprised privileged labourers such as business proprietors, principals of private educational institutions, and chief executive officers of multinational enterprises. This demographic demonstrated a higher degree of financial robustness than rural nomads or peri-urban *ger* dwellers, whose livelihoods were often significantly impacted by seasonal and meteorological variations. Informal employment practices were less prevalent amongst the urban residents. Some urban residents also achieved extra financial security through multiple passive income streams from their trade, investments, businesses, and residential rental properties.

Although some urban residents I met were originally from the countryside or other Mongolian cities, many were born and grew up in Ulaanbaatar and never experienced internal migration from rural areas. Meanwhile, sometimes their families were scattered across the world, with the younger generations studying or working in cities abroad such as Sydney, London, Tokyo, and New York City. When people move, it establishes a connection which

could potentially lead to expanded business, investment, educational and career prospects. These residential flows and international ties could later become assets, social capital, and other forms of special privileges and advantages not available to many others, particularly those who reside in disadvantaged neighbourhoods.

During my research, many of the urban participants I interacted with were highly proficient in foreign languages. I noticed that proficiency in English was particularly esteemed in the country. Proficiency in English was considered a significant indicator of a person's higher socioeconomic status and educational attainment. Interestingly, I also observed that proficiency in English was an important indicator of one's exposure to food cultures outside Mongolia. One participant I interviewed emphasised how her command of English enabled her to access a wealth of information and resources that were not always readily available in the Mongolian language alone. She stressed the crucial role of such resources in her successful investment and financial management endeavours. Nevertheless, she also acknowledged that achieving proficiency in English was no easy feat and it required a considerable investment of both time and money, making it a feasible endeavour only for a handful of people from privileged backgrounds.

Conversely, proficiency in the Russian language did not carry the same positive connotations or signify higher socioeconomic status. Based on my interviews, proficiency in Russian was associated with older generations. Many rural and peri-urban participants in the study were either monolingual or spoke both Russian and Mongolian. In contrast, many urban participants possessed more tangible and intangible assets, including English language skills, which could be leveraged to generate future economic benefits, further widening the gap between the affluent and the underprivileged and contributing to economic disparities in modern-day Mongolia.

In Ulaanbaatar, the boundaries between the rich and poor seem to be clearly defined. As Allen (1999) elucidates, the city is not a singular entity but a mix of spaces. The city includes urban spaces and neighbourhoods that are often not officially recognised but have prominent, different meanings and characteristics.

This multi-sited study looks at people in both “Ulaanbaatar Urban” and “Ulaanbaatar Peri-urban *Ger* Districts” within the city to explore therein intra-city variations in dietary behaviours and sociodemographic characteristics and their interplay with BMI, and to discuss spatial foundations of inequality and the social order of the city. These neighbourhoods do not necessarily dictate or determine density of interaction, emotional identities, or collective memories, namely those different from the “community” which can be considered collectively in the context of social values and responsibility or conceptualised as sharing certain values in common.

In fact, the perceptions and understanding of “urban” and “peri-urban” Ulaanbaatar are not definitive and constantly shift over time. For clarity, “peri-urban” refers only to *ger* districts (гэр хороолол) in Ulaanbaatar and “urban” refers to Ulaanbaatar excluding the *ger* districts in the city. In addition, “the city” (хот) refers only to Ulaanbaatar in this study unless the context indicates otherwise.

3.2.1. EVERYDAY PRACTICES ACROSS RURAL, PERI-URBAN AND URBAN MONGOLIA: A COMPARATIVE PERSPECTIVE

This section provides additional descriptive context to the research areas outlined above, informed by informal observations recorded during fieldwork. In rural Mongolia, daily life was closely attuned to the natural environment and the demands of pastoralism. The day typically began at sunrise and concluded around sunset, with most physical tasks carried out during daylight hours, to the best of my recollection. Despite the considerable physical demands of pastoral work, the families with whom I stayed often engaged in evening conversations that lasted well into the night. While some household members would quickly fall asleep, others continued informal exchanges, often in near darkness, suggesting that domestic sociability endures even during times traditionally associated with rest.

Household maintenance was structured around a clear division of labour, informed by both tradition and practical necessity. Routine tasks included herding and relocating livestock, collecting water, hand-washing clothes and dishes, and other forms of domestic upkeep. Even though this may depend on households, each member I met contributed to the household economy, reinforcing a collective rhythm that was both labour-intensive and environmentally contingent.

Elements of this rural routine, particularly those involving manual labour such as water collection and hand-washing clothes, were also evident amongst peri-urban residents. However, such practices were largely absent amongst urban participants, who typically had access to piped water and modern household appliances, including washing machines. These differences resonate with broader anthropological insights that technological adoption is neither linear nor

uniform, but mediated through cultural norms and socio-economic conditions (Ahearn, 2001; Horst & Miller, 2006).

In contrast to the environmentally oriented routines of rural life, urban daily schedules were more heavily structured around digital connectivity and formal employment. Urban participants frequently checked their smartphones throughout the day, including during interviews, monitoring work-related communications, social media updates, and other digital engagements. These interactions, while seemingly mundane, may be conceptualised as forms of “micro-coordination” (Ling & Yttri, 2002), and appeared central to the temporal organisation of urban life. The intensity and frequency of mobile phone use in urban areas stood in marked contrast to rural and peri-urban settings, where digital engagement was often more opportunistic, shaped by inconsistent network access and differing lifestyle priorities.

The observed routines across these three spatial contexts reveal varying degrees of physical and cognitive labour, as well as divergent temporal structures. While I did not quantify these differences systematically, it was nonetheless evident that rural participants were more frequently engaged in physically demanding, environmentally driven activities. Conversely, the routines of urban and peri-urban residents were increasingly shaped by technological mediation and professional obligations, often resulting in more individualised and fragmented temporalities. Peri-urban lifestyles, in particular, often appeared to occupy an intermediate position, both geographically and socially, between rural and urban paradigms.

Unlike the relatively uniform routines of rural nomadic households, grounded in the seasonal demands of herding, urban and peri-urban schedules were far more heterogeneous. Variability in occupation, career stage, and socio-economic status played a significant role in shaping daily life. For example, urban business owners often exercised considerable autonomy over their time. One participant, a business owner, took part in an interview that was arranged

between two leisure activities, having lunch with a friend and later attending a film screening on a weekday afternoon. Although she claimed to work in the mornings, she attributed her temporal flexibility to her reliance on trusted managers who oversaw the business in her absence. Such temporal autonomy stood in sharp contrast to the constrained schedules of salaried employees, many of whom could only participate in interviews during lunch breaks, after work hours, or on weekends.

These intra-sectoral differences, those that exist not only between but also within occupational categories, were particularly pronounced in urban contexts. Employees in junior or transitional roles often expressed a lack of temporal agency, prioritising work obligations over social engagements. Such internal differentiation of daily routines is less evident in rural settings, where the rhythm of life is more collectively experienced and less fragmented by occupational hierarchies.

In peri-urban areas, I did not encounter business owners or employers. Rather, residents were engaged in a diverse array of occupations, many of which operated outside the conventional 9-to-5 structure common amongst urban professionals. Peri-urban work schedules were frequently irregular, shaped by seasonal demand, fluctuating customer numbers, or changing employer requirements. Some individuals reported working in the early morning or late at night; others described unpredictable shifts that varied weekly or even daily. These patterns further underscore the socio-economic precarity and temporal unpredictability often associated with peri-urban livelihoods.

In sum, daily routines across Mongolia's socio-spatial landscape are characterised by distinct forms of temporal structuring, labour engagement, and technological mediation. While rural nomadic life remains grounded in environmentally contingent routines and communal labour, urban and peri-urban contexts reveal increasingly differentiated and individualised

temporalities, shaped by broader shifts in work, mobility, and digital connectivity. These findings underscore the importance of attending not only to cross-sectoral distinctions, but also to internal variations within occupational groups, as a means of understanding the evolving contours of everyday life in contemporary Mongolia.

3.3. METHODS

3.3.1 PROCEDURES

I used a snowball sampling method, in which research participants recruited further subjects, and a convenience sampling, in which participants were selected for inclusion due to geographical proximity, availability at a given time, and willingness to participate in the research. I did not have to be selective or exclude certain groups of individuals from this study, except children, as the study encompasses the daily dietary habits of participants from diverse social, economic, educational, and geographical backgrounds, shedding as much light on the voices of different representative sociodemographic groups.

The breadth of experiences, norms, and practices concerning foods of the participants within this seemingly homogenous population were collected and reviewed. Even though other sample methods were also used at the beginning of onsite and online data collection, snowball sampling was most suitable to facilitate the research project and collect adequate raw data in a given timeframe.

Data collection was conducted using a combination of convenience and snowball sampling. Field visits were arranged intermittently from Ulaanbaatar, with transportation provided by professional off-road drivers and accommodation secured with local households.

All travel and fieldwork expenses, including international travel from the United Kingdom and domestic travel within Mongolia, as well as daily accommodation, were fully funded by the research grant. Travel times between Ulaanbaatar and rural sites varied; however, study protocols required arrival at households during daylight hours before sunset, achieved through early-morning departures in accordance with approved safety procedures.

Rural Areas: Voluntary interviews were conducted with nomadic households. Only the designated participant was involved in formal interviews, although household members and local contacts were sometimes present. Structured interviews were complemented by informal discussions to provide contextual understanding, though data from informal interactions were generally excluded from formal analysis. Spontaneous interviews were also conducted with additional households encountered during field visits. Interviews were held inside or outside the *ger*, or in open spaces, depending on participant preference and environmental conditions. Individuals engaged in pastoral work or otherwise unavailable were not approached. Referrals from participants were used to identify additional households, extending the sample.

Peri-Urban Ger Districts: Initial recruitment in peri-urban ger districts was conducted opportunistically; however, high refusal rates due to participant unavailability or disinterest necessitated the adoption of snowball sampling. Follow-up interviews were typically conducted on the same day or shortly thereafter, with additional participants recruited through referrals from initial respondents.

Urban Areas: In urban regions, snowball sampling was the primary recruitment method, enabling efficient identification and scheduling of participants. Referrals from initial participants facilitated ongoing recruitment, including remote recruitment following the COVID-19 pandemic. Participants generally demonstrated high engagement with the research topics. While the sampling strategy and timeframe preclude statistical generalisation beyond

the study participants, the methodology enables robust analytical insights within the recruited sample.

Structured and semi-structured interviews were conducted primarily in Mongolian, with occasional use of English, Japanese, or Korean according to participant preference. Language choice was determined by participants either to maximise comfort or to allow expression in a language they were studying; in some cases, a combination of languages was used. Structured interviews followed a consistent set of questions for all participants to enable systematic comparison of responses. Semi-structured interviews employed open-ended questions, with follow-up prompts where necessary, allowing participants to respond freely in their own words. All questions are provided in Appendices 1A and 1B, with themes derived from the analysis of interviews presented in Appendix 1C. Responses were recorded and translated into English by the researcher where required to ensure accuracy and consistency in analysis.

During semi-structured interviews, relevant follow-up questions were used to expand on participants' initial answers, explore the reasoning behind their responses, and allow participants to provide as much detail as they wished. For example, in addition to asking about specific dietary behaviours, questions also addressed underlying motives, intentions, and contextual factors influencing food selection and consumption practices. To ensure accessibility, all questions were formulated in simple and straightforward language, recognising that participants were not assumed to be experts on the research topics.

Throughout the interviews, consistent information was collected across participants while allowing flexibility to obtain in-depth, detailed insights. These follow-up queries occasionally generated themes and topics not anticipated prior to the interviews, facilitating the identification of overlapping patterns and novel insights.

Interviews were recorded with participants' consent. Notably, participants often provided additional information after recording had ceased; this material was incorporated into the dataset only with explicit participant permission. Following each interview, reflections on the discussion were documented in fieldnotes, either immediately or later in the day. Interviews yielding brief or insufficient responses such as "I don't know," "I don't remember," or "It depends," despite prompting for elaboration, were classified as invalid and excluded from analysis. In total, thirty-eight interviews were excluded due to insufficient data that could not be meaningfully expanded upon.

Structured and semi-structured interviews were conducted primarily in Mongolian, with occasional use of English, Japanese, or Korean according to participant preference. Language choice was determined by participants either to maximise comfort or to allow expression in a language they were studying; in some instances, a combination of languages was employed. Structured interviews followed a consistent set of questions for all participants to enable systematic comparison of responses. Semi-structured interviews employed open-ended questions, with follow-up prompts as necessary, allowing participants to elaborate freely in their own words. All questions are provided in Appendices 1A and 1B, with themes derived from the analysis of interviews presented in Appendix 1C. Responses were recorded and translated into English by the researcher where required to ensure accuracy and consistency in analysis.

Audio recordings facilitated close attention to participants' accounts and enabled repeated engagement with the material during the analytical process. This approach supported both systematic reading and in-depth interpretation of the data. Regardless of the languages in which interviews were conducted, all transcripts were coded in English to ensure consistency in analysis, and coding was essential to address the main research questions through statistical

analysis. Re-examination of the transcripts allowed for the identification of complex and interpretive themes extending beyond surface-level meanings. In some instances, subsequent engagement with the data revealed themes that diverged from initial impressions. Coding thus served not only as a procedural step but also as an interpretive tool, generating insights that would not otherwise have emerged.

Fieldnotes were taken during all interviews, irrespective of whether audio recordings were available. Interview duration ranged from 20 minutes to two hours, with most lasting approximately 60 to 90 minutes. Variation in length reflected differences in the extent to which participants elaborated on their responses.

3.4. MEASUREMENT OF VARIABLES COLLECTED

3.4.1. BMI

One of the most straightforward methods for assessing obesity is to use a measure of weight relative to height, such as body mass index (BMI, kg/m^2) (WHO, 2022; Mela & Rogers, 1998: 3). BMI was calculated from the measured or self-reported weight and height of participants ($n = 267$).

Weight was recorded in kilograms and height in centimetres, and heights were subsequently converted to metres to calculate BMI. For the purposes of this study, BMI was classified according to clinical definitions of obesity, with values $\geq 25 \text{ kg}/\text{m}^2$ considered overweight and values $\geq 30 \text{ kg}/\text{m}^2$ considered obese, in accordance with international standards.

As of 2023, both the World Health Organisation (WHO) and the Centres for Disease Control and Prevention (CDC) recommend these thresholds. Each one-unit increase in BMI is approximately equivalent to a 3.5 kg increase in weight.

3.4.2. EXERCISE

According to Lee et al (2011), obesity is predominantly caused by excessive calorie intake through dietary habits or overeating, coupled with insufficient calorie expenditure due to lack of physical activity. Physical activity stands as the most diverse element of overall energy expenditure, covering both daily activities like work-related tasks, active commuting, and household chores, as well as organised exercise such as walking, running, or swimming, all of which contribute to the overall energy expenditure (Ulijaszek, 2024).

Dorling et al. (2018) suggest that individuals who engage in regular physical activity may experience enhanced sensitivity in their appetite control system, leading to better adjustments for the energy content and density of food. However, discrepancies in appetite-related hormone findings make it challenging to summarise how factors such as adiposity, sex, and habitual physical activity influence exercise-induced changes in these hormones (ibid).

In light of the research limitations, which are discussed later in this chapter, BMI (kg/m^2) was complemented with an additional metric assessing exercise behaviour. This was achieved by incorporating questions regarding participants' exercise habits. Physical exercise, as defined by Hunt and Hillsdon (1996:176), comprises planned and structured repetitive bodily movements, such as walking, undertaken to enhance or maintain physical fitness. It is typically pursued with the aim of improving, maintaining, or restoring one's health (ibid). By

examining exercise behaviour alongside BMI, the study seeks to provide a more nuanced understanding of participants' health-related practices and their potential impact on body weight.

In this study, the focus is specifically placed on the intentional physical exercise habits of the participants, rather than unplanned physical activity arising from their daily occupational tasks or household chores. Regular exercise, with or without caloric restriction, has a positive impact on body composition, helping to prevent the development of adult-onset obesity caused by an increase in fat cell size (Storlie & Jordan, 1984: 75, 85).

Furthermore, exercise is beneficial in controlling body weight via the energy losses incurred during the exercise and an additional caloric expenditure which may occur following exercise (Storlie & Jordan, 1984: 57). A study by Silva et al. (2022) suggests that engaging in aerobic exercises with moderate or high intensity for a minimum of six weeks may positively impact the composition of gut microbiota in individuals with metabolic diseases. However, further well-designed clinical trials are necessary to fully understand the effects of physical exercise on gut microbiota in individuals with obesity and type 2 diabetes mellitus (ibid).

It is challenging to completely dismiss any potential relationship between exercise and obesity, even though exercise is not a direct measure of body size. To delve into this connection, I inquired about the frequency of weekly exercise amongst the participants and categorised the responses into two groups: those who exercised at least once per week and those who did not exercise at all, for further analysis. Results pertaining to physical exercise will be discussed in Chapter 6.

3.4.3. SOCIODEMOGRAPHIC FACTORS

Similar to the BMI (kg/m²) analysis, some sociodemographic factors, such as age, gender, occupation, marital status, family size, and internal migration, were collected and coded to explore the statistical relationship between participants' BMI and these factors. Some of these variables were also used to examine sociodemographic characteristics and their interplay with BMI, as well as the spatial foundations of inequality and the social order of the city. BMI was treated as the dependent variable, with age, gender, occupation, marital status, family size, and internal migration as the primary independent variables. Results from these analyses are reported and discussed in Chapter 4.

Across the whole sample, 35 years old was the median age, and 36.27 years old was the mean age, and this supported a temporal comparison. The people who were born and grew up in socialist times were mostly 37 years old or older, and those born and raised in post-socialist times were younger than 37 years old. This does not precisely divide the people born before and after the dissolution of the Soviet Union, which may or may not have affected eating habits. However, this should not negatively affect the analysis because what participants used to eat as infants or toddlers was not asked during the interviews.

Gender is classified into men and women. I did not encounter any transgender or non-binary participants during my data collection. Participants' self-reported occupations were recorded and systematically classified into four analytically meaningful categories: nomads, students, skilled workers, and qualified workers. These categories emerged inductively from the primary dataset, representing the most frequently reported occupational identities. The distribution of cases across the categories was sufficient to support subgroup analysis and to ensure the statistical robustness of subsequent regression modelling. These bespoke categories

were developed specifically for this study rather than adopted from standard occupational taxonomies, enabling the capture of socio-economic distinctions that may be obscured by conventional income-based or hierarchical classifications.

This approach preserves both explanatory precision and contextual validity by organising participants into subcategories that reflect the lived occupational landscape of the sample, thereby enhancing the interpretability and rigour of quantitative analyses. The use of inductively derived, context-sensitive occupational categories is consistent with established methodological practice in anthropology and sociology, where localised occupational structures are frequently addressed through emergent frameworks that diverge from formal market classifications (Bourdieu, 1984; Strauss & Corbin, 1990).

Concurrently, it aligns with recent methodological developments emphasising flexible, data-driven categorisation. For example, Park et al. (2020) demonstrate that clustering co-occurring occupations can capture evolving urban labour systems more effectively than static taxonomies. The epistemic validity of this approach is further supported by theoretical accounts of social categories, which argue that occupational roles provide inductive potential when their boundaries are actively constructed and maintained (Synthese, 2021).

By constructing occupation categories based on participants' reported engagements and reflecting empirical patterns within the dataset, the study enabled the systematic allocation of individuals into analytically meaningful subgroups. This strategy facilitated the application of statistical techniques, including regression analysis, with enhanced contextual sensitivity and explanatory power, while avoiding the creation of categories that were too small to permit reliable estimation of odds ratios and other statistical measures.

Many nomads I met engaged in supplementary sources of income, including crafting handmade souvenirs and supplying cashmere or comparable animal fibres to commercial enterprises and industrialists, as opposed to vending them directly to individual consumers. However, herders were all assigned to the single category of “nomad” for statistical analysis. Likewise, students were coded as students if they were full-time students, even though many of them worked part-time.

Moreover, current marital status was asked and subsequently categorised as either single or married. Most participants were either single or married, and a small number were divorced or widowed, in which case they were coded as single. The number of family members in a household was asked and the continuous variable of family size was dichotomised into two categories for collation: smaller and larger families. Smaller families had 0 or 1 child (n = 209; 52.9%), whereas larger families had 2 or more children (n = 186; 47.1%), whether by blood, half-blood, marriage, or adoption. The purpose of looking at family size was to explore possible implications of family size for body size and food consumption and practices.

I was interested in the relationship between the size of a family and the tendency of its members to cook meals at home and how these factors relate to obesity. In addition, I was intrigued by the possible connection between weight and family size. I expected that families with more members were more likely to prepare meals at home more frequently than those with fewer members. I believed that delving deeper into this correlation could potentially shed light on the complex relationship between obesity, family size, and food preparation habits. By exploring these topics, I could gain a better understanding of how family dynamics and daily routines impact overall health and well-being.

The answers to the individual experience of internal or domestic migration within Mongolia fell into two categories: yes or no. Rural-urban migration to Ulaanbaatar from remote

rural domestic provinces was regarded as internal migration. Thus, other types of migration, such as external migration to other countries, urban-rural migration from Ulaanbaatar to the countryside, or intra-urban migration within a single urban region, were not counted towards internal migration, which is simply referred to as “migration” in this study.

3.4.4. DIETARY BEHAVIOURS

Information on participants’ dietary behaviours was collected and manually coded afterwards to simplify the analysis, and then further classified into different main sub-groups to explore the relationship between the participant’s BMI (kg/m²) and their dietary behaviours. Every day, every individual consciously or unconsciously makes decisions regarding their dietary behaviours, ranging from how frequently they eat to how often they cook at home. Dietary behaviours are complex and multifaceted, influenced by a range of personal, social, and financial factors that can vary significantly from person to person. These factors can include a person’s cultural or religious beliefs, health concerns and personal preferences, as well as their daily routines, schedules, social connections, and support networks.

Financial constraints may also impact a person’s dietary choices, with some foods being less affordable or accessible than others. Of particular interest to me were regional and age variations in dietary behaviours and whether they play a role in the development of obesity. I was also interested in exploring the underlying motives and reasons behind these dietary behaviours in my research participants and if these are associated with obesity. Most questions were open-ended, and answers were classified into sub-groups to capture what the response was about, summarise the results of the entire study effectively, and draw data-driven

conclusions, while gaining deeper understanding of individual insights and everyday experiences.

Commensality is the act of eating together. The participants' daily experience of commensality was asked and subsequently categorised according to whether they usually ate lunch alone or with others. Seasonal food (улирлын хүнс) refers to food available and primarily consumed at a particular time of the year. In this study, seasonal food consumption (улирлын чанартай хүнсний хэрэглээ) refers to consuming more dairy products and less meat in summer and consuming more meat and less dairy food in winter, which has been a crucial facet of conventional and sustainable nomadic lifestyles in Mongolia. Seasonal food consumption was classified on the basis of whether the participants consumed different types of foods in different seasons, and answers were divided into yes or no.

Moreover, “usually consumed meal” refers to what subjects reported consuming for most meals and is classified into traditional Mongolian foods and fast foods. The number of times someone cooked in a week refers to how often subjects reported cooking for themselves, and this was dichotomised into two groups: those with a “high” frequency of cooking, meaning they cooked for themselves more than once per week, and those with a “low” frequency of cooking, indicating that they cooked for themselves less than once per week. Participants were also asked about their food selection criteria, which were subsequently classified into two categories: “taste” and “time/cost.” These binary categories were derived inductively from participant responses, rather than being pre-specified prior to data collection, thereby enabling systematic coding and facilitating subsequent statistical analysis. This classification reflects the most frequently reported decision-making dimensions and provides a parsimonious framework for examining dietary choices in the study context.

3.5. ANALYSES

This section outlines the methods used for the analysis of both qualitative and quantitative data. Following the data collection, a combination of qualitative and quantitative analysis techniques was employed to analyse the interview responses.

The participants' responses were recorded and transcribed verbatim. The interview transcripts were then imported into NVivo 13 and 14 for qualitative data analysis. NVivo software facilitated the organisation and management of the transcripts throughout the analytic process. During this stage, I used the "Notes" function to document ideas, reflections, and observations related to the interviews. These notes included comments on the content of the interviews, my overall impressions of the participants, and any significant interactions or reflections that occurred before or after the interview sessions.

To ensure consistency in the analysis and ease of retrieval, I primarily utilised the "Memos" function. This feature allowed me to record reflective insights, which were searchable within NVivo, enabling efficient and structured analysis. In contrast, the "Annotations" function, while useful for specific in-text comments, was less suitable for storing reflective material due to its lack of searchability.

Thematic analysis was conducted manually with the support of NVivo coding tools following the completion of data collection. Initial coding was performed to capture emerging patterns within the data, which were subsequently refined and organised into broader thematic categories through an iterative process. This systematic approach enabled detailed examination of participants' accounts and provided a rigorous foundation for the interpretation of the qualitative data. A full record of analytical codes, variable types, and supplementary notes is provided in Appendix 1A.

For the quantitative analysis, the recorded responses from participants were initially cleaned, coded, and collated using Excel. The cleaned dataset was subsequently transferred to SPSS Statistics versions 28 and 29 for further statistical analysis. Both qualitative and quantitative data were analysed using SPSS, employing appropriate statistical methods to examine relationships within the data.

I asked open-ended questions that attempted to encourage the interviewee to give a detailed and elaborate response, rather than a short, fixed response. I coded the responses and categorised the answers after each interview to find patterns. I looked at each question and allocated a number for each possible response and found the frequency or the occurrence of certain dietary behaviours.

Thematic analysis was applied to code in order to identify, analyse, and interpret key ideas, topics, and behavioural patterns of meaning that came up repeatedly across semi-structured, open-ended interviews, thereby finding themes by reading through the set of data. Thematic analysis helps to “identify patterns within and across data concerning participants’ lived experience, perspectives, behaviour, and practices” (Braun & Clarke, 2017: 297). Without preliminary categories prior to interviews, the bottom-up classification was developed through thematic analysis to read and learn from the themes that emerged from the transcripts.

Qualitative analysis focuses on the quality or meaning of experience and understanding and describes the essence or nature of diverse ideas, behaviours, and experiences of participants. It also integrates more subjective everyday experiences rather than objective external reality. Qualitative research design is more flexible, evolving and emergent. Through rich and thick description, I ensured that a sufficient level of detail about the topics, themes, and practices studied was included.

By contrast, quantitative research focuses on more measurable factors that can be objectively observed and quantified to identify patterns and themes. Quantitative research design is more structured, and description is the heart of this method. In qualitative research analysis, I am making decisions about what to measure and the best way to measure it. I am also the primary instrument bringing my own perspective to the selection and meaning of the data. I will draw conclusions based upon both qualitative and quantitative findings in Chapter 7.

For these analyses, I used direct quotations to support my conclusions, thereby bringing the reader of this study into the reality of the situations that were studied. I collected all interview quotes pertaining to a given key theme and examined the ideas that make up the theme and how they interact with one another, while also looking for evidence of relationships or interrelationships between the overarching themes. I saw new themes like seasonality of food consumption emerge, and I adjusted my ideas and questions accordingly.

While I followed the same, systematic steps throughout my analyses, I utilised new ideas and themes that emerged through the procedures. My interpretation reflected patterns and ideas in the interviews. Even though this process takes more time than simple surveys, thematic methods covered all cases and instances, which might have been overlooked if the response options were already predetermined. Some closed-ended questions were followed by open-ended questions. In some measures like height, weight, and meal frequency, for which I was aware of the scope of my respondents' answers, the measures were simply collected and categorised afterwards.

After the interviews, the responses were coded into categorical variables, and some continuous variables were categorised afterwards (see Chapter 4). Summary statistics were calculated to describe the characteristics of the participants. Initial exploration of potentially

related variables was completed using correlational techniques. Relationships between nominal variables were analysed using chi-square tests, whilst those between continuous variables were evaluated using Pearson's R or Spearman's Rho correlations, depending on their distributions.

Post-hoc tests were employed when there was a statistically significant difference amongst different groups, in order to determine exactly which groups were different from each other. Statistical significance was reported in terms of p-values, the probability that particular results could have been obtained by chance, with a cut-off value of $p < .05$.

The relationship between body mass index (BMI, kg/m²) and the areas subjects lived in was assessed using a binary logistic regression model. Binary logistic regression was used to test whether or not a region predicted BMI. I used BMI (obese individuals and others) as the dependent variable and regions (categorical variables of three groups) as the independent variables. I only included the three distinctive regions as independent variables here.

3.6. REFLEXIVITY IN PRACTICE: METHODOLOGICAL AND EMOTIONAL DIMENSIONS

3.6.1. METHODOLOGICAL REFLEXIVITY

Some anthropologists may critique my research design for potentially privileging Western public health frameworks, as it draws upon concepts rooted in Euro-American scientific traditions, such as Body Mass Index (BMI, kg/m²) and calorie- and nutrition-based knowledge. My academic background, shaped by interdisciplinary coursework in both STEM and the social sciences at institutions in Canada, the United States, and the United Kingdom, has likely influenced my adoption of these frameworks in examining obesity in Mongolia, even if this influence was not immediately apparent at the project's inception.

Notably, even undergraduate courses typically regarded as epistemologically neutral, such as mathematics and statistics, which I enrolled in during my studies at a university in the United States, were often embedded within biomedical frameworks. These courses frequently utilised medical case studies as core material in both lectures and assessments. Students were regularly tasked with applying mathematical modelling and statistical analysis to quantify a range of conditions, including disease prevalence and broader public health trends for calculation and simulation both in class and during examinations.

In one statistics course in the US, students were permitted to bring a double-sided sheet of handwritten or typed formulas into the final examination. Along with classmates, I meticulously compiled these formula sheets to aid problem-solving on my calculator, irrespective of the specific “problem” posed. The ability to quantify real-world issues was valued within the classroom, and I greatly appreciated STEM subjects for their emphasis on

definitive answers or at least reasonably consensual approximations, irrespective of individual positionality, subjectivity, or perspectives. This pedagogical approach implicitly reinforced the authority of numerical reasoning in understanding the body and legitimised the use of standardised metrics within health research.

As far as I recall, cultural contexts were rarely, if ever, considered in any of the STEM subjects I undertook in Canada and the US. In hindsight, this educational exposure may have contributed to my adaptation and reliance on quantitative tools such as BMI and the categorisation of body sizes in designing this study, while I acknowledge its inherent risks and benefits.

Upon relocating to the United Kingdom for my postgraduate studies, I enrolled in a course entitled *Critical Methods in Numerical Assessment*. This course required students to identify the types of data analysis employed in various studies, whether they aimed to establish causal relationships, generate predictions or projections, or describe patterns across broader populations. We were tasked with evaluating the appropriateness of specific measures for particular datasets, classifying variables such as independent, dependent, or explanatory, and formulating central testable hypotheses. Furthermore, we assessed the use of composite measures and distinguished between testable and null hypotheses, providing justifications for our evaluations. This course was intellectually stimulating and equipped me with a robust critical framework for assessing the statistical methods employed in empirical research. Building upon my previous mathematical and statistical training, it further refined my capacity for critical engagement with quantitative methodologies.

At the School of Anthropology, I developed disciplinary expertise through writing groups, departmental seminars, and teaching opportunities, which reinforced my understanding of anthropological approaches to health. I also completed intensive statistical training in SPSS

and R, while engaging in ongoing knowledge exchange with colleagues and academics. In parallel, I gained professional experience in organising and facilitating interdisciplinary events across the University, including research training workshops, tutorials, seminars, lectures, conferences, and colloquia. Collectively, these experiences provided a unique combination of disciplinary, methodological, and interdisciplinary expertise, which directly informed the design and execution of this anthropological research.

However, following the completion of data collection and analysis, and through engagement with anthropologists during departmental seminars, conferences, and feedback sessions, I came to recognise that anthropological inquiry often prioritises precisely these qualitative dimensions (Geertz, 1973; Ingold, 2008; Cerwonka & Malkki, 2007). Questions raised by colleagues and audience members consistently focused on issues such as local gift-giving cultures, the use of imaginary and actual kitchen spaces, culturally specific understandings of height and types of food, and sensory experiences such as the smell of food, even within research projects centred on regional differences in obesity. These were aspects I had not incorporated into my structured and semi-structured interviews.

This recognition has fostered an ongoing critical reflection on my methodological approach. While I maintain the fundamental importance of ethnographic insights for enriching, rather than being overshadowed by, statistical data, I acknowledge that qualitative anthropologists, whose work is deeply rooted in ethnographic inquiry, might reasonably view a greater integration of such insights as beneficial. Through this continuous reflexive process, I aim to highlight the nuanced understandings essential for robust anthropological research and to navigate the inherent epistemological tension between generalised metrics and the contextually rich, specific knowledge generated by ethnographic methodologies (Madden, 2017).

During my postgraduate training in Medical Anthropology, I engaged extensively with anthropological, medical, and interdisciplinary approaches to health, obesity, and nutrition. My participation in various initiatives, including organising seminars, workshops, conferences and summer schools on obesity and global health partnerships expanded my understanding of health beyond disciplinary boundaries.

In interdisciplinary contexts, anthropological perspectives were often regarded as intellectually stimulating but of limited relevance to clinical education and healthcare policy. Medical students and practitioners frequently characterised medical anthropology as overly “philosophical,” aligning it with the humanities rather than the social or biomedical sciences. These experiences highlighted the epistemological priorities in medical settings, where objectivity, standardisation, and quantifiable evidence are emphasised.

Teaching experiences further exposed these tensions. As a debate convener for anthropology students, I observed the challenges students faced when engaging with ethnographic evidence in argumentative settings. While lecturing medical students on global health and social medicine, I noted that quantitative data were perceived as more objective, reliable, and authoritative than qualitative accounts.

Participation in professional development programmes and workshops on biomedical research provided further insight into research cultures within clinical settings. The emphasis on data de-identification, emotional detachment, and standardised protocols contrasted sharply with the anthropological focus on positionality, relationality, and the social embeddedness of research. These contrasts sensitised me to the different epistemological assumptions underpinning biomedical and anthropological approaches, shaping my reflexive engagement with participants and the methodological design of my own research.

Although interdisciplinary collaboration is increasingly vital for tackling complex health challenges, it often presents challenges such as communication barriers and differing epistemological commitments. These experiences illuminated how anthropological approaches often confront expectations for standardised, measurable outcomes. However, they also underscored the potential for anthropological inquiry to enrich interdisciplinary dialogues by offering context-sensitive, reflexive, and critical perspectives on health.

Acknowledging the interdisciplinary influences on my academic development is crucial to understanding the positioning of this study. The blending of qualitative and quantitative methodologies reflects a pragmatic adaptation to interdisciplinary realities while maintaining a commitment to anthropological principles of reflexivity, contextual sensitivity, and critical engagement.

As anthropologists have observed, there is a long-standing tension between local conceptions of health and the globally standardised biomedical metrics that are often used to represent them (Lock & Nguyen, 2010; Inhorn, 2006). Although BMI was first proposed in the 19th century by the Belgian statistician Adolphe Quetelet, it has since become a key epidemiological tool for classifying health and disease on a global scale (Burton, 2018). Yet BMI has been widely critiqued for its inability to account for physiological and cultural diversity, and for its reductionist assumptions about the relationship between body size and health (Nuttall, 2015; McCullough & Hardin, 2013). These critiques form part of a broader concern, articulated by Adams (2016), regarding the “tyranny of metrics” in global health: a tendency to prioritise quantifiable indicators over complex, embodied, and culturally grounded understandings of wellness and care.

McLennan (2020) critiques the widespread assumption in nutritional science that more robust scientific evidence will necessarily result in improved dietary guidelines and, by

extension, better health outcomes. She argues that the relationship between evidence and health is far more nuanced and complex than is often assumed. This critique finds resonance in Scrinis' (2013) work, which explores the implications of "nutritionalism" and its application to Indigenous populations. Scrinis contends that imposing Western nutritional standards on non-Western or Indigenous populations can be viewed as a form of epistemic colonisation, wherein local knowledge systems are marginalised or overwritten. He stresses that such impositions often proceed without due ethical or methodological reflection, particularly in Western research contexts. Importantly, Scrinis does not advocate for the exclusion of Indigenous communities from studies that employ Western nutritional frameworks, but he argues that their inclusion must be contextually sensitive and responsive to local ecological, historical, and social factors.

Further, Scrinis warns against the cultural, health, and environmental risks of uncritically applying Western dietary models to non-Western populations. These risks include the erosion of traditional food systems, an over-reliance on processed foods, and threats to food sovereignty (Scrinis, 2013). These concerns are particularly salient in rural Mongolia, where traditional diets, dominated by meat and dairy, diverge sharply from Western nutritional recommendations. Public health interventions in Mongolia, such as lifestyle modification programmes, have shown some success in improving health outcomes (Sonomtseren et al., 2016). However, it is crucial to recognise that assessing Mongolian dietary practices and nutritional knowledge through the lens of Western cultural frameworks may not always reflect the complexities of local food systems. This potential misalignment between Western nutritional models and Mongolian dietary practices warrants careful consideration from an anthropological perspective, particularly when examining cultural significance, local practices, and the risks of cultural erasure.

The tension between Western nutritional measures and Indigenous ways of knowing can be further explored through Foucault's concept of biopower, which provides a framework for understanding how power operates through health discourses and bodily regulation. In *The History of Sexuality* (1976), Foucault discusses how power becomes diffused through health and nutrition metrics, such as Body Mass Index (BMI) and caloric intake, which individuals internalise and apply in self-regulation. This dynamic, according to Foucault, is both empowering and disciplinary, offering a sense of agency while simultaneously imposing normative expectations on bodies.

In the context of my research, I have not actively promoted Western dietary regimes. However, the use of metrics such as body mass index (BMI) and the inclusion of questions concerning participants' knowledge of calories and nutrition may inadvertently imply an alignment with Western nutritional frameworks from an anthropological standpoint. This raises a legitimate concern that such measures risk obscuring or undervaluing Mongolian dietary practices by imposing external standards of health and nutrition. Nonetheless, while these limitations must be acknowledged, it is important to recognise that such tools serve a crucial analytical purpose. They enable the identification of statistically significant patterns, such as the prevalence of obesity or correlations between nutritional knowledge and obesity, which would otherwise remain empirically inaccessible. Thus, their use does not represent an uncritical acceptance of Western paradigms, but rather a pragmatic methodological choice that facilitates the production of comparable and interpretable data within broader health research frameworks.

Despite these concerns, BMI and similar indices have repeatedly been shown to misclassify obesity-related metabolic risk when applied uniformly across ethnic groups. This

issue has also been documented in Mongolia, where adverse metabolic markers appear at BMI levels lower than those defined by Western thresholds (Shiwaku et al., 2004).

This phenomenon is not confined to Mongolia. Epidemiological and statistical studies spanning diverse populations reveal that the point at which BMI correlates with heightened risk for outcomes such as type 2 diabetes, cardiovascular disease, and metabolic syndrome varies significantly by ethnicity. For instance, the UK Biobank cross-sectional study demonstrated that the BMI corresponding to the prevalence of diabetes observed at 30 kg/m² in White participants equated to approximately 22.0 kg/m² in South Asians, 26.0 kg/m² in Black individuals, and 24.0 kg/m² (women) to 26.0 kg/m² (men) in Chinese participants (Ntuk et al., 2014). Similarly, a large cohort study in England found equivalent incident type 2 diabetes risk at a BMI as low as 23.9 kg/m² for South Asians, compared with 30.0 kg/m² for Whites; corresponding thresholds for Black, Chinese, and Arab populations were around 28.1, 26.9, and 26.6 kg/m², respectively (Allaf-Meziane et al., 2021). Longitudinal evidence from the SABRE (Southall and Brent Revisited) study likewise demonstrated that South Asians developed diabetes at BMI cut-points of approximately 25.2 kg/m² and African-Caribbeans at 27.2 kg/m², which are substantially lower than the conventional European obesity threshold (Tillin et al., 2013). Cross-sectional analyses using glucose outcomes also support the need for ethnicity-specific cut-points. Data from UK and Indian samples indicate obesity-equivalent BMI thresholds of approximately 25 kg/m² for migrant South Asians and around 18 kg/m² for indigenous South Asians, based on fasting and two-hour glucose levels (Bodicoat et al., 2014).

Finally, analysis of cardiovascular risk factors in multi-ethnic cohorts indicates that South Asians, Chinese, and Aboriginal peoples manifest elevated glucose, lipid, and blood pressure levels at lower BMIs (as low as ~21.0 kg/m²) compared to Europeans, undermining the validity of uniform BMI cut-points (Lear et al., 2007). Collectively, these peer-reviewed

findings emphasise a well-established epidemiological principle that BMI thresholds based on health outcomes should be adapted for different ethnic groups, since identical BMI values can mask substantial variation in metabolic and cardiovascular risk. Researchers have noted that nutrition knowledge surveys rooted in Western science can unintentionally marginalise alternative systems of knowledge (Walls et al., 2016; Maudrie et al., 2024). Acknowledging these risks is crucial in maintaining a balance between scientific analysis and respect for Indigenous knowledge systems. Foucault's notion of biopower highlights the importance of recognising power structures that regulate bodies and populations, ensuring that Indigenous knowledge is not marginalised in the pursuit of scientific analysis (Greenhalgh, 2012; Reubi et al., 2016).

In this study, I employ BMI not with the aim of reinforcing a universalised model of health, but rather as a methodological device to move beyond subjective or appearance-based assessments of obesity, which are themselves shaped by cultural norms and potentially biased assumptions. Given the broader objective of this research to explore obesity across multiple national contexts, standardised health metrics allow for comparative analysis. However, I remain deeply aware of the critiques presented by scholars such as Yates-Doerr (2015), who demonstrates how calorie counting and weight-oriented interventions in Guatemala often clash with local experiences of hunger and bodily norms. Likewise, Trainer et al. (2022) reveal how Western narratives around fatness and self-blame have become globalised, contributing to internalised stigma even in societies where body ideals have traditionally differed.

Furthermore, as Cullather (2007) illustrates, even ostensibly neutral measures such as the calorie have been historically deployed as political instruments. During the Cold War, calorie standards were used to restructure diets in the Global South to align with American developmental goals, highlighting how scientific tools in health and nutrition have long been

implicated in broader projects of global governance and power. This dynamic has been described by Levich (2015) as a form of “global health imperialism,” where Western actors and institutions shape public health agendas worldwide. The continued use of metrics such as BMI, caloric intake, and related tools therefore risks reproducing Western-centric assumptions about the body, health, and individual responsibility, unless these measures are applied with careful reflexivity. In acknowledging these tensions, I aim to critically situate my methodology within contemporary anthropological debates. As Benton (2012) notes, Western health metrics are not passively adopted in local contexts, but are often reinterpreted, resisted, or recontextualised, leading to hybrid forms of knowledge that reflect both global and vernacular logics. In this spirit, I use BMI and nutritional data not as absolute or universal truths, but as provisional and context-sensitive instruments, useful insofar as they are subject to ongoing critical reflection. Recognising the influence of my academic formation within Western institutions, and the epistemological frameworks that shaped it, is essential to conducting ethical and responsible research on obesity in Mongolia using Western-derived concepts and measurements.

However, it is also important to highlight that, in statistical research, categorising participants into meaningful groups is essential for comparing and contrasting different populations, especially when the aim is to evaluate differences in outcomes based on these groupings (Rothman et al., 2008). Categories enable researchers to identify trends, test hypotheses, and measure variables across distinct groups. For instance, grouping participants by factors such as age, gender, and region facilitates the examination of how these variables influence various outcomes, such as health disparities or access to resources (Williams & Mohammed, 2009). Statistical methods like chi-square tests, employed in this study, require predefined categories to assess group-specific differences (Field, 2013).

Nevertheless, as highlighted earlier, these analytical categories, while essential for statistical comparison, are inherently social constructs and context-dependent, inevitably failing to fully encapsulate the rich diversity of participants' lived experiences (Tsing, 2005). While such categorisation remains a crucial tool in statistical analysis, particularly for discerning patterns across groups, researchers must remain acutely aware of its inherent limitations, diligently avoiding the oversimplification of the diversity and fluidity of identities both within and between these analytical boundaries. In anthropological research, the imperative to recognise the complexity of identity and eschew rigid categorisation as the sole means of understanding the nuanced ways in which individuals experience and navigate the world remains paramount. However, I contend that statistical research, despite the potential for researcher positionality to influence its interpretation (as some anthropologists have argued), offers crucial insights that ethnography alone may not readily yield. It is therefore my considered position that a judicious integration of diverse quantitative and qualitative approaches is vital to a more comprehensive and robust understanding of obesity within this research.

Approaches and perspectives in research are frequently shaped, sometimes subtly, sometimes significantly, by researchers' personal experiences and disciplinary backgrounds (Berger, 2015). In many fields, including public health, medicine, international development, and public policy, objectivity is strongly emphasised. Researchers working within these domains are often encouraged to minimise the influence of their own positionality in order to enhance the credibility, neutrality, and perceived rigour of their findings (Denzin & Lincoln, 2018; Mertens, 2009). Within these paradigms, adopting an ostensibly impartial and balanced research stance is typically regarded as essential for producing trustworthy and generalisable results.

By contrast, disciplines such as anthropology and qualitative sociology explicitly recognise that a researcher's identity, lived experience, and positionality inevitably influence the research process, affecting everything from the formulation of research questions to the collection, interpretation, and presentation of data (Clifford & Marcus, 1986; England, 1994).

Within these traditions, it is widely accepted that a researcher with a different worldview may produce a substantially different account, even when engaging with the same community or social context (Rosaldo, 1989). As highlighted in Clifford and Marcus's (1986) seminal work, *Writing Culture*, acknowledging the researcher's influence is essential for understanding the construction of ethnographic knowledge. Scholars such as England (1994/2008) and Lazar (2005) further emphasise the importance of positionality, referring to the researcher's standpoint and social location, in shaping both the research process and its outcomes. While the concept of positionality has been less explicitly emphasised in quantitative medical anthropology, where statistical analysis and generalisability often take precedence over contextual depth, it remains a critical consideration within broader anthropological inquiry informed by qualitative methodologies.

Although my research involves a relatively larger sample size for anthropological studies and employs statistical analysis, my engagement with these disciplinary expectations, particularly within a field historically oriented towards qualitative methods without statistical analysis, revealed additional layers of rationale underpinning my decision to conduct fieldwork in Mongolia, extending beyond the apparent factor of the high prevalence of obesity.

Researchers often find themselves navigating the roles of "insider," "outsider," or occupy hybrid positions situated between these binary categories (Narayan, 1993). These terms, while useful in reflecting on the complex relationships between researchers and participants, are inherently contested and fluid. The concept of positionality is rarely static. A researcher

may be perceived as an insider because of shared language, culture, or lived experience, while at the same time being regarded as an outsider due to institutional affiliation, class, or nationality (Milligan, 2016). Such dynamic and intersectional identities complicate rigid distinctions, necessitating continuous reflexivity throughout the research process.

Despite this, positionality remains largely underexplored in many health-related, quantitative, and mixed-methods research contexts. Scholars have argued that this omission reflects dominant epistemological frameworks that prioritise neutrality and objectivity, often viewing reflexivity as incompatible with conventional standards of scientific rigour (Greene, 2007; Holmes, 2020). As DeMeulenaere and Cann (2013) observe, many disciplines continue to operate under the assumption that researchers can act as detached and neutral observers, a perspective that often marginalises the role of identity and power in shaping knowledge production. Similarly, in their review of mixed-methods research in health and education, Fetters and Molina-Azorin (2017) found that positionality was rarely acknowledged, despite its importance for interpretive validity and ethical transparency.

In my own academic experience, discussions of positionality have predominantly arisen amongst anthropologists or anthropology students, particularly those working with qualitative methods such as ethnography. These conversations typically occur within disciplinary lectures, seminars, and conferences. It may be coincidental, but I have rarely been asked about positionality by scholars outside these contexts. In contrast, when presenting at interdisciplinary events, such as seminars, panels, symposia, and conferences, I have, on occasion, been advised, particularly by colleagues based in departments beyond anthropology, to avoid referencing positionality, on the grounds that it is too personal. Instead, I was encouraged to frame my work as neutral, scientific, professional, and unbiased.

This is, in some ways, understandable as positionality often centres on the researcher's personal narrative, rather than directly addressing the research topic, participants, or dataset, and may therefore appear unconventional or unprofessional in certain disciplinary settings. Such advice seems to reflect broader disciplinary assumptions about what constitutes legitimate, credible, or generalisable knowledge. In some fields, the suggestion that a researcher's identity might meaningfully influence research design, interpretation, or conclusions is perceived as potentially undermining the objectivity, fundability, or reliability of the work.

Throughout fieldwork, I engaged with participants without prior assumptions about their cultural background or dietary behaviours, enabling a more open and objective account of their perspectives. This aligns with longstanding anthropological recognition of the value of the *etic* perspective in revealing cultural practices that may be invisible to insiders (Headland, Pike, & Harris, 1990). Theoretical traditions stemming from Simmel's (1908) notion of the "stranger" and Merton's (1972) discussion of outsider insight have contributed to an understanding of how external observers can bring critical distance and novel analytical perspectives. In this context, my role as an external researcher enabled a form of critical engagement aligned with Harris's (1976) *etic* mode of analysis, which is essential for cross-cultural comparative work.

While the *emic* perspective is often celebrated for its ability to convey embodied and intuitive knowledge, outsider perspectives are equally important for challenging taken-for-granted assumptions and identifying broader sociocultural patterns (Dwyer & Buckle, 2009; Liu & Burnett, 2022). Outsiders often pose questions that insiders may not consider, precisely because they are not embedded within the normative frameworks of the community (Marcus & Fischer, 1986). My own stance, characterised by curiosity, openness, and analytical distance,

helped me identify aspects of dietary practice that may have been overlooked by those more culturally immersed.

Even positionality itself presents both strengths and limitations. While I have discussed the advantages of being an outsider researcher, I also recognise the inherent limitations of conducting research from this standpoint. Again, whilst acknowledging, as Ergun and Erdemir (2010) and Narayan (1993) rightly argue, that researcher identity is dynamic and contingent, the binary classification of insider versus outsider often oversimplifies the nuanced and shifting nature of field relationships.

In my specific case, I consistently occupied an outsider role before, during, and after fieldwork. I made no attempt to present myself as an insider, nor did I integrate into the community in the ways characteristic of immersive ethnographic traditions. My research did not involve long-term participant observation or deep emotional entanglement with a single community. Instead, it employed a mixed-methods design, combining semi-structured interviews with over 400 participants across urban, peri-urban, and rural areas, alongside measurements of height and weight. As anticipated, this approach did not lead to emotionally intense relationships with participants. While I appreciated their openness and hospitality, I maintained a professional stance throughout, fostering respectful and equitable research relationships in my capacity as a researcher.

In more immersive ethnographic contexts, which, for example, involve living with a small group of participants and interacting with them daily for over a year, positionality may well have a more significant impact on data collection and interpretation. In contrast, my study focused on factual and behavioural questions such as meal frequency, seasonal food consumptions, and common consumption patterns. These are areas where identity markers are

less likely to influence participants' responses, provided the research environment is built on trust and mutual respect (Dwyer & Buckle, 2009).

3.6.2. EMOTIONAL REFLEXIVITY

Unlike research contexts involving trauma, conflict, or politically sensitive issues, my study did not evoke strong emotional entanglement. As Foley (2002:474) critiques, qualitative researchers often compartmentalise emotional experience and empirical analysis in what he terms a “somewhat schizophrenic manner.” This was not a concern in my case, as the research topic and food consumption did not intersect with my own emotional or lived experiences in a personally charged way.

I approached the topic of obesity from a place of emotional neutrality. I have never experienced weight-related distress, nor have I engaged in efforts to manage or regulate body size. This extends to my social and familial circles, where concerns about weight or body image have been largely absent. As such, I entered the field without embodied knowledge of obesity or strong assumptions about dietary control. Until I embarked on this research, food and body size were not significant categories in my personal life. Despite habits such as late-night snacking and a preference for sugary foods, I had not encountered consequences that prompted reflection on body weight or health.

This distance allowed for critical reflexivity, not disengagement. I remained acutely aware that for many participants, weight and body image might carry stigma, shame, or vulnerability (Murray, 2008; Thomas & Lupton, 2013). When individuals declined to share their height or weight, I respected these decisions and continued to include their narratives.

This ethical stance aligned with calls for inclusive, non-judgemental research practices (Denzin & Giardina, 2007).

My personal history has further contributed to this emotionally neutral stance. During my childhood and adolescence, my active involvement in sports fostered an environment where team dynamics were not centred on body image or weight. Within my track, basketball, and swimming teams, coaches and peers rarely discussed body size, and our engagement with physical activity was primarily performance-oriented. The routine sharing of snacks and celebratory meals, coupled with minimal or absent discussions regarding diet, cultivated a relaxed relationship with food and body image, a perspective that has persisted into adulthood.

My continued engagement in physical activities, including golf, tennis, skiing, and horse riding, which I have enjoyed since childhood, is motivated by leisure and social connectivity rather than by concerns related to weight management or physical appearance. Furthermore, shared commensality during significant occasions, such as Christmas and birthdays, has been a central element of my most cherished memories, spanning both childhood and adulthood. While I previously regarded the emotional and cultural significance of these occasions as self-evident, it was only through the process of conducting research on food-sharing practices that I began to develop a deeper appreciation for their inherent symbolic and affective weight.

While anthropologists such as Rosaldo (1989) and Behar (1996) remind us that all knowledge is partial and affectively situated, my experience was characterised by what might be termed “affective neutrality.” This is not indifference, but a form of emotional calm that allowed me to engage with the research topic attentively and ethically, without projecting normative assumptions onto participants’ experiences (Lupton, 2013; Warin, 2015).

My outsider positionality, free from weight-related anxiety or moralistic interpretations of body size, supported a more balanced analytical lens. It enabled me to respect and engage with participants' narratives while avoiding reductionist discourses that often dominate public health and policy conversations (Bordo, 2003; Guthman, 2011; Greenhalgh, 2012). This critical distance, shaped not by suppression but by lived experience, ultimately enhanced the ethical and analytical dimensions of the research (Holmes, 2010; Davies & Spencer, 2010).

Researcher positionality plays a critical role in shaping fieldwork dynamics, influencing participant recruitment, rapport-building, and the co-production of knowledge (Bourdieu, 1990; England, 1994; Rose, 1997). As a doctoral researcher affiliated with a UK university, my institutional affiliation subtly yet significantly shaped the contours of my fieldwork in Mongolia, particularly in urban contexts. While not employed as a deliberate recruitment strategy, this affiliation lent my research credibility and facilitated access, particularly amongst participants with academic or professional interests in the UK. My institutional role was often referenced by participants as a marker of legitimacy and familiarity, situating me within a broader transnational network of education and labour mobility (DeWalt & DeWalt, 2011; Kuwayama, 2003).

On some occasions, individuals contacted me after hearing about my research through acquaintances or friends who had previously participated in my interviews. A number expressed an interest in being interviewed, whilst others simply wished to converse with me either before or after the formal interview setting. Many were exploring opportunities for overseas study or employment, both for themselves and, at times, for their spouses, siblings, children, or even nieces and nephews, and consequently enquired about application procedures and my own experiences of having studied and worked in multiple English-speaking countries.

Others were interested in securing employment with international corporations operating within Mongolia, where application submissions in English are a prerequisite.

Furthermore, some participants viewed the study as an opportunity to practise foreign languages they were currently learning, primarily English, followed by Japanese and Korean. Within these multilingual interactions, my focus remained on the substantive and affective dimensions of our exchanges, rather than on grammatical accuracy or linguistic form, thereby allowing conversations to develop organically and relationally (Blommaert, 2010). Several participants noted the expense or logistical challenges of even brief language tutoring sessions. Consequently, the opportunity to practise language freely with me became an implicit incentive. While some explicitly stated this motivation, others conveyed it through casual remarks or subtle cues.

My extensive experience in multilingual environments had long accustomed me to interacting with individuals employing English, Japanese, or Korean as additional languages. Consequently, while I anticipated potential variations in interview duration, I held no significant concerns regarding communication efficacy. In practice, all participants exhibited a high level of linguistic proficiency, frequently developed through extended periods of study or professional engagement abroad in Japan, South Korea, or one or more English-speaking countries. Indeed, several participants reported greater ease in expressing themselves in English than in Mongolian, a consequence of their attendance at English-medium educational institutions. Notably, one participant, possessing fluency in Mongolian, English, Japanese, and Korean, seamlessly engaged in code-switching throughout our interaction. As someone habituated to multilingual interaction, I found it entirely natural to shift between languages in the research process (Heller, 2007). Despite the unexpected utilisation of diverse languages within this study, I consistently recorded field notes in English. This methodological decision

facilitated efficient data organisation, updating, analysis, and identification, as the transcription and management of data across multiple alphabetic systems would have presented a considerably more time-intensive undertaking.

Urban participants in Mongolia frequently expressed interest in pursuing educational and career opportunities abroad. My academic and professional experiences provided valuable points of connection, enabling extended dialogue with individuals across a variety of sectors, including academia, business, medicine, museums and non-governmental organisations, all of which I had engaged with through roles both within and beyond academic institutions during my doctoral journey. With the exception of a single participant, the vast majority did not express a specific interest in research or teaching within Anthropology. Consequently, my roles beyond this discipline, such as delivering lectures on public health to medical students, facilitating discussions on STEM problem-solving in mathematics and statistics for Oxford undergraduates, conducting research at the School of Geography and the Environment, and interviewing start-ups and entrepreneurs in the UK while publishing online articles about them, proved instrumental in establishing and maintaining contact with participants. Even university administration roles I held at various colleges and research units during my PhD generated interest among participants, particularly regarding software use, training provisions, and data security protocols.

Overall, the broader professional experience I gained during my doctoral journey unexpectedly facilitated the formation and maintenance of new connections, granting access to participants who might otherwise have been unlikely to engage with a researcher positioned solely as a doctoral student. These professional experiences also enabled continued contact with some participants long after fieldwork concluded. My continuous engagement in multiple roles throughout my doctoral studies ensured I almost always had professional updates to share

when reconnecting with participants, leading a few to remark on their desire to stay in touch, perceiving me as consistently dynamic and engaged in new ventures.

Generally, participants highly valued my own experiences and perspectives, with one remarking that such insights were unobtainable even through extensive use of AI, social media, and online information, and were therefore highly valuable. Another participant stated they only trusted the observations of someone without a vested interest or transactional involvement. Given my position outside recruitment, brokerage, or study abroad agencies, my honest experiences, perspectives, and reflections on recent and ongoing work in the UK, not readily available online, were indeed considered unexpectedly attractive and invaluable assets.

One participant noted that the majority of English speakers encountered in Mongolia, including language tutors and tourists, were often retired. He was particularly keen to hear from someone with recent, first-hand experience of rapidly evolving work environments in an English-speaking country, as he aspired to work abroad or in international corporations operating in English within Mongolia in the near future. Several participants, including him, sought guidance on crafting English CVs and covering letters, or on applying for international academic and corporate roles. Having served on selection committees in the UK on occasion, I was able to offer insights, though I consistently emphasised the importance of seeking diverse perspectives, clarifying that my role was that of researcher, not advisor or consultant.

Several participants also enquired about higher education in the United States, often viewed as more aspirational than UK institutions. One participant specifically asked about dropout rates and the perceived difficulty of degree completion in the US. Drawing on my own experience of completing studies, including at university level in the US, I could offer grounded insights that enriched the exchange. This experience fostered a two-way dialogue rather than a

one-sided interaction in which I, as the researcher, merely asked questions, collected information, and left the field.

Another participant contacted me multiple times post-interview to enquire about international summer programmes for her children. Having attended a few summer schools in Canada, the United Kingdom, and the United States, and having worked at several summer schools in the UK, I recommended those that had been particularly formative for my own development.

Throughout these interactions, I maintained clear boundaries between informal exchanges and the core focus of my research. I deliberately refrained from offering advice on diet, physical activity, or health, which were central themes of the study, in order to avoid shaping participants' perspectives or compromising ethical standards. When participants asked about unrelated matters, however, I responded openly and respectfully, drawing on lived experience while remaining attentive to the power dynamics embedded in such encounters (Pillow, 2003).

Considering participants' motivations, including language learning, educational aspirations, and interest in international career pathways spanning various sectors, it is plausible that some individuals would not have elected to participate had I been a local doctoral researcher based at a Mongolian institution, lacking concurrent professional experience across disciplines and both within and beyond academia. In this way, the composition of my participant group may itself reflect aspects of my past and present education, institutional affiliations, multilingual capacities, and perceived access to transnational capital.

These characteristics were initially overlooked as research assets, perhaps due to my usual professional and academic milieu comprising individuals with broadly similar

backgrounds; for instance, many of my colleagues are multilingual and have studied and worked in several countries. Consequently, these attributes became unexpectedly significant to participants, shaping not only the nature of their engagement with me, but also their initial decision to participate and their willingness to maintain contact beyond the research interviews.

These interactions reflect a broader anthropological insight: that researcher–participant engagement often extends beyond the thematic parameters of a project and is shaped by the researcher’s personal and professional trajectory (Fujii, 2016; Coffey, 1999). Had I entered the field with narrower experience, many interactions may have remained transactional or superficial. Moreover, without shared points of identification, maintaining contact and offering reciprocal support, even informally, would have been more difficult. In this context, my background may have facilitated slightly more multidimensional, longer-term relationships, potentially enriching the research process beyond data collection, although this remains speculative.

Several participants remained in touch after fieldwork, sharing reflections on health, food practices, career changes, and personal events. Others introduced me to friends, relatives, or professional contacts, further expanding my research network. Where appropriate, I reciprocated by facilitating professional introductions, always observing ethical boundaries. These enduring connections align with anthropological understandings of fieldwork as an embedded, relational, and ongoing process (Whyte, 1993; Cerwonka & Malkki, 2007), rather than a discrete or extractive encounter.

Conversely, participants less invested in international education or transnational careers tended to engage with me on a more personal or social level. They were more likely to ask if I knew particular Mongolian individuals or to enquire about others who had participated in the study. These interactions underscored the tightly networked and socially embedded nature of

urban Mongolian life and reminded me that participants actively shape research encounters based on their own priorities, interests, and social imaginaries (Ingold, 2000; Faier, 2009).

Ultimately, my institutional affiliation and professional background proved instrumental in cultivating trust, facilitating access, and enabling reciprocal engagement well beyond the interview setting. They shaped who chose to participate, how individuals engaged with me, and what kinds of relationships emerged, demonstrating how seemingly incidental aspects of a researcher's educational and professional background can take on unexpected significance in the field.

Overall, I am confident in asserting that I have completed both data collection and analysis without experiencing emotional trauma, a fact I do not take lightly. I consider myself incredibly fortunate to have had the opportunity to meet and interview participants who generously shared their time, experiences, and insights, resources that would have been difficult to access otherwise. The topics explored in this research, including obesity, physical activity, and dietary behaviours, were ones from which I could maintain a consistent degree of emotional distance with relative ease.

Moreover, the invaluable contributions of academics, peers, and colleagues, who provided crucial insights and guidance throughout my research journey, played a significant role in ensuring smooth data collection and supporting my physical and mental well-being during and after my time in the field. I recognise and deeply appreciate the significance of these factors, and I do not take them for granted.

3.6. RESEARCH ETHICS

Since my research included human participants, ethical approval⁵ was obtained. Although I did not collect highly sensitive research data, I investigated the best way to protect data security and obtained approval from the Central University Research Ethics Committee (CUREC) 1A for data collection for the proposed research. I provided an information sheet with details of my research and contact information for every relevant individual before each interview. I explained to each participant that the decision of whether to become involved and when to withdraw from the interview is entirely theirs, even after the interview. I collected written consent from all the participants involved in this study.

A combination of technical, physical, and logical safeguards was implemented to secure research data. These safeguards included encryption, restricted access, secure network configuration, and data transfer restrictions. Research data were anonymised before analysis, and participants were identified only by ID numbers which were not traceable by anyone except me. The anonymised individual data and identities were stored separately as a safeguard against accidental disclosure, loss, or corruption of research data. I have used the personal data collected only for the purpose of my research, and I have not and will not give that information to a third party without obtaining participants' permission.

⁵ Ref No.: SAME_C1A_19_056

3.7. LIMITATIONS

There are several limitations to this study. Firstly, the definition of obesity used here is solely based on individual weight and height and not on measurements of body fatness. Even though BMI (kg/m^2) and body fatness are highly correlated (Flegal et al., 2009) and high BMI values are interpreted as evidence of overweight or obesity (Wellens et al., 1996), the trends observed in BMI may not parallel trends in body fatness. BMI does not measure fat mass (Flegal et al., 2009) or distinguish body composition, such as fat, from fat-free mass like muscle and bone (Burkhauser & Cawley 2008) despite individual variations across populations (Guthman, 2011:28; Keys et al., 2014; Weir & Jan, 2019) and population change (Keys et al., 2014).

Body fatness at a given BMI may vary by age and sex (Gallagher et al., 1996), and individuals with ample muscle and bone have higher weight densities than body fat (Campos, 2004), and BMI values are higher for individuals with long torsos due to the mass of the torso (Guthman, 2011:28), possibly leading to an inaccurate interpretation of the prevalence of obesity in some people. Whilst BMI is the starting place to make nutrition suggestions (Anderson & Konz, 2005: 380), some (Weir & Jan, 2019; Guthman, 2011:29) point out that BMI is not adequate as a sole instrument for classifying a person as obese or malnourished.

Nevertheless, BMI remains the most feasible and practical method for measuring obesity in various settings. According to Ulijaszek (2020:231), no alternative measurement of obesity is collected nearly as systematically as BMI. Measuring the density of the body by any other method entails a laborious procedure unsuitable for larger samples, as suggested by Keys et al. (2014). Similarly, methods for the direct measurement of body fat are too expensive and time-consuming to apply to large samples, whereas weight and height can be measured easily

and accurately in large samples (Wellens et al., 1996). As such, BMI has remained the preferred method for measuring obesity.

Standardised classification of obesity was accepted by the WHO in 2000 and has been used since then as it is recognised to allow comparisons within and between populations and provide simplicity for the assessment and monitoring of obesity worldwide (Ulijaszek, 2017: 10, 61; Ulijaszek, 2020: 233). Thanks to its simplicity of calculation and applicability to populations, body mass index seems preferable over other indices of relative weight (Keys et al., 2014). According to Gu et al. (2014), one of the benefits of using BMI is its strong correlation with percent body fat, making it a commonly used measure for defining obesity. It is crucial to bear in mind, however, that similar to other measures, BMI is an imperfect measure of obesity, and alternative measures of fatness and body composition should be considered for more detailed and accurate outcomes for further research. Taking both advantages and potential disadvantages of the use of BMI into account, BMI is critically used as an indicator of obesity, providing overall rates of obesity and overweight in Mongolia in this study. In the Mongolian context, obesity has been identified as a significant risk factor for multiple chronic health outcomes. Nationally representative data show that obese adults are more than twice as likely to present with two or more comorbidities compared with those of a healthy weight, with a clear dose–response relationship across BMI categories (Enkhjin et al., 2024). Furthermore, findings from the 2019 Mongolian STEPS survey indicate a high prevalence of metabolic syndrome (37.4%), linking obesity to cardiovascular risk factors, elevated blood pressure, and glucose intolerance (Suvd et al., 2024). These patterns underscore obesity’s role as a major predictor of Mongolia’s growing non-communicable disease (NCD) burden, which has already been recognised as a central challenge for the country’s health system (Demaio et al., 2013).

As an additional measure related to obesity, and in light of the limitations of relying solely on Body Mass Index (BMI) outlined above, I asked participants about their exercise habits. By incorporating exercise behaviour into the study, the aim was to examine the interplay between physical activity and obesity, thereby providing a more nuanced and comprehensive understanding of these issues. In particular, I explored how exercise habits varied across different regional and age groups amongst the participants.

The results indicated that exercise alone is not a reliable indicator of obesity, as no statistically significant relationship was observed between obesity and regular weekly exercise in the sample. Nevertheless, pronounced differences were evident in patterns of regular weekly exercise according to age group (younger < 37; older \geq 37), occupation, and place of residence. These findings highlight the importance of contextual factors in shaping exercise behaviours and suggest that long-term engagement in physical activity may exert a cumulative effect on body size, emphasising the need for further research to elucidate the complex relationship between exercise habits and obesity risk.

Secondly, this research may contain height-, weight-, diet-, and exercise- related response bias. Response bias occurs when the subject gives an incorrect response, including lying, or when the wording of the questions or the way the interviewer asks the questions is confusing or misleading (Agresti & Finlay, 2009). Self-reported height, weight, and physical activity are major data sources for research on weight status and physical activity (Troiano, 2010: 34).

Nonetheless, what people say they do may not always be the truth (Jerolmack & Khan, 2014), and diet-, exercise-, and body size- related studies may be particularly prone to this bias. For example, physical activity is generally overreported and it is difficult to estimate intensity even though self-report is the most effective method for determining the type and context of

physical activity performed by individuals, according to Troiano (2010: 35-37). Like exercise, self-reported body size, too, is susceptible to response bias especially amongst overweight or obese participants.

Generally, height is overreported while weight is underreported (Gorber et al., 2007) and as BMI increases, the degree of weight underreporting also increases for both men and women, possibly leading to potential misclassification of weight states categories (Troiano, 2010:35). A study (Nawaz et al., 2021), for instance, reported obese women seeking weight-loss assistance tend to under-report their weight and over-report their height, while another study (Kuczmarski, et al., 2001) reported that self-reported heights and weights could be used with younger adults, though they have limitations for adults ages ≥ 60 years.

Interestingly, the rates of obesity amongst Mongolian men were higher than those of women in this study. This contradicts a previous study (Chimeddaba et al., 2016) that reported higher rates of overweight and obesity amongst Mongolian women than Mongolian men in 2005, 2009, and 2013 respectively. This study did not ask participants to be measured or self-report their height and weight when they preferred not to.

Accordingly, some participants who were overweight or obese may have been more likely to refuse to be measured or self-report their weight, or to underreport their weight. The author measured height and weight whenever possible to minimise any potential limitations.

Moreover, similar to height, weight, and physical activity, individual food intake may be misreported. A study (Prentice et al., 1986) first demonstrated cases in which obese women underreported energy intake. Decades afterwards, studies continue to indicate under-reported cases. For instance, although self-recorded energy intakes were accurate amongst lean women

(Prentice et al., 1986), a study (Goris et al., 2000) conducted in the U.S. reported 37% under-reporting of energy intake amongst obese men.

Today, it is recognised that there is a “spectrum of misreporting of food intake across the population, the nature of which is not easily predicted on the basis of individual phenotype of demographic statistics” (Johnson & Jebb, 2009:33). Participants may be afraid of the social and economic consequences of their remarks, and deception may be motivated by concerns for their reputations (Barrett & Cason, 2010:108, 109). Some diets being consumed daily or frequently might have been misreported, though it is challenging to distinguish between correct and incorrect responses.

Furthermore, this study could potentially be affected by non-response bias. This type of bias occurs when some sampled subjects cannot be reached, refuse to participate or fail to answer some of the questions asked (Agresti & Finlay, 2009). The three locations from which I recruited my participants were already selected. It was unfeasible to collect data in locations close to Mongolia’s northern border with Russia or southern border with China, where special permissions were required to undertake research. Reaching out to potential rural participants generally took longer than recruiting and interviewing urban and suburban participants.

Moreover, some of my fieldwork in rural areas in 2020 was disrupted by the pandemic. I had fewer opportunities to reach out to nomads in rural areas and suburban dwellers than urban dwellers with stable internet connections, resulting in uneven numbers of participants in the three regions. Despite these unforeseen hurdles, I persevered and leveraged digital data collection methods to gather valuable insights even during the pandemic. However, urban residents are overrepresented, whereas rural residents are underrepresented in this study due to various factors such as cost, time, accessibility, and feasibility of collecting the sample,

especially due to the pandemic. I am therefore careful not to generalise from this “sample” to the whole population.

In this study, there is a potential for sample bias due to the overrepresentation of female participants and urban residents, as reported in the methodology. Sample bias refers to a systematic error that occurs when the sample selected for a study does not adequately represent the broader population, leading to skewed findings and limited generalisability. This bias often manifests through the overrepresentation or underrepresentation of certain groups, which distorts the relationships between the variables being investigated. For instance, if a sample disproportionately includes participants from particular demographic groups, such as young or educated individuals, the results may not be applicable to other groups, such as older or rural populations, whose behaviours or characteristics may differ significantly (Fitzpatrick & Boulton, 2019).

However, it is important to note that this overrepresentation does not necessarily lead to a uniformity of characteristics within these groups. For example, not all female participants had similar BMI values, nor did they exhibit identical dietary behaviours. Similarly, although urban participants were overrepresented, they displayed considerable variability in their eating habits and lifestyle factors. Therefore, while the imbalance in the sample may have some impact on the findings, it is difficult to conclusively determine the extent of this effect given the diversity within the overrepresented groups.

The process of collecting data is a crucial part of any research study, but it is important to acknowledge that bias is inherent in the process. As pointed out by Mays and Pope (1995:109), all research is selective, and it is impossible for any study to capture the literal truth of events. It is therefore crucial to be aware of the potential for bias and to take steps to minimise it. Kovera (2010) holds the view that, in fact, some form of sampling bias is likely to

exist, unless a study sample is chosen using random sampling, where every member of the population has an equal, non-zero chance of being selected to participate in the study.

Although I recognise that there might be some degree of bias in the methods employed for this study as detailed in this chapter, the technique applied to my research was the best I could think of to collect data within a given time frame to effectively answer my research questions. Although the unforeseen pandemic and the inherent complexities of food- and weight-related research pose potential limitations, the methods were carefully selected after considering various alternatives, and I believe that the findings obtained are still valuable and contribute to the body of knowledge in the field.

CHAPTER 4 – OBESITY AND BODY SIZE

4.1. INTRODUCTION

This chapter focuses on the sociodemographic characteristics that may structure everyday behaviours, including dietary habits that might increase the risk factors for obesity amongst 125 males and 270 females, whose median age was 35 (18 to 71) years ($n = 395$) in three regions (rural, peri-urban, and urban Mongolia). It aims to quantify and compare the association between obesity and possible risk factors (regional, sociodemographic and behavioural factors). The first six sections of this chapter will show some variances in body size in my sample. I will then discuss the prevalence of obesity amongst different regional, gender, and age groups and possible contributing factors to the obesity prevalence in the following sessions.

4.2. BODY SIZE OF MONGOLIANS

4.2.1 BODY SIZE (HEIGHT AND WEIGHT) OF MONGOLIANS

Table 4.1 presents summary statistics for variations in body size⁶ for Mongolians. Males had a median age of 35 (18 to 71) years and females had a median age of 35 (18 to 70) years. The average height of Mongolian men in my sample ($M = 172\text{ cm}$) was taller than past

⁶ 30.4% ($n = 38$) of men and 36.3% ($n = 98$) of women were not measured or reported their weight, and likewise, 32.0% ($n = 40$) of men and 31.5% ($n = 85$) of women did not agree to be measured or were not feasible to be measured due to the format of online interviews and data collection. Individuals were excluded from the BMI analysis if they had missing data on either weight or height ($n = 143$).

populations in Mongolia even though it was lower compared with Russian ($M = 177\text{ cm}$) and Chinese populations ($M = 176\text{ cm}$) (Roser et al., 2024).

The average height of Mongolian men was 159 cm in 1896 and gradually increased to 163 cm in 1910, 165 cm in 1930, and 170 cm in 1996 (ibid). The average height of Mongolian women in this study was 162 cm, which was much higher than in the past, 148 cm in 1896 and 158 cm in 1996 (ibid).

Throughout the years for which data is available, the average Mongolian height has been steadily increasing over time, and these increases in height over time are not unique to Mongolians. Human heights have changed over time with increases in every country over the past century, and this trend is in line with improvements in health and nutrition (Roser et al., 2024). The steady increase in height in post-socialist Mongolia is likely to be associated with the constant improvement of nutrition, which plays a significant role in growth in the modern Mongolian context. As expected, men in my sample were taller and heavier than women and also had a higher BMI (kg/m^2). I discuss gender and regional variances in body size in the following section.

Table 4.1. Summary Body Size Statistics. ($n = 252$).

	<i>Mean</i>	<i>n</i>	<i>SD</i>
Men			
<i>Weight in kg</i>	80.17	87	11.71
<i>Heigh in cm</i>	171.64	85	5.60
<i>BMI (kg/m^2)</i>	27.18	85	3.52
Women			
<i>Weight in kg</i>	68.31	172	11.08
<i>Heigh in cm</i>	162.44	185	5.93
<i>BMI (kg/m^2)</i>	20.06	168	4.08

4.2.2. REGIONAL VARIATIONS IN BODY SIZE (BMI)

Body Mass Index (BMI, kg/m²), an anthropometric index of weight and height and the primary outcome variable for this chapter on obesity and body size, was obtained by calculating respondents' BMI from the height and weight measured by me or self-reported by the participant. An average BMI was calculated in Excel for each region, including both men and women in order to explore the overall regional differences in BMI. Among adults aged 18 to 71 years in the present study, the mean body mass index was 26.43 kg/m², slightly higher than values reported by the World Health Organisation in preceding years: 26.0 kg/m² in 2014, 26.1 kg/m² in 2015, and 26.2 kg/m² in 2016 (WHO, 2023).

Between 1983 and 2013, the mean body mass index (BMI) of the Mongolian population increased steadily from 22.9 kg/m² to 25.8 kg/m², passing 23.8 kg/m² in 1993 and 24.6 kg/m² in 2003 (WHO, 2023). This upward trend represents a shift from a generally healthy BMI range towards the overweight category, which has been associated with an increased risk of non-communicable diseases, including cardiovascular disease, type 2 diabetes, and metabolic syndrome (Ng et al., 2014; Batbold et al., 2021; Jargalsaikhan et al., 2015). The observed rise in BMI therefore reflects an emerging public health concern in Mongolia, consistent with global trends linking overweight and obesity to heightened morbidity and mortality from chronic conditions (Chatterjee et al., 2021).

Reflecting global trends, Mongolians today are not only taller but also heavier than previous populations. In my sample, the mean BMI was highest among adults in the peri-urban area (M = 26.88 kg/m²), followed by those in the rural area (M = 26.77 kg/m²) and the urban area (M = 25.53 kg/m²). The BMI in the rural and peri-urban areas exceeded the recent national average (M = 26.2 kg/m²) reported in 2016 (WHO, 2023). Urban residents had lower BMI

averages compared with peri-urban and rural residents, which may reflect higher levels of intentional regular exercise, as discussed later in this chapter.

Also, because people who live in urban areas are wealthier than people who live in peri-urban and rural areas, this supports previous research on the association between obesity and lower economic status. According to several studies (Monteiro et al., 2004; Mendez et al., 2005), it has been noted that individuals from lower socioeconomic groups in developing countries are more susceptible to obesity compared to those from higher socioeconomic backgrounds.

These findings are consistent with the observations in my sample, suggesting a potential link between the prevalence of obesity and socioeconomic disadvantages at the regional level in contemporary Mongolia. However, these findings cannot be generalised to the broader Mongolian population due to the non-representative nature and limited statistical power of the sample, attributed to its small size and the inherent bias caused by individuals with higher body weight being less likely to participate in the study. To delve deeper into the discussion of adult BMI in Mongolia, the next section will separately assess the BMI of men and women in the three regions.

4.2.3. GENDER AND REGIONAL VARIANCES IN BODY SIZE (BMI)

In the present sample, men had a higher body mass index ($M = 27.18 \text{ kg/m}^2$) than women ($M = 26.06 \text{ kg/m}^2$), in contrast to previous studies reporting consistently higher BMI among Mongolian women (WHO, 2023; Chimeddaba et al., 2016). Historical data show that the average BMI for men was 23.5 kg/m^2 in 1996, 24.4 kg/m^2 in 2006, and 25.9 kg/m^2 in 2016 (WHO, 2023), all lower than the mean observed in my sample.

Similarly, the mean BMI for women in my sample ($M = 26.06 \text{ kg/m}^2$) was slightly lower than the 2016 value but higher than in 1996 and 2006, when the average BMI was 24.5 kg/m^2 and 25.4 kg/m^2 , respectively (WHO, 2023). The higher male BMI was observed exclusively in peri-urban regions, although this difference was not statistically significant. In urban and rural regions, no significant differences in BMI were observed between men and women.

4.2.4. REGIONAL VARIANCES IN MALE BODY SIZE (BMI)

Larger variations in male BMI (kg/m^2) across the three locations were identified and compared to the female BMI. As shown in Table 4.2, men in peri-urban areas had higher BMI than those in rural or urban areas even though this was not statistically significant. Rural and urban male adults had similar BMI, suggesting a similar energy balance between consumed and expended calories between the two distinctive areas where different types of food are available.

Table 4.2. Mean Body Mass Index (BMI, kg/m^2) in the Total Sample of Mongolian Adults Aged 18 to 71 Years by Area and Sex ($n = 252$).

<i>Sex</i>	<i>Region</i>	<i>Mean (kg/m^2)</i>	<i>n</i>	<i>SD</i>
Men				
	<i>Rural</i>	26.75	29	3.30
	<i>Peri-urban</i>	28.42	37	3.40
	<i>Urban</i>	25.35	18	2.73
Women				
	<i>Rural</i>	26.79	35	4.46
	<i>Peri-urban</i>	25.88	57	3.84
	<i>Urban</i>	25.85	76	4.07

$t(13) = 3.404; p < .01.$

4.2.5. REGIONAL VARIANCES IN FEMALE BODY SIZE (BMI)

Similar to males, there was little regional variation in female BMI (kg/m²), as shown in Table 4.3. Although women in rural areas had slightly higher BMI (M = 26.79 kg/m²) than those in peri-urban (M = 25.88 kg/m²) or urban areas (M = 25.85 kg/m²), these regional differences were not statistically significant. This pattern of higher rural obesity prevalence among women is not unique to Mongolian adults; in fact, higher rural obesity prevalence in female adults has been reported as the largest contributor to BMI increases in low- and middle-income countries over the past three decades (Bixby et al., 2019).

The BMI of urban female residents, who often had the highest socioeconomic status and highest paying careers, and those of peri-urban female residents, were very similar, possibly owing to the food environments in Ulaanbaatar, which widely differ from the ones in rural Mongolia.

4.3. OBESITY PREVALENCE AMONGST MONGOLIANS

4.3.1. OBESITY IN DIFFERENT AGE GROUPS

Age variation should be taken into account in understanding the regional BMI (kg/m²) analysis. The two age groups in my sample enabled me to look at the generational effects of pre- and post- socialist Mongolia on obesity. In order to examine the age differences in obesity prevalence, participants' ages were also dichotomised into two groups: younger adults (< 37) aged 18 – 36 years (n = 207; 52.4%) and older adults (≥ 37), aged 37 – 71 years (n = 188; 47.6%) because the median age was 37 years, and this coincided with the political transition

from socialist to post-socialist Mongolia in the early 1990s. Table 4.3 shows the younger and older adults in the total sample of Mongolian adults aged 18 to 71 years by area.

Table 4.3. Body Mass Index (BMI, kg/m²) of Younger and Older Adults in the Total Sample of Mongolian Adults Aged 18 to 71 Years by Area (n = 252). Obesity is Defined as BMI ≥ 30 kg/m².

<i>Age group</i>	<i>BMI classification</i>	<i>Percentage</i>	<i>n</i>
<i>Young adults (< 37)</i>	<i>Obese (BMI ≥ 30 kg/m²)</i>	<i>21.3%</i>	<i>29</i>
	<i>Non-obese (BMI < 30 kg/m²)</i>	<i>78.7%</i>	<i>107</i>
<i>Older adults (≥ 37)</i>	<i>Obese (BMI ≥ 30 kg/m²)</i>	<i>17.2%</i>	<i>20</i>
	<i>Non-obese (BMI < 30 kg/m²)</i>	<i>82.8%</i>	<i>96</i>
<i>Total</i>			<i>252</i>

Among adults aged 18 years and over, the prevalence of obesity (BMI ≥ 30 kg/m²) was higher among younger adults aged 18–36 years (21.3%) than among older adults aged 37 years and over (17.2%) in my sample, although this difference was not statistically significant. This finding is notable because, with ageing, individuals generally experience muscle loss and a slower metabolic rate, which often leads to higher obesity prevalence in older adults. In contrast, data from the United States indicate lower obesity prevalence among younger adults, with those aged 18 - 24 years exhibiting the lowest rates (20.7%) compared with adults aged 45 - 54 years (39.3%) (CDC, 2023).

On average, between the ages of 25 and 55, Americans gain approximately 1 pound (0.45 kg) of fat and lose around 0.5 pound (0.23 kg) of muscle tissue per year (Lee et al., 2011). Similarly, in England, the proportion of obese adults increases with age, peaking among men aged 45 - 54 years (36%) and women aged 55 - 64 years (37%) (NHS, 2020). However, these patterns of higher obesity prevalence among older adults were not observed in my sample, which may reflect different dietary habits between younger and older Mongolian adults. It may

also indicate that younger Mongolian adults have higher caloric intake and lower levels of physical activity compared with their older counterparts.

4.3.2 OBESITY PREVALENCE IN DIFFERENT REGIONS

Although subtle regional indications of slightly different levels of BMI (kg/m²) were observed, the overall binary logistic regression (Model 1⁷) was statistically non-significant, suggesting that region does not predict Mongolian adult BMI in my sample (Table 4.4). This result may not be surprising, as this study exclusively looks at Mongolian adults without any racial diversity, which in many cases is one of the key driving factors for the BMI variations of people living in the same country.

Collectively, where people live and work in present-day Mongolia does not make a statistically significant difference in their BMI despite such distinct lifestyles, food environments, and working conditions in the three domestic regions. It may be associated with the age composition of people living in these three distinct regions. More than half of peri-urban (61.3%) and urban residents (59.9%) were younger adults, whereas only 31.5% of rural residents were younger adults.

There was a statistically significant relationship between the age groups (younger < 37; older ≥ 37) of the adult participants and the areas (rural, peri-urban, and urban) they lived in, $\chi^2(2) = 27.028, p < .001$. Older adults were more than three times more likely to live in the

¹ Binary logistic regression model to test the associations between region (urban, rural, and peri-urban Mongolia) and BMI (obese and others).

countryside than in urban (*odds ratio* = 3.24) and peri-urban areas (*odds ratio* = 3.44), respectively.

Considering that BMI of older people are generally higher than BMI of younger people across the world, the non-significant difference in BMI in three regions in my sample may be confounded by age. Taking the uneven age composition of my sample into account, it is worth noting that the BMI across three regions without any statistically significant difference may reflect varying calorie consumption and expenditure patterns amongst individuals in different areas.

Table 4.4. Prevalence of Obesity amongst Men and Women Combined, by Region (n = 252).

Dependent variable:

Body Mass Index (BMI, kg/m²) categorised as obese (BMI ≥ 30 kg/m²) vs non-obese (BMI < 30 kg/m²).

		<i>B Coefficient</i>	<i>95% Confidence Intervals Lower Bound</i>	<i>95% Confidence Intervals Upper Bound</i>	<i>P- value</i>	<i>Exp (B)</i>
Obese	<i>Rural</i> ⁸		.335		.335	
	<i>Peri-Urban</i>	.181	.553	2.599	.646	1.20
	<i>Urban</i>	-.376	.299	1.579	.376	.687
	<i>Constant</i>	-1.367			<.001**	.255

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

In the sample, 61% of women and 20.8% of men in three areas cooked more than once a week. Gender division of household labour was observed in the sample, and women were more likely to cook more than once a week than men, $\chi^2(1) = 52.994, p < .001$. Amongst male adults, 7.0% in rural, 16.3% in peri-urban, and 50.0% in urban regions cooked more than once

⁸ Reference category.

a week, and there was a statistically significant difference in the area men lived and the number of times they cooked in a week, $\chi^2 (2) = 20.051, p < .001$.

While a similar percentage of women in urban and peri-urban areas cook at home, only 16.3% of peri-urban men sometimes cooked at home (more than once a week), whereas 50% of urban men sometimes cooked home. This may indicate that peri-urban men were least likely to consume home-cooked foods amongst all three male groups, possibly associated with the fact that peri-urban men had the highest obesity rates in my sample, despite being younger than rural groups.

In rural areas, men typically only cooked when they were not living with female family members or when the women in the household were unwell. Without easy access to take-away meals or processed food products, they had to prepare their own meals in their given environments far from any food outlets. Unlike these rural men, who lacked regular or immediate access to food outlets, peri-urban men in the city have easier and more frequent access to food through these outlets, potentially contributing to their higher obesity rates compared to rural men.

Likely the reason the overall (men and women together) model was non-significant is because there are more women than men in the sample and so their “association” obscures the one with men. Similar to what was seen in male adults, the relationship between where female adults lived and the number of times they cooked at home in a week was statistically significant, $\chi^2 (2) = 40.517, p < .001$. Compared to men, women more commonly practiced cooking in all three areas. For instance, 93.9% of women in rural areas, 51.2% in peri-urban, and 48.7% in urban areas cooked at home more than once a week.

4.4. BODY SIZE CATEGORIES OF MONGOLIANS

4.4.1. BODY SIZE CATEGORIES OF OBESE, OVERWEIGHT AND NORMAL WEIGHT

Table 4.5 presents BMI categories for Mongolian men and women, classified as normal weight (BMI 18.5–24.9 kg/m²), overweight (BMI 25–29.9 kg/m²), and obese (BMI ≥ 30 kg/m²). No participants in the sample were underweight, so the underweight category (BMI < 18.5 kg/m²) was merged with the normal-weight group. These classifications follow international standards⁹ for adults of both sexes. Across all three regions, 65.9% of participants were classified as overweight or obese, as shown in Table 4.5.

Table 4.5. Summary Statistics of Body Mass Index (BMI, kg/m²) Coded (n = 252).

<i>Variable</i>	<i>Percentage¹⁰</i>	<i>n</i>
<i>BMI three categories</i>		
<i>Male and Female BMI</i>		252
<i>Normal weight</i>	34.1%	86
<i>Overweight</i>	46.4%	117
<i>Obese</i>	19.4%	49
<i>Male BMI</i>		84
<i>Normal weight</i>	20.2%	17
<i>Overweight</i>	57.1%	48
<i>Obese</i>	22.6%	19
<i>Female BMI</i>		168
<i>Normal weight</i>	41.1%	69
<i>Overweight</i>	41.1%	69
<i>Obese</i>	17.9%	30

$\chi^2(2) = 10.891, p < .01.$

⁹ A threshold of BMI of 25 (kg/m²) for overweight and 30 (kg/m²) for obesity is suggested and employed by the World Health Organisation, Centres for Disease Control and Prevention, Health Canada, UK National Health Service, and the Australian Institute of Health and Welfare.

¹⁰ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

Mongolian adult rates of obesity differed from one another in different areas. Table 4.6 displays the body size categories of men and women combined. The rates of obesity were highest in peri-urban regions (23.4%), followed by rural (20.3%) and urban regions (14.9%).

Table 4.6. Summary Statistics of Body Size Categories of Men and Women Combined (n = 252).

<i>Variable</i>	<i>Percentage¹¹</i>	<i>n</i>
<i>BMI three categories</i>		
<i>Rural</i>		
<i>Normal weight</i>	35.9%	23
<i>Overweight</i>	43.8%	28
<i>Obese</i>	20.3%	13
<i>Peri-urban</i>		
<i>Normal weight</i>	28.7%	27
<i>Overweight</i>	47.9%	45
<i>Obese</i>	23.4%	22
<i>Urban</i>		
<i>Normal weight</i>	38.3%	36
<i>Overweight</i>	46.8%	44
<i>Obese</i>	14.9%	14
<i>Total</i>		252

In all three Mongolian regions, obesity rates were higher than the worldwide obesity rates (13%) of adults aged 18 years and over in 2016 (WHO, 2021). In the sample, obesity rates (men and women combined) varied from 37.8% amongst peri-urban males to 13.8% amongst rural males. Amongst all adults in three areas, peri-urban males had the highest prevalence of obesity (37.8%), followed by rural females (25.7%), urban females (17.1%), and peri-urban females (14.0%).

Peri-urban men had much higher obesity rates than women. One of the conspicuous characteristics of peri-urban men is that many of them are rural-urban migrants who were raised

¹¹ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

in the countryside in my sample. Their rural upbringings and current urban livelihoods may be associated with their higher rates of obesity prevalence compared to the rest of the regional and gender groups, which will be further elaborated later in this chapter. Meanwhile, the prevalence of normal weight amongst all adults, including both men and women, was highest amongst rural women (45.7%), followed by peri-urban women (42.1%), urban men (38.9%), and urban women (38.2%).

4.4.2. MALE BODY SIZE CATEGORIES OF OBESE, OVERWEIGHT, AND NORMAL WEIGHT

Amongst men and women, gender variations in the prevalence of obesity were identified. Table 4.7. shows Mongolian male body size categories.

Table 4.7. Summary Statistics of Male Body Size Categories (n = 84).

<i>Variable</i>	<i>Percentage</i> ¹²	<i>n</i>
BMI three categories		
Rural		
<i>Normal weight</i>	24.1%	7
<i>Overweight</i>	62.1%	18
<i>Obese</i>	13.8%	4
Peri-urban		
<i>Normal weight</i>	8.1%	3
<i>Overweight</i>	54.1%	20
<i>Obese</i>	37.8%	14
Urban		
<i>Normal weight</i>	38.9%	7
<i>Overweight</i>	55.6%	10
<i>Obese</i>	5.6%	1
Total		84

$\chi^2 (4) = 13.299; p < .05.$

¹² Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

The obesity prevalence was higher amongst men (22.6%) compared to women (17.9%). Statistically significant differences in BMI (kg/m²) in three categories and three locations were found amongst Mongolian males, $\chi^2 (4) = 13.299, p < .05$. Amongst male adults, the level of obesity was highest in peri-urban areas (37.8%), followed by rural (13.8%) and urban areas (5.6%), making the regional differences in the prevalence of obesity within Ulaanbaatar prominent.

In Ulaanbaatar, the obesity prevalence of Mongolian men was higher in the lower-income group of peri-urban *ger* dwellers in the city, compared with the city's well-off urban sample. One possible interpretation is that, amongst Mongolian males, obesity is now affecting the economically vulnerable, lower-income peri-urban dwellers, instead of the full spectrum of social and economic classes across the city.

4.4.3. BINARY BODY SIZE CATEGORIES OF MALE OBESE AND NON-OBESE INDIVIDUALS

The three categories of normal weight, overweight, and obese were dichotomised into two groups: obese individuals (BMI ≥ 30 kg/m²) and non-obese individuals (BMI < 30 kg/m²) to calculate effect sizes (odds ratios), streamline the analysis, and facilitate interpretation of the results. Table 4.8 summarises male and female obese and non-obese individuals in rural, peri-urban, and urban Mongolia.

Male and female obesity in peri-urban (23.4%) and rural (20.3%) areas were much higher than in urban areas (14.9%). This gap between urban and peri-urban groups is

particularly interesting, as they live in the same city and their age composition is similar to one another. It is possible that economic inequality is playing a role in this trend, influencing the types of food consumed, with whom, how often, and in what quantities. Such food practices may be limited to those who can afford them, highlighting the presence of visible and prominent disparities within the city.

Table 4.8. Male and Female Obese vs Non-Obese (Normal Weight and Overweight) (n = 252).

<i>Variables</i>		<i>Percentage</i>	<i>n</i>
BMI Countryside	<i>Obese</i>	20.3%	13
	<i>Non-obese</i>	79.7%	51
BMI Peri-Urban	<i>Obese</i>	23.4%	22
	<i>Non-obese</i>	76.6%	72
BMI Urban	<i>Obese</i>	14.9%	14
	<i>Non-obese</i>	85.1%	80
Total			252

As Table 4.9 shows, obesity was more prevalent in peri-urban areas (23.4%), followed by rural (20.3%) and urban areas (14.9%). The relationship between the obesity prevalence¹³ and the area participants lived in was statistically non-significant. However, there were several important differences between the male and female prevalence of obesity in different areas.

Table 4.9. Male and Female Adults Body Size

Obesity vs Non-Obese (Normal weight and Overweight) (n = 252).

<i>Variables</i>		<i>Percentage</i>	<i>n</i>
	<i>Obese</i>	19.4%	49
	<i>Non-obese</i>	80.6%	203
Male BMI	<i>Obese</i>	22.6%	19
	<i>Non-obese</i>	77.4%	65
Female BMI	<i>Obese</i>	17.9%	30
	<i>Non-obese</i>	82.1%	138
Total			252

¹³ The prevalence of obesity in the sample.

Table 4.10 presents the binary body size categories for male adults, distinguishing obese individuals (BMI ≥ 30 kg/m²) from non-obese individuals (BMI < 30 kg/m²). Obesity prevalence has disproportionately affected peri-urban males; obesity was most prevalent in peri-urban (37.8%) and much less prevalent in rural (13.8%) and urban regions (5.6%). Amongst Mongolian males, there was a significant relationship between obesity and the area in which the subject lived, $\chi^2(2) = 9.181; p < .05$.

It is notable that substantially bigger body size was associated with peri-urban regions, and peri-urban male adults were more than three times as likely to be obese as nomads in the countryside. Significant variations in BMI identified in this study indicate changes in food consumption practices amongst peri-urban males, as 90.4% of peri-urban males were originally from rural regions, whereas only 10.3% of urban males were internal rural-urban migrants. These data highlight the importance of examining the association between obesity and domestic migration in today's Mongolia. On the other hand, this statistically significant regional difference was not detected amongst Mongolian women.

Table 4.10. Male Adults Body Size Obesity vs Non-obese (Normal Weight and Overweight) (n = 84).

<i>Variables</i>	<i>Percentage</i>	<i>n</i>
<i>Male BMI Countryside</i>		
<i>Obese</i>	13.8%	4
<i>Non-obese</i>	86.2%	25
<i>Male BMI Peri-Urban</i>		
<i>Obese</i>	37.8%	14
<i>Non-obese</i>	62.2%	23
<i>Male BMI Urban</i>		
<i>Obese</i>	5.6%	1
<i>Non-obese</i>	94.4%	17
<i>Total</i>		84

$\chi^2(2) = 9.181; p < .05$. (Odds Ratio = 3.80)

4.4.4. FEMALE BODY SIZE CATEGORIES OF OBESE, OVERWEIGHT AND NORMAL WEIGHT

Unlike male adult groups, female adult groups showed the highest prevalence of obesity in rural regions, as shown in Table 4.11. This may be associated with the age of participants, as many rural participants were older than peri-urban and urban participants. However, studies on weight gain and slowed metabolism in middle age show complex, varying results, as discussed earlier in the gender and regional variances in the obesity section.

Most rural women (93.9%) cooked more than once a week, and it was predominantly traditional Mongolian dishes cooked and consumed in rural households, implying a possible association between traditional Mongolian dishes consumed by nomads and higher rates of obesity.

Table 4.11. Summary Statistics of Female Body Size Categories (n = 168).

<i>Variable</i>	<i>Percentage¹⁴</i>	<i>n</i>
<i>BMI three categories</i>		
<i>Rural</i>		
<i>Normal weight</i>	45.7%	16
<i>Overweight</i>	28.6%	10
<i>Obese</i>	25.7%	9
<i>Peri-urban</i>		
<i>Normal weight</i>	42.1%	24
<i>Overweight</i>	43.9%	25
<i>Obese</i>	14.0%	8
<i>Urban</i>		
<i>Normal weight</i>	38.2%	29
<i>Overweight</i>	44.7%	34
<i>Obese</i>	17.1%	13
<i>Total</i>		168

¹⁴ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

In order of prevalence, 25.7% in rural, 17.1% in urban, and 14.0% in peri-urban areas were obese in the female group. Unlike peri-urban females, rural females were almost twice as likely to be obese than normal weight (Odds Ratio = 1.69). However, overweight was most prevalent in Ulaanbaatar. 44.7% of urban females and 43.9% of peri-urban females, both living in the city, were overweight, whereas 28.6% of rural females were overweight. Normal weight was most common in rural areas.

More women in rural (45.7%) and peri-urban (42.1%) regions had a normal weight, compared with urban region (38.2%). When we look at obesity alone, the rate is highest in rural areas. However, living in a rural area does not always mean that a subject's BMI is higher than the BMI of someone living in the city. The gender variation in BMI was least significant in urban areas, where about the same percentage of men (50.0%) and women (51.2%) cooked more than once a week. Accordingly, how often the participants cooked in a week seemed related to gender differences.

In rural areas, primarily women (93.9%) cooked more than once a week, whilst only 7.0% of men cooked more than once a week. However, unlike in Ulaanbaatar, the whole family consumed the same foods every day in rural areas, which may have contributed to the lower gender variation in BMI compared to the peri-urban areas. Conversely, unlike male adults, female adults showed a non-significant relationship between obesity prevalence and place of residence. The higher obesity rates of Mongolian peri-urban men, for instance, did not apply to Mongolian women in the same region. These findings underscore the importance of considering gender disparities in understanding the broader determinants of obesity.

4.4.5. BINARY BODY SIZE CATEGORIES OF FEMALE OBESE AND NON-OBESE INDIVIDUALS

Table 4.12 presents the binary body size categories for female adults, distinguishing obese individuals (BMI \geq 30 kg/m²) from non-obese individuals (BMI < 30 kg/m²). Unlike male groups, female groups showed a statistically non-significant relationship between obesity prevalence and area of residence.

In contrast to male adults, female adults showed the highest prevalence of obesity in rural areas (25.7%), followed by urban (17.1%) and peri-urban (14.0%) regions, possibly indicating associations with obesity and traditional Mongolian food consumption. Obesity rates were lower amongst well-paid and well-educated urban dwellers, who had the most frequent access to a broader range of food products. Unlike males, peri-urban females had the lowest obesity rates.

Table 4.12. Summary Statistics of Female Adults Body Size

Obesity vs Non-obese (Normal Weight or Overweight) (n = 168).

<i>Variables</i>		<i>Percentage</i>	<i>n</i>
<i>Female BMI Rural</i>	<i>Obese</i>	25.7%	9
	<i>Non-obese</i>	74.3%	26
<i>Female BMI Peri-Urban</i>	<i>Obese</i>	14.0%	8
	<i>Non-obese</i>	86.0%	49
<i>Female BMI Urban</i>	<i>Obese</i>	17.1%	13
	<i>Non-obese</i>	82.9%	63
<i>Total</i>			168

4.5. OBESITY AND SOCIODEMOGRAPHIC FACTORS

4.5.1. ARE SOCIODEMOGRAPHIC FACTORS ASSOCIATED WITH OBESITY?

Numerous studies (Caglayan-Akay, et al., 2023; Mack et al., 2020; Gu et al., 2014; McLaren, 2007; Hedley et al., 2004) have shown that sociodemographic factors influence individual body weight. Initially, excess weight tends to be observed in the upper socioeconomic group, but later on, it becomes prevalent in all groups (Bovbjerg, 2008: 47). To test whether sociodemographic factors predicted the levels of obesity on the basis of cross-sectional data and to what extent, the relationship between individual BMI (kg/m^2) and sociodemographic factors amongst Mongolian males and females was examined.

Individual BMI (kg/m^2) values were categorised into two groups: obese ($\text{BMI} \geq 30 \text{ kg}/\text{m}^2$) and non-obese ($\text{BMI} < 30 \text{ kg}/\text{m}^2$), the latter encompassing underweight ($\text{BMI} < 18.5 \text{ kg}/\text{m}^2$), normal weight ($\text{BMI} 18.5 - 24.9 \text{ kg}/\text{m}^2$), and overweight ($\text{BMI} 25 - 29.9 \text{ kg}/\text{m}^2$) individuals. Binary logistic regression analysis (Model 2¹⁵) was employed to examine the effect of sociodemographic factors (categorical variables) on BMI (obese versus non-obese¹⁶) to see whether individual social and demographic factors predicted BMI.

The result of regression provided interpretable coefficients that quantify the relationship between BMI and outcome variables. I used BMI (two groups) as the dependent

¹⁵ Binary logistic regression model to test the associations between sociodemographic factors (age, gender, marital status, occupation, area of residence, internal migration, and household size) and BMI (obese, $\text{BMI} \geq 30 \text{ kg}/\text{m}^2$, versus non-obese, $\text{BMI} < 30 \text{ kg}/\text{m}^2$).

¹⁶ Two categories of individuals were defined: obese ($\text{BMI} \geq 30 \text{ kg}/\text{m}^2$) and non-obese, the latter including underweight ($\text{BMI} < 18.5 \text{ kg}/\text{m}^2$), normal weight ($\text{BMI} 18.5-24.9 \text{ kg}/\text{m}^2$), and overweight ($\text{BMI} 25-29.9 \text{ kg}/\text{m}^2$) individuals.

variable and only included sociodemographic factors that define people in a specific group as independent variables here. Sociodemographic variables used in this analysis are age, gender, marital status, occupation, internal migration, and household size. Binary logistic regression was conducted for sociodemographic outcome variables (categorical) with no natural ordering.

Table 4.13 shows the summary output of the binary logistic regression model for all adult participants (men and women combined). The overall regression was statistically non-significant, suggesting that all the other sociodemographic factors do not predict Mongolian adult BMI and the likelihood ratio test result proved non-significant. That none of the demographic variables included were significant predictors of BMI, is somewhat surprising, given the known association between obesity and sociodemographic factors such as age (Jura & Kozak, 2016), occupation (Gu et al., 2014) and marital status (Bell & Thorpe, 2019; Sobal & Hanson, 2011; Sobal et al., 1992) in other populations.

It is possible, however, that my null results are the product of small sample size. In an attempt to estimate relationships between BMI and each sociodemographic factor, as opposed to the whole set of different sociodemographic factors altogether, chi-square tests of independence were conducted. Chi-square tests were used to determine whether there was a significant association between BMI and each of the sociodemographic factors such as marital status and internal migration in the sections that follow.

Table 4.13. Summary Output of the Binary Logistic Regression Model for All Adults

(Aged ≥ 18 years; men and women combined) (n = 252).

Dependent variable: BMI (obese vs non-obese)

	<i>B Coefficient</i>	<i>95% Confidence Intervals Lower Bound</i>	<i>95% Confidence Intervals Upper Bound</i>	<i>P- value</i>	<i>Exp (B)</i>
<i>Internal Migration (Internal Migrant; Non-Internal Migrant)</i>	1.007	.820	9.129	.101	2.736
<i>Gender (Male; Female)</i>	-.271	.377	1.540	.450	.762
<i>Age (Younger < 37; Older adults ≥ 37)</i>	-.110	.416	1.927	.778	.896
<i>Marital Status (Single; Married)</i>	.354	.532	3.816	.354	1.425
<i>Occupation</i>				.716	
<i>Nomad</i>	.547	.618	4.834		4.834
<i>Student</i>	-.027	.222	4.269		4.269
<i>Skilled</i>	-.145	.256	2.928		2.928
<i>Constant</i>	-1.930			.009	

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

4.5.2. OBESITY AND MARITAL STATUS

Associations of marriage with body weight appear to be at least partly contingent upon gender and ethnicity, which may reflect larger societal patterns of involvement in marriage, commitment to family, and body-weight norms and expectations (Sobal et al., 2009).

In my sample, 78.1% of participants were married, whereas 21.83% were single, with a relationship status of unmarried, widowed, divorced or separated. Table 4.14 shows the BMI (kg/m²) of Mongolian males and females who were “normal weight” or “overweight or obese” by their marital status as a binary outcome with “single” or “married.”

Table 4.14. Dichotomised Mongolian Adult BMI (kg/m²) by Marital Status.

Normal Weight vs Overweight or Obese (n = 252).

<i>Variables</i>		<i>Percentage</i>	<i>n</i>	<i>expected</i>
Single			55	
	<i>Overweight or obese</i>	54.5%	30	36.2
	<i>Normal weight</i>	45.5%	25	18.8
Married			197	
	<i>Overweight or obese</i>	69.0%	136	129.8
	<i>Normal weight</i>	31.0%	61	67.2
Total			252	

$\chi^2 (1) = 4.016; p < .05$ Odds Ratio = 1.86

Married individuals (69.0%) were almost twice as likely to be overweight or obese compared to single ones (54.5%; Odds Ratio = 1.86). This may be age related because in the sample, the older the individuals were, the more likely they were to be married. Amongst married individuals, 60.3% were older adults, and 39.7 % were younger adults, whereas 92.6% of single individuals were younger and 7.4% were older adults. As discussed earlier, overall, younger adults had slightly higher obesity rates than older adults in my sample.

As shown in Table 4.14, fewer single individuals than expected were overweight or obese, whereas more married individuals than expected were overweight or obese. Therefore, the relationship status could be interpreted as an important determinant of body size in my sample, which is consistent with findings from other countries. Previous research has shown that married individuals, especially men, tend to weigh more than their unmarried counterparts (Sobal et al., 2009; Averett, et al., 2008; Sobal & Hanson, 2011). This weight gain may be attributed in part to more frequent shared meals and social obligations with a spouse, as well as decreased involvement in individual activities like sports and exercise (Sobal et al., 2003). Research by Averett, et al. (2008) indicates that thinner women are more likely to be chosen as romantic partners. As a result, women in committed relationships may not be as vigilant about their weight as they are when they are single (ibid).

However, another study by Sobal and Hanson (2011) suggests that never-married women are more likely to be overweight or obese than married women. In fact, marital history findings showed that after adjusting for marital status, trajectory measures of age at first marriage, second marriage or second divorce, experiencing widowhood, and duration of separation/divorce were not clearly associated with body weight or obesity (ibid). In my sample, when BMI was classified into “obese” and “others” who were “normal weight or overweight,” the relationship between BMI (obese or not) and marital status (single or married) was non-significant, as shown in Table 4.15. This may be because the people who fell into the obese category were about half of those who were overweight.

Table 4.15. Dichotomised Mongolian Adult BMI (kg/m²) by Marital Status.

Obese vs Non-obese (Normal Weight or Overweight) (n = 252).

<i>Variables</i>		<i>Percentage</i>	<i>n</i>	<i>expected</i>
Single			55	
	<i>Obese</i>	14.5%	8	10.7
	<i>Non-obese</i>	85.5%	47	44.3
Married			197	
	<i>Obese</i>	20.8%	41	38.3
	<i>Non-obese</i>	79.2%	156	158.7
Total			252	

In addition, gender differences in obesity in relation to marital status were also explored. Table 4.16 shows dichotomised BMI of males and females by their marital status (married or single). The association between obesity and marital status differed by gender. Amongst male adults, more single individuals (85.7%) were overweight or obese compared to married individuals (78.6%) even though the relationship between marital status and BMI was statistically non-significant amongst male adults.

Unlike male adults, more married female individuals (63.8%) were overweight or obese than single female adults (43.9%). In contrast to the male adults, the relationship between marital status and BMI (binary) was statistically significant amongst females, $\chi^2 (1) = 5.060$; $p < .05$. Single females were more than twice as likely as married female individuals to be normal weight (*Odds Ratio* = 2.25). Unlike men, women showed higher obesity prevalence in married groups than in single groups.

Table 4.16. Dichotomised Mongolian Male and Female Adult BMI (kg/m²) by Marital Status (n = 252).

<i>Variables</i>	<i>Percentage</i>	<i>n</i>	<i>expected</i>
<i>Single men</i>		14	
<i>Overweight or obese</i>	85.7%	12	11.2
<i>Normal weight</i>	14.3%	2	2.8
<i>Married men</i>		70	
<i>Overweight or obese</i>	78.6%	55	55.8
<i>Normal weight</i>	21.4%	15	14.2
<i>Single women</i>		41	
<i>Overweight or Obese</i>	43.9%	18	24.2
<i>Normal weight</i>	56.1%	23	16.8
<i>Married women</i>		127	
<i>Overweight or Obese</i>	63.8%	81	74.8
<i>Normal weight</i>	36.2%	46	52.2
<i>Total</i>		252	

As younger adults had slightly higher obesity rates than older adults in my sample, binary logistic regression was conducted again without age for sociodemographic outcome variables (categorical). Table 4.17 shows the summary output of the binary logistic regression model for all adult participants (men and women combined). Similar to the binary logistic regression with four sociodemographic factors including age, the overall regression without age was statistically non-significant.

Table 4.17. Summary Output of All Adult Participants (n = 252).

Dependent variable: BMI (obese vs non-obese)

	<i>B</i> <i>Coefficient</i>	<i>95%</i> <i>Confidence</i> <i>Intervals</i> <i>Lower Bound</i>	<i>95%</i> <i>Confidence</i> <i>Intervals</i> <i>Upper Bound</i>	<i>P- value</i>	<i>Exp (B)</i>
<i>Internal Migration (Internal Migrant; Non-Internal Migrant)</i>	1.025	.843	9.206	.093	2.786
<i>Gender (Male; Female)</i>	-.274	.376	1.536	.445	.760
<i>Marital Status (Single; Married)</i>	.304	.538	3.411	.519	.304
<i>Occupation</i>				.730	
<i>Nomad</i>	-.553	.122	2.724	.486	-.553
<i>Student</i>	-.679	.125	2.061	.343	-.679
<i>Skilled</i>	-.526	.214	1.633	.310	-.526
<i>Constant</i>	-1.522			.009	.218

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

4.5.3. OBESITY AND INTERNAL MIGRATION

Turning now to internal migration, the experience of rural-urban domestic migration within Mongolia gives the demographic characteristics of individuals in a micro-level context in which one has or has never experienced relocation to Ulaanbaatar from rural Mongolia. BMI was classified into dichotomous variables of lower BMI ($< 25 \text{ kg/m}^2$) and higher BMI ($\geq 25 \text{ kg/m}^2$). This classification was based on the group's composition.

The prevalence of non-obese adults was higher (80.5%), while that of obese adults was lower (19.5%), making it difficult to conduct statistical analysis when using BMI $> 30 \text{ kg/m}^2$ as a dichotomous variable. Table 4.18 shows the adult BMI by internal migration.

Table 4.18. BMI (kg/m²) Dichotomised (Normal/ Overweight or Obese)

by Internal Migration (n = 252).

<i>Variables</i>	<i>Percentage</i>	<i>n</i>	<i>expected</i>
Non-migrants		152	
Overweight or obese	60.5%	92	100.1
Normal weight	39.5%	60	51.9
Internal migrants		100	
Overweight or obese	74.0%	74	65.9
Normal weight	26.0%	26	34.1
Total		252	

 $\chi^2 (1) = 4.871; p < .05. Odds Ratio = 1.86$

The results show that higher BMI (overweight or obese) is attributable to internal migration, $\chi^2 (1) = 4.871; p < .05$. Internal migrants in Ulaanbaatar were almost twice as likely to be overweight or obese as non-migrant participants. 92.0% of the participants in the *ger* districts and 14.3% in urban areas were internal migrants. 74% of internal migrants were overweight or obese, whereas 60.5% of non-migrants were overweight or obese (see Table 4.18).

Moving into Ulaanbaatar from the open countryside is a significant shift. Many internal migrants start working as employees for the first time in the city. The process of relocation and transition can be profoundly stressful and exhausting, as noted by several migrants I interviewed, who described it as an extremely tiring or even one of the most physically and mentally taxing experiences they had encountered. Alongside the strain of adjusting to new food environments, changing life patterns, and altered social networks, the relocation process may have broader implications, including a potential link to weight gain among migrants.

It is well-established that relocation and transition processes serve as significant sources of stress, which can have profound effects on both psychological and physical well-being.

Research consistently underscores that moving to a new environment, whether for personal, academic, or professional reasons, can lead to heightened emotional strain and increased stress levels (Sjöberg & Svensson, 2017). This process often involves a series of stressors, such as adapting to unfamiliar social contexts, overcoming logistical challenges, and adjusting to new cultural environments, all of which can result in psychological fatigue (Kim & Lee, 2021). In fact, Cohen and Williamson (1991) argue that such transitions can weaken the immune system, as the chronic stress associated with relocation increases susceptibility to illness.

A particularly significant factor contributing to the stress and exhaustion of relocation is the lack of robust social support networks. The absence of familiar social ties during periods of transition is frequently identified as a key stressor, compounding feelings of isolation and further intensifying the psychological burden of relocation (Barrett & Turner, 2006). This phenomenon is particularly pronounced in contexts such as military families, where frequent relocations lead to emotional exhaustion, disrupting family routines and severing established social connections (Harris & Lambert, 2013). In addition, Rosenbaum and Smith (2014) contend that relocation, especially across international borders, often induces a phase of intense cultural adaptation. This adjustment requires substantial emotional and mental energy, further exacerbating the strain experienced by migrants.

Collectively, these studies illustrate that the relocation process, with its myriad associated stressors, is not only physically and emotionally exhausting, but also presents significant challenges to an individual's overall well-being. Coping with such stressors requires a comprehensive strategy that accounts for both the psychological and physiological demands of transition.

Many studies reported that stress can be a factor in the development and persistence of obesity (Van der Valk, et al., 2018; Scott et al., 2012; Kumar, et al., 2022; Tomiyama, 2019).

According to Tomiyama (2019), while stress cannot be solely attributed to the onset of obesity, there exists a complex interplay between stress and obesity that transcends various domains including cognition, behaviour, physiology, and biochemistry. Emotional eating is associated with psychological states like depression, anxiety, unhealthy dietary patterns, and being overweight or obese (Dakanalis et al., 2023).

Unlike when BMI was classified into dichotomous variables of lower BMI ($< 25 \text{ kg/m}^2$) and higher BMI ($\geq 25 \text{ kg/m}^2$), the relationship between BMI (obese and others) and experience of internal migration was non-significant when BMI was dichotomised into obese (BMI $\geq 30 \text{ kg/m}^2$) and others (normal weight and overweight) (see Table 4.19). This is likely to be caused by lower prevalence of obesity than those of overweight. It is crucial to monitor individuals who are classified as being overweight, as studies (Bhaskaran, et al., 2014; NHLBI, 2013) found increased health risks for serious diseases and health conditions amongst both obese and overweight people, compared to those with healthy weight.

Table 4.19. BMI (kg/m^2) Dichotomised (Obese vs Normal Weight or Obese)
by Internal Migration (n = 252).

<i>Variables</i>		<i>Percentage</i>	<i>n</i>	<i>expected</i>
<i>Non-migrants</i>			152	
	<i>Obese</i>	15.8%	24	29.6
	<i>Non-obese</i>	84.2%	128	122.4
<i>Internal migrants</i>			100	
	<i>Obese</i>	25.0%	25	19.4
	<i>Non-obese</i>	75.0%	75	80.6
<i>Total</i>			252	

As shown in Table 4.19., internal migrants had higher obesity rates compared to non-migrants. 25% of internal migrants were obese, whereas 15.8% of non-migrants were obese even though there was no statistically significant difference. Together with the results from the previous section, higher BMI (overweight or obese) was associated with internal migration, even though being obese (excluding being overweight) was not.

4.6. OBESITY AND DIETARY BEHAVIOURS

4.6.1. DO DIETARY BEHAVIOURS PREDICT OBESITY?

Daily food choices are carefully and strategically made by some, while they are simply and quickly made by others for many different reasons. The relationship between individual BMI and everyday dietary factors was reviewed to test whether certain dietary behaviours predicted the levels of obesity and, if so, to what extent. Individual BMIs were divided into three categories of normal weight (18.5 - 24.9 kg/m²), overweight (25 - 29.9 kg/m²), and obese (≥ 30 kg/m²).

Dietary behavioural variables including commensality, protein food consumption, typically consumed foods, food selection criteria, meal frequency, times cooked in a week, and seasonal food consumption were employed for binary logistic regression, as shown in Table 4.20. The binary regression was used to estimate the relationship between individual BMI and everyday dietary factors, which may or may not be associated with excess weight gain amongst Mongolian adults.

Table 4.20. Dietary Behaviours of the Participants (n = 252).

<i>Variable</i>	<i>Percentage</i>	<i>n</i>
<i>Commensality</i>		
<i>Eats alone</i>	18.5%	68
<i>Eats with others</i>	81.5%	299
<i>Protein food consumption</i>		
<i>Protein food</i>	70.0%	247
<i>Others</i>	30.0%	106
<i>Typically consumed foods</i>		
<i>Traditional Mongolian food</i>	97.4%	379
<i>Fast food</i>	2.6%	10
<i>Food selection criteria</i>		
<i>Taste</i>	69.9%	242
<i>Time or Cost</i>	30.1%	104
<i>Meal frequency</i>		
<i>High</i>	57.1%	217
<i>Low</i>	42.9%	163
<i>Times cooked in a week</i>		
<i>High</i>	51.7%	196
<i>Low</i>	48.3%	183
<i>Seasonal food consumption</i>		
<i>Yes</i>	54.0%	150
<i>No</i>	46.0%	128

I used binary logistic regression (Model 3¹⁷) analysis to test the effect of the dietary factors (categorical variable) on BMI (obese vs normal weight and overweight). I dichotomised BMI into obese and not obese with the cut-off BMI of 30 as the dependent variable and only included dietary factors as independent variables here.

The overall regression was statistically non-significant, suggesting that all dietary behaviours do not predict Mongolian adult BMI (see Table 4.21). Whilst the Goodness-of-fit statistic was good ($<.001$), the likelihood ratio test result proved non-significant.

¹⁷ Binary logistic regression model to test the associations between BMI (obese, BMI ≥ 30 kg/m², versus non-obese, BMI < 30 kg/m²) and dietary factors (protein food consumption, commensality, typical food consumption, meal frequency, food selection criteria, seasonal food consumption, and times cooked per week).

Table 4.21. Obesity amongst Mongolian Adults (aged ≥ 18 years) by Dietary Behaviours (n = 252).

Dependent variable: Obese or non-obese (normal weight and overweight)

	<i>B Coefficient</i>	<i>95% Confidence Intervals Lower Bound</i>	<i>95% Confidence Intervals Upper Bound</i>	<i>P- value</i>	<i>Exp (B)</i>
<i>Commensality (Eat alone; Eat with others)</i>	.285	.424	4.176	.625	1.330
<i>Protein food consumption (Protein food; Others)</i>	.482	.560	4.679	.373	1.619
<i>Typically consumed food (Mongolian food; Others)</i>	-.698	.164	1.507	.217	.498
<i>Food selection criteria (Taste; Time or Cost)</i>	.699	.753	5.375	.163	.753
<i>Meal frequency (Two meals or less; Three meals or more)</i>	-.440	.242	1.710	.377	.644
<i>Times cooked in a week (Cook less than once a week; Cook more than once a week)</i>	-.473	.251	1.547	.308	.623
<i>Seasonal food consumption (Yes; No)</i>	.151	.470	2.878	.743	1.164

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

4.7. EXERCISE

4.7.1. EXERCISE AND REGION

I employed exercise as a secondary binary outcome in my analysis since binary logistic regressions did not show any statistical significance between BMI and factors such as region, sociodemographic and dietary behaviours. I inquired about the frequency of weekly exercise amongst the participants and categorised the responses into two groups: those who exercised at least once per week and those who did not exercise at all, for further analysis.

The overall binary logistic regression (Model 4a¹⁸) was statistically significant, suggesting that region predicted exercise frequency. Living in urban areas significantly increases the odds of doing exercise at least once a week compared to living in rural areas (Table 4.22).

Table 4.22. Exercise by Region (Male and Female Combined) (n = 380).

Dependent variable: Exercise (Yes or No)

	<i>B Coefficient</i>	<i>95% Confidence Intervals Lower Bound</i>	<i>95% Confidence Intervals Upper Bound</i>	<i>P-value</i>	<i>Exp (B)</i>
<i>Rural</i> ¹⁹				<.001***	
<i>Peri-Urban</i>	1.096	1.067	8.398	.037*	2.993
<i>Urban</i>	2.332	3.925	27.030	<.001***	10.300
<i>Constant</i>	-3.025			<.001***	.049

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

Overall, Mongolian people tend not to engage in regular, intentional exercise, such as attending group fitness classes or adhering to a resistance training programme at a gym. Only 17.9% of the sample reported participating in any form of exercise at least once a week. Structural or intentional exercise refers to the act of engaging in planned and purposeful physical activity in this study. This type of exercise is distinct from incidental exercise, which refers to activities that are not intentionally structured for physical fitness, mental well-being, or weight maintenance, such as walking to the shops instead of driving or taking the stairs

¹⁸ Binary logistic regression model to test the associations between region (urban, rural, and peri-urban Mongolia) and exercise frequency (exercise at least once a week and no exercise at all) amongst Mongolian male and female adults.

¹⁹ Reference category.

instead of the lift. Of those who did weekly regular exercise, 33.3% lived in urban areas, 12.7% in peri-urban areas, and 4.6% in rural areas. The rest did not do any weekly exercise.

Previous studies (Eberhardt & Pamuk, 2004; Martin et al., 2005; Reis et al., 2004) have indicated that rural populations generally exercise less and have a greater prevalence of obesity than their urban and peri-urban counterparts. In the United States, for example, technological innovations have made rural life more sedentary than urban life for most people (Lee et al., 2011:72).

However, this trend is not universal, as exemplified by rural Mongolians in my sample. It is important to note that although rural individuals exercised less than the other two groups in Ulaanbaatar, rural people may have fewer inactive times than urban and peri-urban counterparts throughout the day. Due to the nature of pastoral nomadic lifestyles, where moderate-intensity physical activities such as herding, fetching water, and washing clothes are part of daily life, individuals living in rural areas tend to be more physically active than their urban counterparts.

Consuming food and beverages in rural areas only becomes possible after engaging in calorie-burning work, as food consumptions are dependent on physical labour such as milking, cooking, and slaughtering in rural regions, unlike in urban regions where these are usually exempted for consumers. In this regard, rural individuals can perhaps more easily keep themselves physically active and less sedentary without taking part in regular or intentional vigorous calorie-burning exercises.

Similar to many other countries, urban areas in Mongolia tend to have more sedentary lifestyles compared to rural regions. In city settings, obtaining food does not typically require physical exertion or activity beforehand due to the nature of food acquisition in urban areas.

Hence, without having a regular exercise plan, urban and peri-urban living could more easily lead to sedentary lifestyles and reduced physical exercise, which may lead to increased body weight. In other words, urban residents are probably the ones who most benefit from physical activity resources, such as parks, gyms, swimming pools, and dance studios that promote physical activities in the city.

The different levels of physical activity involved in daily life in different parts of Mongolia mentioned above may set Mongolia apart from other countries in terms of understanding the relationship between exercise and BMI. For example, studies conducted in the US (Lundeen et al., 2018; Wen et al., 2018) have reported a higher obesity prevalence rate in rural and nonmetropolitan areas than in urban and metropolitan areas. Similarly, regional differences in obesity prevalence have been reported across the world, such as in France (Tran et al., 1998), Canada (Willms et al., 2003), and Portugal (Alves et al., 2017). Despite notable similarities in environmental factors shared in rural regions across the world, living in rural regions in these countries is not associated with pastoral nomadic lifestyles. Hence, it is important to note that rurality in Mongolia may have different effects on physical activity and body size than in other countries.

Air pollution has been a significant concern for many people in Ulaanbaatar. I had not initially anticipated a potential connection between air pollution and obesity prior to my fieldwork. However, the topic of pollution frequently arose before, during, and after the interviews in all three regions even though I did not ask participants about it. Ulaanbaatar is one of the most air-polluted cities globally during the cold season, with extreme levels of particulate matter (PM_{2.5} and PM₁₀) primarily driven by the combustion of coal and other solid fuels for domestic heating, particularly in ger districts (Soyol-Erdene et al., 2021; Nakao et al., 2017; Davy et al., 2011).

The air pollution problem in Ulaanbaatar has worsened as the city has expanded, almost tripling in size since 1990, and the city is frequently ranked as the most polluted city in the world in terms of air quality (Davy et al., 2011; Cousins, 2019; Soyol-Erdene et al., 2021; WHO, 2023). The annual mean concentration of PM_{2.5} in the air remains 6 - 10 times higher than the safe level recommended by WHO air quality guidelines. During the winter months from November to March, the average level of particulate matter concentration exceeds the WHO guidelines by 8-14 times (WHO, 2023).

Recent peer-reviewed studies have confirmed that household coal burning accounts for up to 80% of wintertime air pollution in the city (Amarjargal et al., 2020). These high pollution levels have been associated with significant public health risks, including adverse reproductive outcomes and increased respiratory morbidity (Enkhmaa et al., 2019; Jadambaa et al., 2021). Despite interventions, such as coal bans and cleaner heating alternatives, Ulaanbaatar continues to experience hazardous air quality during colder months, highlighting the need for sustained, large-scale mitigation efforts (Gombojav et al., 2020).

Many city-dwellers and those in peri-urban areas are hesitant to engage in outdoor physical activities due to the city's poor air quality. Consequently, a significant number of people who engage in regular exercise opt to use indoor facilities, especially during winter, as a means of limiting their outdoor exposure. The extreme winter temperatures, dropping to minus 20 degrees Celsius and even reaching minus 40 degrees at night, further motivate individuals to rely on cars for accessing indoor exercise facilities. Owning a car and having access to air-conditioned exercise facilities with professional trainers and modern equipment has facilitated consistent exercise throughout the year for many.

However, not everyone has access to private exercise facilities, which may explain why urban residents, who often own cars, are more likely to exercise weekly compared to peri-urban

residents, who are less likely to own cars. Emerging evidence suggests a potential link between air pollution and increased obesity risk, although findings remain inconsistent across studies. Systematic reviews and meta-analyses have shown that exposure to pollutants such as PM_{2.5}, PM₁₀, NO₂, SO₂, and O₃ is often associated with a higher body mass index (BMI) and greater odds of overweight and obesity in both adults and children (Luo et al., 2020; Wang et al., 2023).

Nonetheless, some studies report null associations, indicating variability due to differences in pollutants, population characteristics, and geographical contexts (Chen et al., 2024). Large cohort studies, such as the UK Biobank, further suggest that genetic predisposition may interact with environmental exposures to influence adiposity (Cai et al., 2020).

Animal research also supports biological plausibility, pointing to mechanisms involving inflammation and metabolic disruption (Ghosh et al., 2021). Overall, the relationship between air pollution and obesity is complex and warrants further investigation. A more extensive analysis in the Mongolian context is necessary to comprehend the interplay between demographic factors and exercise on both local and national levels. This will help to reinforce the findings from previous studies on regional disparities in obesity across various countries.

4.7.2. EXERCISE AND SOCIODEMOGRAPHIC FACTORS

Whether sociodemographic factors predicted exercise frequency was tested. Exercise was divided into two categories of exercise at least once a week or less. Previous studies have shown association between exercise and sociodemographic factors in different countries.

For instance, in Australia, numerous factors, such as age, gender, marital status, and area of residence, appear to influence physical activity behaviours, beliefs, and perceived barriers toward participation (Thomas et al., 2012). Cultural practices, beliefs, family responsibilities, roles, and preferences in the obesogenic social environment can also influence dietary habits, physical activity, and obesity (Lee et al., 2011:151). As countries become wealthier, people have more access to nutrient-dense food but engage in less physical activity, resulting in higher rates of obesity and overweight (Popkin & Gordon-Larsen, 2004).

To assess whether sociodemographic factors have effects on obesity in Mongolia, I used sociodemographic categories, including age, gender, marital status, occupation, internal migration, and household size, for the regression in this study. I utilised binary logistic regression analysis (Model 5a²⁰) to test the effect of sociodemographic factors (categorical variables) on exercise. Table 4.23 shows the summary output of the binary logistic regression model for all adult participants (men and women combined). The results were similar when the participant's age was included (see Table 4.23) and excluded (see Table 4.24).

²⁰ Binary logistic regression model to test the associations between sociodemographic factors (age, gender, marital status, occupation, area of residence, internal migration, and household size) and exercise frequency (exercise at least once a week and no exercise at all).

Table 4.23. Exercise Frequency amongst Mongolian Adults (aged ≥ 18 years)

by Sociodemographic Characteristics (n = 355).

Dependent variable: Exercise (Yes or No)

	<i>B Coefficient</i>	<i>95% Confidence Intervals Lower Bound</i>	<i>95% Confidence Intervals Upper Bound</i>	<i>P- value</i>	<i>Exp (B)</i>
<i>Internal Migration (Internal Migrant; Non-Internal Migrant)</i>	-.346	.290	1.723	.446	.708
<i>Gender (Male; Female)</i>	-.389	.349	1.316	.251	.678
<i>Age (Younger < 37; Older adults ≥ 37)</i>	-.369	.341	1.401	.305	.691
<i>Marital Status (Single; Married)</i>	-.386	.330	1.400	.295	.679
<i>Occupation</i>				<.001***	
<i>Nomad</i>	2.224	2.512	33.985	<.001***	9.24
<i>Student</i>	1.058	.764	10.859	.118	2.881
<i>Skilled</i>	2.247	3.379	26.493	<.001***	9.462
<i>Constant</i>	-2.210			<.001***	.110

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

Table 4.24. Exercise Frequency amongst Mongolian Adults (aged ≥ 18 years)
by Sociodemographic Characteristics without Age (n = 355).

Dependent variable: Exercise (Yes or No)

	<i>B Coefficient</i>	<i>95% Confidence Intervals Lower Bound</i>	<i>95% Confidence Intervals Upper Bound</i>	<i>P- value</i>	<i>Exp (B)</i>
<i>Internal Migration (Internal Migrant; Non-Internal Migrant)</i>	-.295	.309	1.795	.511	.744
<i>Gender (Male; Female)</i>	-.398	.346	1.303	.239	.672
<i>Marital Status (Single; Married)</i>	-.542	.299	1.131	.110	.582
<i>Occupation</i>				<.001***	
<i>Nomad</i>	2.307	2.751	36.670	<.001***	10.044
<i>Student</i>	1.091	.794	11.160	.106	1.091
<i>Skilled</i>	2.270	3.459	27.063	<.001***	27.063
<i>Constant</i>	-2.295			<.001***	.101

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

Overall, 16.7% of males and 18.5% of females did exercise, and the reasons for exercise varied between men and women. While many male participants exercised for enjoyment and building muscles, females often exercised for weight loss or maintenance. Participants with similar job types showed similar attitudes towards exercise. 37.9% of students, 32.0% of qualified workers, 11.0% of skilled workers, and 4.6% of nomads did regular, intentional exercise at least once a week.

This is perhaps not surprising considering previous studies (Christakis & Fowler, 2007; Filiault, 2008) reporting that health-related behaviours depend on social norms, support, and relationships. It could perhaps be interpreted those different attitudes towards weekly exercise,

in part, may be attributed to different social norms shared amongst those who have similar types of jobs and affiliations.

Amongst students and qualified workers, in particular, regular exercise was believed to bring mental and physical health benefits such as increased energy levels, reduced disease risks, and better sleep quality. Some students and qualified workers had a structured exercise routine to counteract the effects of their desk-bound jobs or lifestyles. Especially in urban settings, regular physical activity may have longer term effects on one's weight, considering age-related weight gain that is common across different populations.

In fact, the relationship between calorie and nutritional knowledge and exercise was statistically significant, $\chi^2 (1) = 12.847; p < .001$. The participants who do exercise at least once a week were more than twice as likely to be familiar with calories and nutrition (*odds ratio* = 2.59). Some urban residents who regularly visited sports and leisure facilities were aware that simply doing regular exercise will not suffice and were motivated to develop healthy eating habits, though some said their motivation or nutritional knowledge did not necessarily lead to healthier dietary intake in reality.

4.7.3. EXERCISE AND DIETARY BEHAVIOURS

I used binary logistic regression (Model 6²¹) analysis to test the relationship between dietary factors and exercise frequency. I used BMI (two groups) as the dependent variable and only included dietary factors as independent variables here. The overall regression was statistically non-significant, suggesting that no dietary behaviours predict Mongolian adult exercise. Whilst the Goodness-of-fit statistic was good (<.001), the likelihood ratio test result proved non-significant. Table 4.25 shows the summary output of the binary logistic regression model for all adult participants (men and women combined).

Individuals who engage in physical activity at least once a week were twice as likely to consume protein-rich foods for lunch compared to those who do not exercise (*odds ratio* = 2.2). Participants in this study reported exercising for various reasons, as mentioned, such as enjoyment, muscle building, weight loss, and maintenance, rather than solely for health-related purposes. The majority of participants did not have any medical conditions that impacted their dietary habits, possibly explaining the lack of a significant relationship between exercise and dietary behaviours.

²¹ Binary logistic regression model was used to test the associations between dietary behaviours (commensality, protein food consumption, typically consumed food, food selection criteria, meal frequency, times cooked in a week, and seasonal food consumption) and exercise frequency (exercise at least once or week and no exercise at all).

Table 4.25. Exercise Frequency amongst Mongolian Adults (aged ≥ 18 years)

by Dietary Behaviours (n = 167).

Dependent variable: Exercise (Yes or No)

	<i>B Coefficient</i>	<i>95% Confidence Intervals Lower Bound</i>	<i>95% Confidence Intervals Upper Bound</i>	<i>P- value</i>	<i>Exp (B)</i>
<i>Commensality (Eat alone; Eat with others)</i>	-.712	.200	1.202	.119	.491
<i>Protein food consumption (Protein food; Others)</i>	.767	.775	5.985	.141	2.154
<i>Typically consumed food (Mongolian food; Others)</i>	-.030	.404	2.332	.947	.971
<i>Food selection criteria (Taste; Time or Cost)</i>	.542	.700	4.227	.237	.700
<i>Meal frequency (Two meals or less; Three meals or more)</i>	.478	.667	3.903	.288	.667
<i>Times cooked in a week (Cook less than once a week; Cook more than once a week)</i>	.599	.777	4.266	.168	.777
<i>Seasonal food consumption (Yes; No)</i>	-.228	.345	1.836	.593	.345
<i>Constant</i>	-1.634			.022	.195

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

4.8. CHAPTER CONCLUSION

Although higher BMI (kg/m²) was observed in the raw data amongst some groups, there was no statistically significant difference in obesity rates amongst peri-urban male adults, internal migrants, married adults and younger adults. One of the unique aspects observed in the sample was higher rates of obesity amongst young adults, which contradicts the worldwide obesity trends of higher obesity prevalence amongst older adults. This may be associated with the urban eating patterns amongst young people, particular to them. In the post-Soviet world,

older individuals were not exposed to the Western diet until they reached adulthood, which may have influenced their eating habits after the collapse of communism.

Similarly, higher obesity rates amongst internal migrants may also reveal changes in eating habits after they move into the city. This suggests that obesity rates amongst Mongolians may increase in the future, as 43.4% of younger adults (<37) are overweight when they are categorised into three BMI groups of normal weight, overweight and obese according to their BMI²².

Exercise was most common in urban areas, which may have resulted in relatively lower obesity rates amongst urban residents (14.9%), compared to the rural (20.3%) and peri-urban residents (23.4%), despite their more sedentary jobs and lifestyles, compared to their rural and peri-urban counterparts who work at manual jobs more. Urban residents were most familiar with calories and nutrition, the measures not widely shared across the country, especially in rural regions. People in urban regions were most affluent and had increased access to physical activity resources including exclusive private gyms and pools. Although people in peri-urban regions had access to communal physical activity resources, their lower car ownership seemed to hinder them from regularly using these resources. Different levels of access to physical activity resources, along with different levels of calorie and nutrition knowledge, may have resulted in peri-urban regions having the highest obesity rates of all three regions.

It was thus evident from this study that exercise at regional levels is an important factor to look at, in addition to BMI, especially when we take different lifestyles across Mongolia into account. Due to the distinctive regional differences in diet and food consumption habits

²² Three categories were defined: normal weight (BMI 18.5–24.9 kg/m²), overweight (BMI 25–29.9 kg/m²), and obese (BMI ≥ 30 kg/m²).

within Mongolia observed in this study, combining data from multiple levels, such as individual data, regional data and neighbourhood-level data, may provide a more complete picture of obesity in Mongolia and reinforce findings on regional variations in obesity reported in other countries. Collecting larger samples and investigating the relationship in the longer term may yield a complete picture of the prevalence of obesity and the nature of the effects on the region, dietary behaviours and sociodemographic factors on obesity.

CHAPTER 5 – REGIONAL VARIATION IN MONGOLIAN DIET

5.1. INTRODUCTION

To answer the first research question on how Mongolian diet and consumption vary according to locale, we must consider dietary practices and their regional contrasts pertaining to where, when, why, and with whom people eat. These factors are influenced by lifestyle circumstances and particular livelihoods. The foci of this chapter are seasonal food consumption, meal frequency, and frequency of cooking in a week. These three elements of food consumption are crucial in understanding the modernisation of the Mongolian diet in the post-socialist era, as they may have changed significantly over time.

Regional variation in dietary behaviours and obesity was assessed in the previous chapter. Obesity prevalence by residential location (Table 4.10) and BMI in the context of rural-urban migration (Table 4.18) revealed significant spatial disparities. As ethnic Mongols constitute over 90% of the population, rendering Mongolia one of the most racially homogeneous countries globally (Sneath, 2000; UNICEF Mongolia, 2018), these disparities are unlikely to reflect ethnic heterogeneity. Variation in dietary behaviours and BMI is therefore likely to be influenced by residential location and internal migration within the sample. The chapter proceeds to consider seasonal food practices, highlighting regional convergences and divergences in consumption patterns. Later in this chapter, meal frequency and frequency of cooking and their relationships to regional similarities, differences and dualities are also discussed.

5.2. SEASONAL FOOD CONSUMPTION PRACTICES

5.2.1. REGIONAL VARIATIONS IN SEASONAL FOOD CONSUMPTION PRACTICES

In this section, I will expound upon the seasonal consumption practices of food in rural, peri-urban, and urban areas of Mongolia. The four primary seasonal terms used by Mongolian herders, spring (хавар), summer (зун), autumn (намар) and winter (өвөл), structure the year around cyclical climate patterns and the specific needs of livestock, thus guiding the pastoral economy throughout the year (Fernandez-Gimenez, 2002; Batima et al., 2005).

Winter in Mongolia is an exceptionally harsh period, characterised by extreme cold, with temperatures often dropping below - 40°C, particularly in the northern and high-altitude regions (Batima et al., 2005). This severe cold, compounded by the occurrence of *dzud*, a catastrophic winter phenomenon marked by heavy snowfalls and insufficient forage, poses significant risks to the livelihoods of pastoral communities, often resulting in mass livestock fatalities (Funk et al., 2019). As a result, the vulnerability of herding populations during this season is deeply linked to the unpredictability and severity of winter conditions (Chuluun et al., 2004).

In contrast, summer is a short but intense season, with temperatures frequently rising above 30°C. While this period is crucial for livestock, as it provides the opportunity for grazing and weight gain in preparation for the coming winter, it also presents several challenges. The scarcity of water resources in some regions and the risk of overheating for livestock can undermine the effectiveness of grazing during this time (Fernandez-Gimenez, 2006). Following summer, spring, though brief, is a vital transitional period. It marks the birth of new livestock and the onset of fresh pasture growth, both of which are critical for replenishing herds

and sustaining the community (Fernandez-Gimenez, 2002). However, spring brings its own set of uncertainties. Temperature fluctuations during this period can jeopardise the health of newborn animals, while late frosts may damage early grass growth, limiting grazing opportunities and potentially reducing pasture quality (Batima et al., 2005).

Autumn, although similarly brief, is an essential preparatory season. During this time, herders focus on harvesting fodder and assessing their livestock, ensuring that they are in optimal condition to withstand the coming winter. These months are marked by a critical balance of preparation and assessment, where careful management of both herds and resources is vital to minimise losses during the harsh winter months.

This research found that seasonal food consumption was more often practised amongst rural nomads and peri-urban dwellers, whereas it was no longer commonly practised by urban residents. There was a statistically significant relationship between seasonal food consumption and the regions (rural, peri-urban, and urban) people lived in, $\chi^2 (2) = 36.787, p < .001$. Urban dwellers were more than five times less likely to practise seasonal food consumption (*odds ratio* = 5.7) than rural nomads in my sample, as shown in Table 5.1. This means that, in contrast to nomads in rural areas, residents in urban areas tended to consume foods that were not directly obtained from their own land in Mongolia, without any seasonal limitations. This finding is significant in relation to understanding the modernisation of the Mongolian diet in the post-socialist era. It also indicates increased consumption of processed and ultra-processed foods with additives, which are more preservable and transferrable than locally produced, seasonal foods.

For the urban participants who were born and grew up in Ulaanbaatar, eating food that was available year-round without any regard for seasons was rather taken for granted, because such abundant non-seasonal food items had already been part of residents' daily lives for many

years. Such non-seasonal food items have to be purchased, often after being transported over long distances, sometimes even across different countries, for long periods of time, and are not directly sourced from the nearby land. Such food is often processed, packaged, and preserved to ensure a longer shelf life. Historically, food consumption has been dictated by the availability of seasonal produce. However, this practice has diminished amongst urban residents, leading to increased and more frequent consumption of non-seasonal food items that were previously only available in limited quantities during specific times of the year. Also, some older adults ($n = 4$) remarked on the wide range of foods available in the city today compared to past decades.

Moreover, despite living in the same city, residents in urban and peri-urban areas exhibited discernible differences in seasonal food consumption practices, highlighting regional differences within Mongolia. I will discuss the nature of this seasonality later in this chapter. The peri-urban *ger* dwellers were more than four times more likely than the urban residents to practise seasonal food consumption (*odds ratio* = 4.28). Despite having land of their own, they particularly enjoyed consuming foods that became abundantly available during specific seasons in Mongolia and were typically consumed in specific seasons in rural areas.

Similar to rural nomads, peri-urban *ger* dwellers consumed larger portions of dairy products in summer, while more meat was consumed in winter. I will provide further elaboration on this in the subsequent section. Their rural upbringing in nomadic households and seasonal culinary traditions running in their families might have played a role in their shared seasonal dietary habits and potentiated preferences for seasonal food consumption even after their relocation to peri-urban Ulaanbaatar regions. In the following sections, I will expand on the notable distinctions in dietary patterns observed in rural, peri-urban, and urban Mongolia, while also highlighting the diverse factors that influence such differences.

Table 5.1. Seasonal Food Consumption (n = 278).

<i>Variable</i>		<i>Percentage</i> ²³	<i>n</i>
<i>Seasonal food consumption</i>			
<i>Seasonal food consumption</i>			
	<i>Rural</i>	71.1%	54
	<i>Peri-urban</i>	64.7%	66
	<i>Urban</i>	30.0%	30
<i>Non-seasonal food consumption</i>			
	<i>Rural</i>	28.9%	22
	<i>Peri-urban</i>	35.3%	36
	<i>Urban</i>	70.0%	70

$\chi^2 (2) = 36.787, p < .001.$

5.2.2. SEASONAL FOOD CONSUMPTION PRACTICES IN RURAL MONGOLIA

During my stay, seasonal food consumption was more commonly practised amongst those in the countryside than amongst their peers in Ulaanbaatar. This was mostly due to long-ingrained seasonal food consumption practices in rural areas, which played a special role in sustainable nomadic lifestyles, as well as limited or irregular access to grocery stores which provide non-seasonal food items in rural settings. Many of the people I met in rural areas produced, preserved and consumed meat and dairy products from their livestock, without relying on industrial food supply chains or any food outlets. Consuming different types of food products in different seasons has been a crucial facet of sustainable nomadic and pastoralist lifestyles in rural Mongolia, which are marked by the changing seasons and passing of time.

²³ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

Different criteria can be used to classify the various foods consumed in rural Mongolia, such as nutritional value, origin, content, and processing method. Based on my interviews with Mongolian participants, one method of classification that illuminates seasonal food consumption and modern diets in post-socialist Mongolia involves the three main categories of meat, dairy products, and non-meat items. I refer to these three categories because they provide a practical and comprehensive means of understanding seasonal food consumptions. These categories were recognised and referred to by participants in all three areas. While the consumption of one category does not necessarily exclude the consumption of other food categories, these three categories have been used to delineate the primary foods consumed by rural nomads with pastoral livelihoods for many years. Within these categories, specific types of foods were notably consumed more frequently and in greater quantities.

One of the most common types of foods consumed by pastoral nomads daily was nutrient-rich dairy products,²⁴ which included milk, cream, cheese, butter, yoghurt, and fermented mare's milk. These fresh and minimally processed dairy products were consumed all year round and were important to all the rural participants as well as many Ulaanbaatar residents. Sheep and goats in Mongolia give birth from around March onwards, and cows, horses, and camels usually give birth around April. After breeding, the female livestock produce plenty of milk. Offspring and their mothers were typically separated by a handmade wooden fence to ensure that some milk was saved for the nomadic households.

Some livestock produce more milk than others, according to the nomads I talked to, and overall milk production changes every year. The livestock were milked by hand, which

²⁴ Dairy food products are also known as the “white food” (цагаан идээ), which includes milk, cream, cheese, butter, yoghurt, and fermented mare's milk.

was indeed a skilled and arduous process. The milk was then made into dairy products, such as yoghurt, curd, cheese and fermented drinks, primarily by female family members. By consuming dairy products, nomads avoided losing their indispensable livestock, which were not only their source of livelihood but also considered invaluable members of the family amongst many nomads I met.

The nomads handled their animals with great care and affection, especially horses and young livestock such as baby sheep and goats, which were sometimes treated almost like the nomads' own children or best friends. In some households, children put leashes on baby goats and walked them around the *ger*, showing the close bond between the children and the animals.

Other children carefully wrapped baby goats with blankets and their own clothes, regardless of how many times the goats have stripped them off. These practices varied between households and individual children. Some appeared to develop a closer bond with their livestock than others. Nevertheless, each relationship between nomads and their livestock that I observed was unique and special, reflecting deep connection with livestock. The relationship might differ from what some may imagine when they hear the term "livestock," and from the attitude of herders who may view livestock as a mere source of sustenance.

To some nomads, dairy products symbolised summer because they consumed plenty of fresh and delicious dairy food products every summer. Individuals who resided in the peri-urban areas often recollected their fond memories of consuming delectable and nourishing dairy products such as cheese, curd, yoghurt and fermented milk during their early years spent in the countryside. Some mentioned that the scent, flavour, and consistency of dairy products in urban areas differed from those found in rural settings. Even decades after participants had moved to Ulaanbaatar, the taste, aroma, and textures of their freshly prepared dairy foods evoke nostalgic feelings. For some people who were originally from rural regions, such fresh dairy

products often tugged on their heartstrings, making them feel invigorated with warm feelings whenever they ate them or thought about them.

Although nomads consumed substantial amounts of dairy products that they produced themselves in the summer, as winter approached, they started processing meat. This change was primarily due to the decrease in milk production from livestock during the winter months. As a result, the nomads adjusted their dietary habits to ensure a more stable food supply throughout the year. According to one rural female nomad, the practice of consuming less meat in summer had been passed down since her childhood. She also noted that she never questioned consuming more meat in summer or more dairy products in winter. She said it would be unusual to consume more meat in summer, as the meat was less fresh and much lower in quality then. In November, the male members of the household engaged in the customary practice of slaughtering livestock. This was done in order to procure meat that had attained the maximum weight ahead of the winter months. Subsequently, the meat was preserved by freezing it outdoors, ensuring its freshness for extended durations of time.

In rural Mongolia where the winters are prolonged and harsh, meat freezes naturally, obviating the need for mechanical or chemical preservation methods. This approach allows for the safe and prolonged storage of meat, often until the advent of warmer seasons. The natural rhythms of livestock greatly influenced the selection of foods that were prepared and enjoyed during specific times of the year. By respecting and adhering to the natural patterns and life cycles of their animals, these nomads seemed to have been able to maximise their resources and uphold sustainable eating practices.

Both men and women had the ability to discern signs of illness, old age, or weakness in their animals and first slaughtered those unlikely to survive until spring, while sparing small, young livestock. In pastoral nomadic households, it was customary for male family members

to undertake the task of slaughtering the livestock. This activity was predominantly viewed as a male responsibility and was often passed down from generation to generation within families. Women were typically not involved in this process, according to the nomads I talked to.

The nomads had seamlessly integrated seasonal food into their daily diets, with no need for discussion or agreement. A peri-urban participant originally from the countryside mentioned that it would be difficult for rural nomads to sustain certain livestock numbers if they consumed large amounts of meat year-round, as many urban residents did without considering seasonal constraints. The participant mentioned that, when living in the countryside, he did not pay much attention to seasonal food consumption. However, after moving to Ulaanbaatar and observing the high meat consumption in the summer, he realised that he had followed his family's eating habits without questioning them.

Moreover, I found that most rural participants I talked to had a preferred season that they eagerly anticipated every year, and they looked forward to enjoying seasonal foods unique to each time of year. In response to seasonal changes and the challenges posed by harsh winters, many adjusted their diets accordingly. These individuals had developed a deep-rooted connection with the changing seasons and had established a seamless way of thriving regardless of season by consuming different types of food at different times of the year, without the aid of electricity or any specialised equipment for cooking, processing, or preserving food. Their seasonal dietary habits were intricately woven into the natural surroundings and the livestock that they relied on for their existence. Their seasonal food consumption reflected rural participants' resilience and self-sufficiency even in the absence of immediate access to food resources.

Furthermore, vegetables were categorised as non-meat food items or “white food” (цагаан хоол). Due to harsh winter conditions and nomadic lifestyles, the individuals I

interviewed found it quite difficult to establish a reliable method for growing vegetables. Interestingly, many expressed a lack of desire to cultivate their own vegetables. The promotion of vegetable production and consumption during the Soviet era occurred amidst rationing, privation, and uncertainty (Murphy, 1956; Denizer, 2003; Sõukand & Kalle, 2007). Most of the nomads I spoke with expressed a dislike for vegetables, attributing this sentiment to the taste of vegetables and the forced cultivation and consumption of vegetables during times of food shortages and hunger under the socialist regime. It should be noted that this topic rarely arose in interviews unless participants were specifically prompted by questions about the socialist era. Participants did not provide details on whether the Soviet system actively encouraged vegetable cultivation or attempted to establish collective farming. Nevertheless, they conveyed the obligation to grow and consume vegetables during that time, which has left a lingering association between vegetables and hardship rooted in a period of food scarcity and financial constraints. This historical context seems to have contributed to a decline in the appeal of vegetables and a subsequent decrease in their consumption to some degree. This exemplifies how external factors can significantly affect one's perception and consumption of vegetables.

It was also noted that some participants simply did not enjoy the taste and aroma of vegetables. This is probably not surprising as vegetables were not traditionally a staple food in Mongolia. Throughout my interviews, numerous individuals expressed their apprehension regarding the freshness and use of preservatives in their vegetables. Furthermore, across rural, peri-urban and urban areas alike, some participants reported experiencing stomach discomfort after consuming vegetables. This issue was widespread across all three regions where interviews were conducted, and it was commonly thought to be attributable to the quality of the vegetables rather than personal health conditions or other foods consumed alongside vegetables. Various factors, such as preservation methods, transportation techniques, and

cooking strategies, can potentially affect the quality of vegetables, and these variables can significantly impact the overall quality of the produce.

The discomfort experienced by some participants after eating vegetables has made them hesitant to include vegetables in their diets. Upon observing the consistent supply of vegetables in the city, some nomads said they began to ponder potential influences on their quality and freshness. Given typical transportation times and storage periods in Mongolia, it is reasonable to question the methods used to ensure the quality of vegetables being sold in the city. According to Foggin et al. (1997:1634), rural Mongolians primarily eat meat, with only a limited number of vegetables, such as potatoes and onions, being consumed. According to John of Plano Carpini, an Italian diplomat who was one of the earliest Europeans to visit the court of the Great Khan in the Mongol Empire, the Mongolian people he encountered in the 1240s survived solely on meat, abstaining from bread, herbs, vegetables, or other forms of sustenance (Dawson, 1980: 16). He observed that Mongolians consumed significant amounts of mare's milk, as well as milk from ewes, cows, goats, and camels when available, but lacked wine, ale, or mead, unless obtained as gifts from other nations (Dawson, 1980: 17).

In my own field observations, I noted that nomadic communities often faced significant challenges accessing a diverse range of vegetables, with potatoes and onions being the most commonly available options. Nonetheless, the lack of regular or immediate access to vegetables was not necessarily a concern for the nomads I met. Interestingly, during interviews, many nomads expressed a lack of interest in consuming vegetables, stating that they were primarily intended for their domesticated animals rather than for human consumption.

Unlike vegetables, seasonal fruits from the areas nearby were highly valued as a vital part of the rural diet. While there are various methods to classify fruits, some participants mentioned two distinct types of fruits that were abundant in the country. For these participants,

fruits (жимс) could be classified as either imported fruits (импортын жимс) or wild berries (зэрлэг жимс), which are common fruits in Mongolia (Монголд байдаг түгээмэл жимс).

Imported fruits in Ulaanbaatar are sourced from various regions worldwide, which means that their availability is unaffected by local climate changes, unlike seasonal local wild berries. Unlike the imported fruits, wild berries (зэрлэг жимс), also referred to as common fruits in Mongolia (Монголд байдаг түгээмэл жимс), were popular amongst both the pastoral nomads and some *ger* dwellers I interviewed, even though they were most popular amongst and frequently consumed by urban residents. These locally grown fruits included black cherries (мойл), blueberries (нэрс), buckthorns (чацаргана), redcurrants (улаагана), and strawberries (гүзээлзгэнэ). These wild berries have garnered high praise from numerous nomads due to their exceptional taste, texture, and juiciness. Local berries that were handpicked were considered the safest, freshest, and most flavourful fruits by many rural nomad and peri-urban participants, who prefer consuming berries shortly after they are picked by themselves or their families.

During my conversations with a group of nomads, they emphasised that they only consumed locally sourced, hand-picked fruits due to their unparalleled quality and assurance of safety. One of the nomads expressed his reluctance to consume produce that had been picked, transported, and handled by unfamiliar individuals, perhaps because he had grown accustomed to eating meals prepared by female family members throughout his life. Some nomads were surprised at the longevity of imported fruits in the city. They marvelled at how these fruits maintained their scent and appearance for days after being handpicked, transported from distant places, and possibly subjected to less-than-ideal storage conditions prior to being put on display in the city.

Some participants noted that the prices of non-local fruits in Ulaanbaatar were quite high. A woman expressed her preference for familiar foods over expensive tropical fruits, which she could only afford in small quantities. Others deemed it impractical to spend a lot on fruits that did not leave them feeling full or satisfied. Their direct involvement in the production, processing, and consumption of seasonal food likely influenced their inclination towards fresh, locally sourced items.

Nomads I met were generally proud of the traditional, seasonal foods they produced and prepared, passed down through generations. Consuming seasonal food that has been a part of their diet even before the Soviet ruling period had continued to be a significant practice for many of them. Despite the increased availability of imported and non-seasonal food items throughout the year in Ulaanbaatar, nomad participants still held their traditional, seasonal food consumption practices in high regard.

For many nomads I met, their small variety of food options compared to those enjoyed by urban residents in Ulaanbaatar was hardly perceived as an issue. In fact, the prevalence of these alternative food options in the city has only made the consumption of seasonal food more important in setting their identity as rural nomads apart from that of Mongolians living in urban areas. These seasonal food practices serve as a reminder of the rich history and unique cultural heritage of the rural Mongolian nomads, and they play a vital role in maintaining a strong sense of family amongst them.

According to Laudan (2015), nomads who roamed with their flocks across inhospitable lands, relying on their livestock for mobility, were envious of the settled peoples' wealth and cuisine, which only added to the nomads' disdain towards them. Conversely, during my interviews with rural nomads in Mongolia, I found that they took immense pride in their nomadic heritage and the fresh food they enjoyed. It is worth noting that none of them showed

any yearning for city life or the cuisine found exclusively in urban settings. In fact, some nomads disapproved of certain Mongolian restaurants in Ulaanbaatar that serve inauthentic Mongolian cuisine made with ingredients sourced from unspecified countries or distant regions rather than locally sourced ones.

Furthermore, these nomads voiced disapproval of establishments where livestock is fed artificial feed, rather than being raised through traditional pastoral nomadism. According to these participants, such restaurants compromise the authenticity of the Mongolian food culture and fail to capture the true essence of the local cuisine. In rural regions, the authenticity of Mongolian cuisine was tied to traditional seasonal culinary practices and locally sourced, animal-based ingredients, which were intricately woven into rural participants' way of life and held immense significance and value for their identity as rural nomads.

Throughout the changing seasons, the food practices of rural nomads stand as a testament to their autonomy in sustaining their food production, acquisition, and consumption. These practices demonstrate the community's distinct year-round food consumption patterns, underscoring their self-sufficiency and resilience in adapting to seasonal fluctuations to maintain a steady food supply.

5.2.3. SEASONAL FOOD CONSUMPTION PRACTICES IN PERI-URBAN MONGOLIA

Having discussed seasonal food consumption of rural nomads in the preceding section, this section will shift the focus to the seasonal food consumption of peri-urban Mongolians. Despite residing in Ulaanbaatar, 64.7% of peri-urban residents in my sample had continued to consume seasonal resources. These included berries in season, larger amounts of meat during the winter months and dairy foods in summer months, all of which were locally produced-, and obtained from participants' relatives in the countryside or markets in Ulaanbaatar when these seasonal food items were available at a more affordable cost and larger quantities. In addition to markets and supermarkets in Ulaanbaatar, some peri-urban residents obtained such food items through their rural-based relatives.

Like their rural counterparts, many people living in peri-urban areas have a strong belief that dairy products taste better when purchased and consumed during the summer months, while meats are more suitable for consumption during the colder winter months. Many said locally produced seasonal foods are very fresh and highest in quality, and some of them did not value the convenience of modern food options that are available year-round in urban areas. This may be because most of them grew up eating special types of foods in different seasons, and maintained norms and practices around seasonal food consumption, placing great importance on preserving their culinary traditions. Seasonal foods were renowned for their delectable taste, unrivalled freshness, and relatively affordable prices, and therefore, many locals in peri-urban areas sought to savour the natural flavours of produce that was in season.

When returning to the ger districts after a trip to rural Mongolia, peri-urban residents in this study often brought an array of seasonal and non-seasonal food items from the countryside.

The frequency of these trips varied from person to person. While some individuals made the journey twice a year, others visited the countryside more frequently, sometimes every month. Many peri-urban residents went home not only to see their families but also to support their family members, especially the elderly or injured, and to help with livestock. These trips provided an opportunity for people to stay connected with their roots and maintain their ties with their traditional food consumptions. The food they brought back to the peri-urban *ger* districts included a variety of fresh produce and other food products that were available during the current season, as well as non-seasonal products like dried meat that could be stored for longer periods. These items were frequently transported from rural to the peri-urban *ger* districts in large quantities, reflecting the importance of locally produced rural food items in the peri-urban *ger* community and the significance of sharing them with loved ones who currently live apart.

Similarly, when peri-urban participants' families from the countryside visited them in Ulaanbaatar, it was customary for them to bring an assortment of seasonal and non-seasonal food items sourced from the countryside. Despite not always being readily available during the current season, these locally produced food items prepared by their family were held in high regard due to their superior quality compared to those non-seasonal and processed food items commercially available in Ulaanbaatar, regardless of the season.

Furthermore, the affordability of these seasonal foods was a significant factor that influenced their popularity amongst the population living in *ger* settlements. Opting for seasonal food could be a cost-effective choice for those living in peri-urban areas as during peak season, the abundance of seasonal food products at lower prices allowed peri-urbanists to purchase fresh and high-quality groceries. The dietary choices of participants residing in peri-urban regions were heavily influenced by the price of different food items, particularly amongst

those who depended solely on their wages to sustain themselves without any additional sources of income. Studies (Donkin & Dowler, 2002; Gilbert & Khokhar, 2008; Satia-Abouta, 2003) have shown that adapting to a new food environment can be a daunting task, especially for individuals or groups who are migrating from low-income countries and have low levels of income and education. For peri-urban residents in this study, food served as a crucial tool for managing finances, saving money, and making ends meet. In light of the current situation in which non-seasonal food items are becoming increasingly scarce and expensive, more and more individuals and families in peri-urban regions were turning to seasonal eating as a practical and financially sustainable solution.

During interviews, many domestic migrants residing in peri-urban areas referred to the high cost of living in the city and how it impacted their finances, which had led them to prioritise cost when selecting food. Many individuals interviewed in these areas prioritised the affordability of food over other factors such as nutrition, convenience, and preparation time, and I will explore food selection criteria in different regions further in chapter 6. This economic factor played a crucial role in determining the type and quantity of food that individuals could afford to purchase for their daily consumption. Peri-urbanists strategically utilised seasonal food options as a means of effectively managing their finances and optimising available resources. By aligning their dietary choices with the availability and affordability of seasonal produce, individuals in peri-urban areas were able to make informed decisions that resulted in financial management that best worked for them.

One of my peri-urban subjects pointed out that he needed to pay fees for a phone for work because he usually got his jobs through phone calls, instead of emails or text messages. He had to call his supervisor at least several times a day to ask questions and report his progress. Meanwhile, such costs were not reimbursed, and he stated that he had to pay the fees himself.

He said his daughter had a smartphone and he paid the fee for that as well. He also stated that his daughter needed their phones just to live as normal people in Ulaanbaatar, and this always came with costs. He added that he would miss almost all job opportunities if he did not have his own phone, as he had gained most of his previous jobs, both full-time and part-time positions, through phone calls from his acquaintances, such as former employers, supervisors and colleagues.

He emphasised that he could not afford to give up his phone, but he was willing to forgo meals or opt for more affordable food choices in order to improve or maintain his financial situation. From his perspective, adjusting his food expenses was an easier way to make financial changes than modifying other essential living expenses. In contrast to urban participants who viewed food as a personal indulgence or an investment in their health, peri-urban residents were less likely to see food as a long-term health investment or a form of treatment.

By relying on seasonal foods, peri-urban subjects were able to manage their expenses and make ends meet or save money. This is just one example of the ways in which domestic migrants in Mongolia must adapt and find solutions to the challenges they face. By buying seasonal items at lower prices and in larger portions, peri-urbanists in my study were able to save money and enjoy fresher produce.

Moreover, similar to many rural nomads, a number of peri-urbanists I met had a deep-seated mistrust of the quality of foods available in the city. There was a sense of scepticism amongst residents of peri-urban areas regarding the food industry, with many expressing ethical concerns and a belief that financial gain was prioritised over the quality of the food.

This had led to growing concerns regarding the various stages involved in food production, preservation, enhancement, transportation, importation, and retailing, leading to a general sense of apprehension amongst the populace. A few peri-urban residents (n = 3) also expressed their concerns over the inadequate knowledge of some urban residents regarding the intricacies of food production and distribution, leading urban residents to purchase non-seasonal food items in Ulaanbaatar.

Some peri-urban residents raised concerns about non-seasonal food items potentially undergoing processing procedures well in advance of their transportation and sale, which they believed could have an adverse impact on their overall quality, taste, and freshness. As a result, some often took extra precautions to ensure that the food they purchase was fresh and safe for consumption. This involved spending more time scrutinising each food product they purchased, checking the expiry date of each food product, and even examining the packaging of the food to ensure its quality.

The participants I talked to often placed the responsibility of ensuring food safety and standards on consumers rather than sellers or importers, and for this reason, some stressed that they needed to be more vigilant and cautious while purchasing and consuming non-seasonal or imported food items. Some expressed their concerns about local stores selling expired products and previously opened food and drinks at regular prices.

A woman in her 40s mentioned her practice of meticulously checking expiration dates and inspecting food items to ensure they are unopened and fresh, in order to prevent any potential stomach discomfort or health issues. She also pointed out that the accuracy and reliability of dates on packages could vary. She emphasised the importance of being vigilant about food quality during every grocery shopping trip due to the varying parties involved in the production, distribution, and sale of food items, as well as the potential for differences in

food quality. Furthermore, she noted that in urban areas, there could be a lack of clarity about who was responsible for the quality of food items, whereas in rural areas, there was more transparency in the production and processing of food.

In fact, this lack of trust may not be surprising considering that, previously, business operators were responsible for their food products at every stage of the food chain with little external oversight and only general food regulations to follow. Although the local government worked to strengthen its food laws in 2012 to include new external oversight of inspections, there was no system in place for verifying and coordinating inspections or recording good practices (WHO, 2024). To build the country's food inspection capacity, the WHO trained 42 inspectors in 2015, which has reduced ineffective inspections by 25% and reduced the number of high-risk food facilities by 19%. Additionally, WHO is currently working with the country to further assess its inspection and monitoring system and to develop risk-based inspection manuals to support training. Despite these efforts, peri-urban study participants originating from rural areas, who had had limited exposure to processed and unfamiliar food prepared by unfamiliar individuals, often exhibited a strong reluctance to consume internationally standardised, mass-produced, non-seasonal food items.

Moreover, many peri-urban residents practised seasonal food consumption for the nostalgic feelings such food items and consumption evoked, in addition to their freshness and affordability. Seasonal food items often held a special significance for peri-urban residents who grew up in rural nomadic households. For instance, the abundance of fresh dairy products in the summer evoked a sense of nostalgia and warmth, particularly for those who had left the countryside for Ulaanbaatar.

Some even felt an indescribable urge to consume dairy during the warmest months of the year. These feelings were unique to those peri-urban residents who hailed from rural regions,

rather than being widely shared amongst Mongolians. Rural regions were where peri-urban participants had experienced most of their happy childhood memories, and these regions were considered the most beautiful in the world by some of the peri-urban residents I talked to.

Garth (2013) highlights that individual identity is not a fixed and singular concept, but rather a fragmented and multisided one that can be presented differently in various settings. For example, the definition of Cuban identity and the characteristics of Cuban food are subject to revision and refinement over time, meaning that what it means to be Cuban and what is considered Cuban food can evolve and transform as cultural and societal trends shift (ibid). This multiplicity and hybridity, according to Garth (2013), adds another layer of complexity to intersectional identity.

It is possible that the internal migrants who have now settled in peri-urban areas of Ulaanbaatar may have developed a stronger identification with their rural origins due to experiences of exclusion and discrimination. This may have contributed to a sense of difference between them and the native inhabitants of the city. Particularly for peri-urban study participants, freshly produced dairy products, especially in summer, were not merely foods, but seemed to have a special place in their hearts. This feeling had become even stronger after they had moved into Ulaanbaatar, where many continued to be exposed to adverse social and economic conditions without much social support.

As the peri-urban *ger* districts were not always safe and welcoming gateways for internal migrants, the districts were often not considered “home” for such migrants and did not seem to defend them against external threats in the city. In a way, their preference for and adherence to traditional Mongolian cuisines may be interpreted as a process of re-creating a sense of home in the city for some peri-urban individuals. Their emotional connections with their family in rural areas seemed to be heightened by the memories that certain seasonal foods

evoked. Their dedication to seasonal practice also showcased their commitment to maintaining traditional food consumption practices long after moving to the city.

As the parallels to the Caribbean experiences illustrate, the meaning and significance of seasonal Mongolian foods amongst peri-urbanists are not static but rather subject to contextual reshaping and redefinition. This fluidity and adaptability align with the multifaceted and dynamic nature of peri-urban subjects' rural upbringings and identity, which seemed to have been influenced by various social and economic factors. The seasonal Mongolian foods cherished by individuals in peri-urban areas serve as poignant reminders of their rural origins and contributed to a sense of cultural continuity amid urban living. This underscores the importance of food as a medium through which individuals negotiate their rural nomadic heritage and navigate the complexities of life in Ulaanbaatar.

Whilst seasonal food consumption was common amongst peri-urban *ger* study participants, 35.3% in fact opted out of seasonal food consumption and depended on alternative non-seasonal food sources, indicating a gradual shift away from traditional seasonal food consumption patterns. Many of these participants were neither versed in the food habits of the city nor able to enjoy full access to a variety of food items throughout the seasons, even many years after moving into the city.

In my sample, older people residing in peri-urban areas tended to stick to seasonal food consumption and their traditional taste preferences. Often, they were not very keen on experimenting with non-seasonal food items or new food trends and flavours. Their inclination towards familiar tastes can be attributed to their long-standing cultural and social norms, which have been passed down through generations. As a result, they were potentially hesitant to try new and unfamiliar foods, opting instead for what they knew and were comfortable with.

Meanwhile, the younger study participants residing in peri-urban locations had a tendency to consume less seasonal food as compared than the older generation. The probable reason behind this phenomenon was younger participants' familiarity with non-seasonal food items, as many of them had grown up in peri-urban Ulaanbaatar instead of rural areas far from the city.

In contrast to older peri-urbanists, the younger generation of peri-urbanists exhibited a lesser degree of apprehension regarding the consumption of non-seasonal food products and was, therefore, less inclined than the older generation to take into account the potential risks or negative health consequences associated with such non-seasonal consumption. Non-seasonal foods were generally found less appealing by the peri-urban ger dwellers, whereas they were preferred by some urban residents, as explained in the following section.

5.2.4. SEASONAL FOOD CONSUMPTION PRACTICES IN URBAN MONGOLIA

The dietary habits and food preferences of urban Mongolians have gradually diverged from the traditional culinary practices and nomadic lifestyles that were heavily influenced by seasonal availability of foods. This divergence has occurred parallel to the introduction of a wider range of food products, including imported non-seasonal food items from Russia, which have added to the diversity of the local urban gastronomy. However, it is worth noting that no data is available on FAOSTAT (2024) because this information was not reported to FAOSTAT

by the Mongolian government. Unlike in rural areas, where seasonal food consumption is necessary, city dwellers have the ability to choose what they eat based on their own preferences. This is due to the availability of food outlets that offer diverse food items all year round.

As mentioned in Chapter 3, urban residents in my study typically exhibited greater economic prosperity and financial security than their counterparts residing on the periphery of the city. Consequently, urban residents had greater access to a wider variety of food items throughout the year. This may have resulted in lowest consumption of seasonal foods, which are generally more affordable than non-seasonal food items, amongst urban residents (30.0%) than amongst their rural (71.1%) and peri-urban counterparts (64.7%). Many urban individuals preferred to consume wider selections of food, including out-of-season food throughout the year, as they thought it would be beneficial for their health and therefore more ideal in terms of nutritional intake. While peri-urban residents tended to be more freshness- and seasonality-conscious, urban residents were more concerned about calories and nutrition and often valued balance and variety in the food items they consumed daily as opposed to seasonality.

In section 5.2.2, I introduced two different categories of fruits (жимс), imported fruits (импортын жимс) and wild berries (зэрлэг жимс), which are common fruits in Mongolia (Монголд байдаг түгээмэл жимс). Some examples of imported fruits include apples (алим), bananas (банан), oranges (жүрж), kiwis (киви), pears (лийр), mangoes (манго), pineapples (ананас), pomegranates (анар), and grapes (усан үзэм). Prior to the beginning of the industrial revolution, nomadic pastoralists obtained food without commercial food outlets.

With the advent of globalised food systems and the establishment of increased international trade networks through years of economic interactions in the post-Soviet era, tropical and exotic fruits have begun to gain momentum and become more readily available in the Mongolian marketplace. The fresh fruit and vegetable (FFV) industry is currently

experiencing globalisation (Friedland, 2019). In Mongolia, the availability of vegetables and vegetable products increased from 29 kcal per capita per day in 2010 to 50 kcal per capita per day in 2021 (FAOSTAT, 2024). Similarly, the availability of fruits and fruit products rose from 15 kcal per capita per day in 2010 to 30 kcal per capita per day over the same period (ibid.). Although no data are available on FFV availability prior to 2010, the supply utilisation accounts indicate an overall upward trend.

Particularly in Ulaanbaatar, these imported fruits, with their unique and intriguing flavours, have captured the attention of consumers and are quickly gaining popularity. According to Friedland (2019), the international market was introduced to a range of tropical fruits and vegetables in the 1980s. Originally, these unique foods were intended for specific markets, like jicama for the Mexican market in California and the Southwest in the U.S., and plantains for Caribbean consumers. However, they are now widely purchased by consumers in Western Europe and the United States (ibid). This shift towards a more diverse and varied selection of produce is a testament to the ever-expanding reach of global trade and the increasing willingness of individuals to explore new and exciting culinary experiences. The food acquisition and consumption process in Mongolia are not only significant for their local relevance but also reflect the country's continued involvement in the global food trade.

Williams-Forson and Counihan (2012) state that, as food production and distribution become more global, they may become subject to the local and global influence of corporate power, transnational identities, cultural imperialism, and resistance. The intricate networks of transnational commodity chains have created a highly interconnected system that spans the globe, encompassing labour, land, and markets (Hopkins & Wallerstein, 1986).

These chains rely not only on the production of valuable goods such as coffee and bananas, but also on innovative transportation methods that allow for the movement of these

products from plantations to ports and ultimately to faraway markets (Evans, 2012). With the advent of air travel and container ships, even tropical fruits and out-of-season vegetables from the Global South can be exported to affluent consumers in the Global North (ibid).

The imported fruits in Ulaanbaatar are more than just a tasty delight. They are a vital aspect of the city's food culture that reflects the complex interplay between the city's urban landscape and the idealisation of modern food practices. Their availability signals a shift toward globalised consumption, where access to diverse and non-local produce is seen as a marker of modernity. For many urban residents, these fruits represent not only variety and convenience, but also a connection to global food trends and aspirations. This modern food culture stands in contrast to more traditional practices, such as seasonal eating, which are often associated with rural and nomadic lifestyles.

While many peri-urban participants expressed a fondness for seasonal foods, some urban residents in Ulaanbaatar had mixed feelings about them. Seasonal food consumption was often associated with rural nomadic life, which was not always viewed positively. These traditions contrasted with the Western-influenced urban food culture that offered year-round variety, including imported fruits.

For urban dwellers, food was often seen as a source of pleasure and wellness, rather than a necessity shaped by environmental limits. The image of rural pastoral life evoked empathy or sympathy, rather than admiration, and seasonal eating was sometimes perceived as a result of limited food access rather than cultural preference.

During my conversations with several young urban individuals, they revealed their belief that pastoral nomads resort to consuming seasonal food as they had limited options and faced difficulty in accessing a diverse range of food items in rural surroundings. Some people

who lived in urban areas tended to perceive rural food traditions as less sophisticated or outdated, a viewpoint often based on their own preconceived notions of rural foodways. This phenomenon can be attributed to their limited interactions with rural nomads as well as limited exposure to rural food cultures and traditions.

I witnessed one instance where a medical practitioner dismissed food brought by a rural patient's family, stating a refusal of any food from them, while accepting similar gifts from urban residents and their families. However, this was the sole negative interaction I observed between an urban resident and rural dwellers, and the extent to which it reflects broader attitudes related to current area of residence is debatable. I also encountered other medical professionals who treated all patients and their families equally, regardless of their origin. As emphasised previously, interactions between individuals currently residing in different regions of Mongolia were exceedingly rare during my fieldwork. Therefore, further research, beyond the scope of this study, would be necessary to comprehensively interpret the relationships and interactions between these groups.

Rural nomadic people's unique strengths and virtues, along with their important role in preserving cultural heritage, were often not recognised amongst affluent urban subjects, though perceptions varied. Rural seasonal food consumption was sometimes perceived as a culinary tradition of "others," whose lifestyles were a little distant from an urban or universal standard or the urban, privileged social arena, in which many people have adopted or become familiar with international culinary traditions and modern, settled lifestyles. In this sense, opting in or out of seasonal food practices may suggest a hierarchical order to certain culinary practices from the perspectives of some urban settlers. Urban food enthusiasts tended to favour food items, customs, norms, and trends that were influenced by Western culture. This was evident

in the popularity of Western-derived dishes and culinary practices in the modern culinary landscape in Ulaanbaatar. A 24 -year-old female city dweller said,

“Living in rural areas often means having fewer options when it comes to food. That's why people in those areas tend to eat a lot of meat and dairy products. Personally, I would not feel very good if I ate those things all the time. I try to be mindful of what I eat and make sure I am consuming an adequate amount of dietary energy and essential nutrients. It's important to vary your diet and not eat the same things all the time, because that can have negative effects on your health.”

According to the insights gathered through my interviews, individuals living in urban areas tended to perceive the ample availability of food options throughout the year as a significant benefit, which was not readily accessible to those residing in rural areas. On the other hand, this perspective was not commonly held among subjects living in rural regions, who did not necessarily seek out the diverse food options available in cities, with the exception of some members of the younger generations.

Non-seasonal food consumption practices were associated with wealth, nutritional knowledge, healthy eating habits, and the quality of life valued and embraced by Ulaanbaatar residents. The act of purchasing non-seasonal food items such as non-seasonal fruits that were imported could potentially serve as an indicator of one's economic status. This is due to the fact that non-seasonal and imported food products are more costly compared to locally produced, seasonal ones, which suggests that an individual who buys them has higher purchasing power and willingness to invest in higher-quality food products. For certain study participants, being able to acquire an assortment of food items that were not limited by seasonal availability signified a level of economic security and embodiment of modern lifestyles. Imported fruits were considered a symbol of extravagance and prosperity, and the perception of fruits as an indulgence and a luxury could be attributed to the nation's geographic location, as reported by some urbanists.

Moreover, such fruits were regarded as healthier alternatives for snacks and sweets and were particularly popular amongst residents who wanted gluten-, fat-, and sodium-free, low-calorie dessert after meals, often fulfilling separate but complementary needs. The exotic fruits were mostly referred to as “expensive” amongst many urban residents and “very expensive” amongst peri-urban residents. Some urban residents (n = 3) reported they would add imported fruits to their daily food items when their economic status improved, while a few urban participants reported eating imported fruits without knowing how much they cost because they never cared about the price when they purchased them.

In fact, purchasing and consuming certain types of products in public made subject’s wealth and prosperity manifest or observable by others. According to Paxson (2013), food can be judged based on its impact on physical and social well-being, purity, status, emotional effect, ease of preparation, cost, and most importantly, taste. Social recognition played a more important role amongst urban residents, as imported fruits were seen as a symbol of wealth and status, leading to the creation of unique values amongst urban residents.

Access to imported fruits was often limited to study subjects who were wealthy, held higher social status or lived in urban areas. The scarcity of many affordable imported fruits made them a symbol of affluence and exclusivity in the modern Mongolian context. Consuming imported fruits moving fluidly across geographical boundaries was associated with modernity and urbanicity in addition to wealth, because regular access to ample imported food products was exclusive to the urban rich.

Fruits that were available for consumption year-round, regardless of the season and origin, had become a popular choice of food for many wealthy urban dwellers. These imported fruits were regarded by urban participants as palatable, precious, portable, and luxurious foods that provided all sorts of health benefits and pleasure. However, it is important to note that the

perceived taste and appeal of these fruits differed for rural and peri-urban communities, the latter of whom had different dietary preferences and found such imported fruits less palatable.

Despite this, the demand for imported fruits continues to rise in urban areas, where they serve as a popular food for many wealthier people. Based on my interviews, urban participants who have limited exposure to fruit cultivation and production tend to gravitate towards imported fruit in order to explore new and exotic flavours that are not commonly found in their local area, unlike their rural and peri-urban counterparts who are familiar with how fruit is grown, pruned, and harvested. These findings highlight the important role that geographical location and cultural factors play in shaping consumer attitudes towards fruit consumption.

Through conducting interviews with urban dwellers, I identified a commonly held perception that fresh and high-quality imported fruits were considered expensive food items. Notably, many participants associated freshness with the aroma and appearance of the fruit, regarding these sensory attributes as essential indicators of quality.

Additionally, I noted that some individuals were not bothered by the distance the fruit had travelled or the means of transportation to Mongolia, as long as it appeared and smelled fresh. In Ulaanbaatar, there exists a separation between food production and consumption, unlike in the countryside where the two are closely intertwined. Seasonal food consumption is essential for economic and nomadic sustainability in rural areas as discussed earlier in the chapter, whereas in Ulaanbaatar, where food production and consumption are separate, seasonal food consumption is more of a personal preference. Imported fruits have become a common part of daily life for many who grew up in urban households in Ulaanbaatar, rather than exotic, foreign food items that were once considered quite unique even though the consumption of imported fruits is generally limited to the urban wealthy. In modern societies, the food available in cities like Ulaanbaatar, including imported fruits, is a reflection of the

demands, desires, and discretions of its residents. Hence, what individuals consume is not solely a private concern, but a significant component of the broader production and consumption dynamics that shape their communities, social circles, and societies.

Although not systematically addressed in interviews, some urban participants referred to imported fruits in ways that suggested a loosely perceived order, informed by factors such as price, rarity, and symbolic value. These references were not consistent or comprehensive enough to constitute a definitive hierarchy, but they nonetheless hinted at the ways in which certain foods may be imbued with meanings linked to social distinction, purchasing power, and urban cosmopolitanism.

Claude Lévi-Strauss (1966) conceptualised food as a symbolic system, proposing that culinary distinctions, such as raw, cooked, or rotten, encode deep structural oppositions in human thought. Mary Douglas (1972), in her analysis of food taboos and meal patterns, argued that food classifications uphold social order; foods that defy these classifications become “matter out of place” and provoke discomfort or anxiety. These perspectives help to frame the selective valorisation of imported fruits not merely as expressions of taste, but as socially embedded practices that reproduce boundaries and distinctions.

Fischler’s (1988) work on food and identity is also highly relevant. His theorisation of the “omnivore’s paradox,” the tension between a desire for variety and a fear of unfamiliar foods, helps to explain how culturally specific preferences serve to stabilise identity. Within this framework, imported fruits in urban Mongolia may function as symbolic tokens of distinction, modernity, and exclusivity. Ellen Messer (1984), meanwhile, highlights how food classifications are shaped by both symbolic meaning and material conditions. Her work underscores the ways in which distinctions in food consumption also reflect ecological knowledge, resource access, and political-economic inequality.

Taken together, these authors show that food categorisation operates on multiple levels as symbolic language, identity work, and reflection of broader material realities. This framework has informed my re-interpretation of the limited but suggestive data on imported fruits. While I remain cautious not to overstate the representativeness of these perceptions, these ethnographic fragments nonetheless point to an emergent and relational food economy in urban Mongolia, in which expensive, rare, or imported items may carry socially recognised connotations of prestige and urban modernity.

I have also acknowledged this limitation and interpretive stance in the revised methodology chapter and identified it as a promising direction for future research, particularly in relation to symbolic food economies, shifting urban consumption, and emerging hierarchies of value in post-socialist settings.

However, amongst some participants, the food in each area seemed to be connected to its residents' identities and contributes to the formation of regional affiliations. At times, the high price of such imported fruits seemed to add value to them. Amongst my participants, there was a perception that individuals who had access to non-local fruits, regardless of the season, were affluent and exclusive.

Furthermore, the imported fruits available throughout the year offered a glimpse into the diverse regional affiliations of the foods that were particularly significant in the city. Food items in Mongolia are typically associated with specific areas where they are produced or consumed. For instance, dairy products that are locally sourced and freshly prepared are affiliated with the rural countryside.

On the other hand, expensive non-seasonal imported fruits are associated with urban areas of Mongolia. These fruits are only available in urban areas and are consumed exclusively

by urban residents. The availability of these fruits in urban areas is a testament to the growing affluence of the urban population, who have greater access to imported and luxury food items. These diverse regional affiliations are reflections of different types of food now available in post-socialist Mongolia.

Accessibility to imported fruits can be interpreted as means to confirm and reassure the affirmation and exhibition of modern urban identity, as they provide an account of foods with regional affiliations. The presence of exotic fruits in and out of season in the city is a testament to the city's cosmopolitan nature and its openness to embracing non-Mongolian food cultures and traditions. The availability of fruit in the city also highlights the importance of international trade and commerce in shaping the city's food culture. The meaning and significance of imported fruits seem to have been developed and cultivated by incorporating them into the images of a modern capital city that is less ethnocentric, with broader cross-cultural validity and influences than rural settings.

Three generations earlier, only those with great wealth in the Western world had the privilege of indulging in delicacies such as out-of-season vegetables, chilled beverages, and ice cream (Laudan, 2015: 308). Although these food items are now readily available to the urban affluent in Mongolia, they remain out of reach for many rural nomads who lack access to food vendors in cities, as well as some peri-urban inhabitants who face financial limitations that prevent them from regularly enjoying such fare or who opt to abstain from it altogether.

Urban residents in my study tended to exhibit a stronger appreciation for imported fruits, potentially due to their greater exposure to diverse cultures and cuisines in these settings and their financial ability to access these expensive imported fruits. In this way, imported fruits with higher price tags can also serve as a means of self-expression for affluent individuals in Ulaanbaatar. In urban areas outside of the *ger* districts, households with stable access to

electricity and sufficient financial resources tended to own medium to large-sized refrigerators for storing perishable items such as fruits, vegetables, dairy, and meat. It was common amongst wealthy urban participants to enjoy ample cold or chilled imported fruits with family and guests year-round, often utilising refrigerators with advanced temperature and humidity control to maintain their freshness.

On the other hand, during visits to peri-urban and rural households, I observed that some subjects owned small, old refrigerators that were not functioning, typically used to store non-perishable foods that do not require refrigeration. Interestingly, a few households mentioned that these second-hand refrigerators were given to them by extended family members, such as cousins and brothers-in-law, or by close acquaintances, such as old friends. It was sometimes unclear how some households obtained these refrigerators, especially when they had been acquired many years before. Simply put, the consumption of ample imported fruits showcased urban participants' modern, urban lifestyles, reliable access to electricity, and financial stability, which was not always attainable for their rural and peri-urban counterparts.

It is interesting that in Ulaanbaatar, people live in much closer proximity to each other than in rural regions. However, this physical closeness doesn't necessarily translate to a sense of togetherness in the capital city. Instead, the residents I interviewed tended to differentiate themselves from others based on their beliefs, social standing, financial status, educational backgrounds, and even the types of foods they consumed, which reflected their social and economic affiliations. Urban individuals often held the belief that their food practices and consumption of food items unique to urban areas set them apart from rural and peri-urban individuals.

This perception suggests that urban Mongolians view themselves as more cosmopolitan and sophisticated in their food choices, while rural and peri-urban dwellers are expected to

maintain simpler, traditional diets. This distinction can be framed within the philosophical lens of Deleuze and Guattari's (1987) emphasis on the primacy of difference over identity. For them, identity is not fixed but is produced through social and cultural differences. In this context, food choices serve as a significant means of asserting and negotiating social identity, with specific foods, such as imported fruits, symbolising a more modern, urban lifestyle.

Amongst some urban residents, these imported fruits were not merely seen as a food choice, but were perceived as having achieved a form of "international standard," particularly in terms of their exceptional taste, texture, and aroma. This appeal was especially prominent amongst individuals who had spent time abroad or those who had become familiar with global culinary standards through media platforms such as films, YouTube, and Netflix.

My interviews suggested that the positive associations with such foreign fruits have been widely internalised within urban communities, becoming part of daily interactions and food practices. In particular, individuals with higher incomes or those in the urban elite exhibited a much stronger tendency to consume these fruits regularly or even seasonally, often favouring premium cultivars like Fuji apples or Alphonso mangoes. One participant described consuming these fruits as a "journey to another world," underscoring how deeply these foods were romanticised and linked to notions of affluence and global connectivity. Importing fruits thus not only symbolises modernity but also highlights the socio-economic divides within Ulaanbaatar, with the affluent using such consumption to distinguish themselves from less privileged members of society.

Urban areas, as Robinson (2006) observes, often encourage interactions that are categorised and superficial, reinforcing social distinctions. This process of classification is central to the argument made by Douglas (1966), who suggests that classification systems are vital to maintaining social order, as they define boundaries between the acceptable and the

deviant. These systems are not arbitrary; they function to preserve social coherence by delineating distinctions between groups, practices, and values. Within this framework, food choices are not just about nourishment but about asserting one's identity within a particular social order. In Ulaanbaatar, for instance, food consumption has become a means for residents to distinguish themselves, not only from rural populations but also from one another, based on their social status or economic capital.

Through my interviews, I found that Ulaanbaatar's urban residents used food to signify their community, social status, and regional identity. Some participants, particularly those born and raised in the capital, expressed strong preferences for fast food, imported fruits, and high-calorie items such as ice cream, even before I asked about their food habits. These food choices were indicative of a clear sense of urban identity, which set them apart from rural migrants. One urban participant, for example, stated, "We are different from those from the countryside," reflecting a self-perception based on regional and cultural distinctions. In contrast, some rural-origin participants reacted uneasily when questioned about their rural background, indicating the emotional weight attached to these regional categories.

Douglas's (1966) theory further suggests that clearly defined boundaries are essential for societal stability. When these boundaries are violated, disorder and chaos may follow. Food choices, therefore, act as an important mechanism for regulating behaviour and protecting the social order. In Ulaanbaatar, the distinction between urban and rural food consumption practices highlights how food can function as a boundary marker, establishing social hierarchy and reinforcing cultural coherence.

The regional affiliation of urban residents in Ulaanbaatar, combined with the types of food available in the capital, seem to reinforce these distinctions. Food choices not only reflect economic capacity but also serve as symbols of social positioning. For instance, some urbanites,

particularly those with higher incomes, preferred foods with greater symbolic capital, imported fruits or non-seasonal items, signalling their financial stability and exposure to global trends. Such foods are often seen as markers of modernity, civilisation, and social prestige. Interestingly, the urban preference for non-seasonal fruits, often imported, contrasts with the food habits of rural Mongolians, who did not use food as a means of asserting regional or social identity in the same way.

This urban-rural divide also mirrors global patterns of food symbolism. In other cultural contexts, food choices have been linked to notions of class and civilisation. For instance, the Greeks viewed the Scythians as morally inferior, associating them with a pastoral, non-cultivating lifestyle, while the sedentary populations, who consumed cooked meals of grains and meat, were considered civilised (Landan, 2015). Similarly, in rural Mexico, specific foods are linked to class and race, with certain delicacies reserved for the elite (Wynne, 2013). In Mongolia, the association of non-seasonal and imported foods with modernity, often linked to financial success and English language proficiency, further highlights how food choices function as markers of social class and cultural identity.

My research also revealed that those with higher incomes in Ulaanbaatar, or those without a fixed monthly budget for food, frequently consumed imported fruits throughout the year. These food preferences were influenced by factors such as availability, taste, and perceived quality. Imported fruits, valued for their distinct textures and flavours, were often consumed fresh rather than being processed into jams or dried goods, further reinforcing their association with a more cosmopolitan lifestyle.

The food choices of urban Mongolians reflect broader social dynamics, with food acting as a tool for asserting identity. The distinction between urban and rural food practices in Ulaanbaatar reflects Douglas's (1966) theory of classification systems as mechanisms for

regulating societal behaviour. Urban residents use food to signal their social and regional affiliations, establishing boundaries that differentiate them from rural populations and asserting their place within the broader social hierarchy. These food choices are not merely about sustenance but are intricately tied to cultural values, social status, and perceptions of modernity and civilisation.

Another type of white food mentioned by study participants was rice (будаа), which was occasionally consumed in some households in Ulaanbaatar. Different types of rice were available in the city and were consumed there. These included brown rice (бор будаа), white rice (цагаан будаа), black rice (хар будаа), and red rice (улаан будаа). Further, millet (шар будаа) and buckwheat porridge (хөц будаа) are called rice (будаа) in the Mongolian language even though they are not technically rice.

Rice was generally not considered a staple or highly desirable food item in Ulaanbaatar, despite the popularity of rice-based dishes such as fried meat rice in urban restaurants. Unlike residents of many other East Asian countries, Mongolians do not typically rely on rice as a primary component of their daily diet. In interviews conducted with Mongolian participants, it became apparent that many households did not own rice cookers. This observation underscores the distinct culinary traditions in Mongolia, distinguishing it from neighbouring East Asian cultures where rice is a central dietary staple throughout the year.

A number of respondents indicated that rice was not a regular part of their diet, except for those who had partners or former partners from other East Asian nations. They showed no interest in consuming rice on a daily basis. Several participants pointed out that carrying a bag of rice home from the store could be inconvenient due to its weight and the process of preparing rice could be time-consuming. This was a potential barrier to purchasing and consuming rice

regularly. There were participants who claimed they would only consume rice as a last resort when no other food options were available.

The perception and attitudes towards rice and imported fruits differed considerably, despite both being commonly imported and readily available throughout the year. During my interviews, I observed that the topic of meat and fruit consumption elicited a high level of enthusiasm and engagement from the participants. However, the same level of interest was not observed when the discussion topic shifted towards rice, with the exception of brown rice (бop будаа). With more fibre, vitamins, minerals and antioxidants, brown rice was widely recognised as a healthier alternative to white rice only among some urban wealthy. Brown rice was also recognised as expensive wholegrain food, mostly imported from other countries to Mongolia. Brown rice was regularly consumed amongst a few urban residents who wanted to prevent rising blood sugar, and some who were trying to lose weight or stay fit in the higher income community consumed brown rice. Brown rice was selected for its health benefits instead of its taste or cost by those who could financially afford it.

Moreover, during previous time spent outside Mongolia, some urban residents had savoured the taste of the rice they consumed abroad. However, upon returning to Mongolia, they were disappointed to find that the rice available on the local market did not meet their expectations in terms of quality and flavour. For example, a few urban residents who lived in Australia and the US reported that the “quality of rice available in Mongolia is inferior [to the rice they consumed in Australia and the US]” and reported that they stopped consuming rice after they came back to Mongolia. Some said there may be variations in the taste, texture, and quality of rice depending on its country of origin. Meanwhile, other participants reported that upon their return to Mongolia following their educational experiences in countries like China, India, and South Korea, they found themselves cooking rice more frequently. It seems that

some individuals may incorporate new and different food practices into their dietary habits after residing in a foreign country for a period of time. This could be due to exposure to new cultures, cuisines, and culinary traditions.

My interviews brought to light the fact that a specific cohort of young adults residing in urban areas had begun incorporating rice as a regular dietary staple within their homes subsequent to their time spent abroad. In contrast, individuals residing in *ger* districts who had worked overseas had fewer opportunities to explore international cuisine than their more affluent urban counterparts. This can be attributed to their restricted exposure to local communities and cuisines overseas, as many of them cohabitated and laboured alongside fellow Mongolian workers while abroad.

Indulging in the rich flavours of local cuisine and engaging in food-sharing activities is undoubtedly a delightful experience. However, a certain level of financial stability and availability of time are required to fully immerse oneself in the culinary culture of a region. When it comes to spending time abroad, it's important to note that simply being in a foreign country doesn't always guarantee exposure to local culinary traditions and customs. Factors such as one's social and economic background can play a significant role in determining the extent to which Mongolians are able to experience non-Mongolian cuisines. Depending on their circumstances, they may have limited access to certain types of food or be more likely to stick to familiar options.

Some urban residents regarded non-seasonal food consumption as part of a privileged urban food environment that provides access to abundant food products and options without limitation or seasonal restrictions, something that is unattainable in isolated rural regions. It is worth noting that such cultural bias in rural culinary traditions did not exist amongst peri-urban *ger* dwellers, many of whom were originally from the countryside and maintained relationships

with people there, perhaps because of their place attachment or emotional bond to the traditional Mongolian cuisine they grew up eating. In fact, the lack of prestige for traditional Mongolian cuisines and food practices was only mentioned by some urban residents, and never mentioned by peri-urban ones. Seasonal food consumption has been a customary practice amongst rural nomadic communities, yet it has become a personal preference that the residents of Ulaanbaatar can freely choose, a lens reflecting values, ideology and social and economic changes concerning foods that have been influenced by the western media, influencers, and the neoliberal market economy.

Social stratification is a complex social phenomenon that involves the categorisation of individuals into groups based on a variety of factors, including but not limited to wealth, status, and power. This process can have a profound impact on individuals' lives, as it can determine their access to resources, opportunities, and social mobility. In urban areas, social stratification is often reflected in dietary behaviours and food choices, with certain types of food being associated with particular social classes or groups. This can further perpetuate inequalities and reinforce existing power structures within post-socialist Mongolian society. Some imported fruits have become an emblem of global capitalism and are perceived as valuable or worthy of higher social and economic status.

Amongst my subjects, identity affirmation was achieved through purchasing and consuming such food products, thereby signalling one's social status. Moreover, deciding to procure imported fruit may be viewed as a demonstration of one's purchasing power and desire for a more diverse assortment of culinary options. This may not be a purely economic phenomenon, but rather a mixture of complicated social, economic and political phenomena that have arisen since the dissolution of the Soviet Union. That dissolution has left behind an

environment in which the availability and affordability of such produce is often contingent on the economic and political relationships between nations.

Some urban study participants strongly preferred foreign-grown fruits, considering them the world's finest due to their distinctive aroma and texture, which were sometimes thought to surpass those of fruits grown in Mongolia. The summer meal pattern for some urban elites entailed an increased consumption of exotic fruit, vegetables, and chilled beverages, which were exclusively available in the city for members of privileged and distinct social groups, due to financial status and geographical location that provided numerous food products and a range of food outlets.

Similar to other food categories such as meat, fruit began to form its own hierarchy as the consumers started to make their own decisions on everyday food items, and financial inequality within Mongolia became rather consistent in the post-socialist era. Certain types of fruit at the more expensive end started to look like exclusive and accessory food items, illuminating one's social and economic status and locally salient boundaries within the capital city.

Although not systematically explored in the interviews, some urban participants referred to imported fruits in ways that suggested a perceived order, influenced by factors such as price, rarity, and symbolic value. However, these references were not comprehensive enough to establish a definitive hierarchy, as structured or semi-structured interviews specifically addressing food hierarchies were not included in this study, and participants mentioned or referred to it to varying degrees. Nevertheless, these references hinted at how certain foods may acquire meanings linked to social distinction, purchasing power, and urban cosmopolitanism. For instance, some imported fruits appeared to symbolise the superior purchasing power and elevated social and economic status of particular urban residents

involved in this research. These participants were more likely to consume fruit as a dessert or as a healthier snack between or after meals, in addition to using it as a staple or source of nourishment.

5.2.5. SECTION CONCLUSION

This research found that there were similarities, differences, and overlaps in food preparation and consumption in rural, peri-urban, and urban Mongolia. The consumption of seasonal food in Mongolia exhibited regional specificity, with notable continuities in rural areas and discernible differences across the country, marked by a decline in seasonal food consumption in urban regions of Ulaanbaatar. Consuming seasonal and non-seasonal foods is not merely a matter of personal preference but is deeply ingrained in the regional and sometimes social status of the Mongolian people. The foods that are associated with particular regions in Mongolia are often deeply embedded in the cultural and social fabric of those areas.

In the rural areas of Mongolia, seasonal food consumption is deeply intertwined with the local heritage. Nomads residing there cherish seasonal foods, which are thought to be the most delicious and to have health benefits. In fact, for rural nomads, access to non-seasonal food products is not a major concern as they have adapted their dietary habits to match the seasonal availability of food. This means that they rely heavily on the meat and dairy foods that are available to them during specific times of the year, and they have learned to make the most out of what nature provides them. This way of life has allowed them to sustain themselves for generations, and some nomads view it as a way of preserving their identity and heritage.

Ulaanbaatar boasts a diverse and rich local cuisine that transcends cultures and seasons, offering a wide range of food options. This abundance of both seasonal and non-seasonal fare available year-round has made non-seasonal food a prestigious choice in Mongolia, whereas rural nomads typically lack access to it. Deciding whether to participate in seasonal and non-seasonal consumption in the modern urban Mongolian context is a complex process that involves practical factors like availability and affordability, as well as more abstract factors such as locality, quality, and authenticity. On the other hand, Ulaanbaatar's local cuisine offers a wide variety of food options that transcend cultural boundaries and seasonal limitations. From seasonal delicacies to year-round favourites, the city boasts an abundance of choices that cater to all tastes.

This study also revealed that peri-urban subjects' beliefs about seasonal and non-seasonal foods were shaped by multiple factors, such as their financial limitations, rural upbringing, long-standing traditions of seasonal food consumption, and limited exposure to individuals from affluent neighbourhoods in Ulaanbaatar. These factors collectively contributed to a distinct set of beliefs and practices related to seasonal and non-seasonal food consumption among peri-urban residents.

As a means of navigating the inherent uncertainties of city life, peri-urban Mongolians often surround themselves with those who share similar perspectives and financial means. This inclination is further evidenced by their food preferences, which serve as a reflection of their values and social status. According to Ochoa (2012), the emergence of capitalism has had a profound impact on the production and distribution of food. While the capitalist system has contributed to a remarkable increase in food production, it has also resulted in a notable inequality in food access among different social groups (ibid). For example, individuals residing inside and outside the *ger* districts may have varying financial capacities to access

certain food items, such as imported goods. Decisions about what to eat, how often, and how much are influenced not only by personal preferences, but also by one's financial circumstances in Ulaanbaatar. Such unequal food access seems to have added new subtle, nuanced meanings and indications attached to different types of food items in urban Mongolia in modern times.

Moreover, during my interviews with urban residents, I learnt that, for many Mongolians, the decision to consume or avoid certain foods is often considered a prestigious choice, especially when in light of the limited variety of food available in rural areas. In Ulaanbaatar, food choices are often seen as a reflection of one's values, beliefs, and social status. Opting in or out of food consumption has thus become a multifaceted and intricate practice that varies greatly amongst individuals. The decision to engage in seasonal and non-seasonal consumption is a complex process that involves practical factors such as availability and affordability, as well as more abstract factors like locality, quality, and authenticity. It is not just about satisfying hunger, but also about making a conscious decision that aligns with one's values and beliefs. These factors can vary greatly from person to person, making the decision to opt in or out a multifaceted and intricate practice in modern urban Mongolia.

While urban residents often demonstrate their financial status by consuming non-seasonal foods, many peri-urban dwellers do not regularly partake in such fare. Interestingly, seasonality remains the primary factor influencing the food preferences of many rural-urban migrants in peri-urban areas. Their dietary choices and familiarities remain steadfast, regardless of how long they have lived in Ulaanbaatar or the significant changes in their food environments and lifestyles. In fact, their continuous consumption and preference for seasonal foods are complexly linked to their resilience, adaptability, and financial capability to sustain themselves in the city, far from their places of upbringing. Their commitment to maintaining a sense of belonging and resilience far from home is fuelled by their continuous preference for

and practice of seasonal food consumption. Therefore, the decision to partake in seasonal food consumption can serve as an indicator of urban identity in modern Mongolia, where people establish, reinforce, and assure their cultural, regional, and social identities.

The contrast between the food consumption habits of urban and peri-urban residents in Ulaanbaatar is fascinatingly reflected in the diverse selection of seasonal and non-seasonal foods available. This availability of various foods demonstrates the complex dynamics of city living and the diverse demands of both urban and peri-urban residents. What's interesting is that there is no monopolised view of seasonal versus non-seasonal foods in the city, which, according to Batty (2013), highlights the complex nature of city life in which individuals interact and make decisions without any one authority having absolute control.

Despite this, urban residents tend to self-organise into communities and groups while firms collaborate to produce goods and services that cater to the needs of the city (ibid). Although there are variations amongst people in the same categories of urban and peri-urban areas, it is evident that many share similar values, norms, and practices regarding seasonal and non-seasonal foods. This is especially intriguing when compared to the much less diverse concept and behaviours related to seasonal foods and their consumption in rural Mongolia.

5.3. MEAL FREQUENCY

5.3.1. REGIONAL VARIATIONS IN MEAL FREQUENCY

I chose to look at meal frequency (хоол идэх давтамж) because it may be related to changes in diet and body size in the post-socialist context, along with economic and social changes over time. A meal can broadly be defined as any of the regular occasions in a day when people sit down to eat. What a meal is, nonetheless, can range widely, and the term can mean different things to different people. Meals have been developed and fitted to a pattern of life, which may generate careful or fast near-automatic food choices.

According to Laudan (2015:11), meals can be tailored to accommodate cultural preferences. In Western culture, it is widely believed that a healthy diet should consist of three main meals - breakfast, lunch, and dinner - along with two snacks in the morning and afternoon to aid in appetite control, as suggested by dieticians (Paoli et al., 2019; Carroll et al., 2013). While the media often promotes the consumption of five to six meals per day, it is important to note that the number of meals is not a fixed standard, and the traditional three-square meals is a relatively recent concept (Paoli et al., 2019). It is worth noting that the predominant dietary habit in contemporary societies, which entails consuming three main meals interspersed with snacks on a daily basis, is regarded as anomalous in light of evolutionary considerations (Mattson, et al., 2014).

The scientific community has yet to draw a definitive conclusion on the correlation between meal frequency and indicators of obesity. Some cross-sectional studies (Drummond, et al., 1998; Lioret, et al., 2008; Ma, et al., 2003; Ruidavets, et al., 2002; Toschke, et al., 2005) have suggested a negative relationship between regular meal consumption and metrics such as body weight, body mass index (BMI), or percentage body fat, while other studies (Andersson

et al., 2000; Duval et al., 2008; Hartline-Grafton et al., 2010; Howarth et al., 2007; Mills et al., 2011) have discovered no discernible links.

According to a study conducted by Holmbäck et al. in 2010, it was found that men who consumed three or fewer meals per day had a higher risk of developing general and central obesity, even after accounting for factors such as total energy intake, lifestyle, and dietary habits. However, the study did not find any significant association between meal frequency and obesity in women. According to a study conducted by Ohkawara et al. in 2013, increasing meal frequency from three to six per day does not significantly affect 24-hour fat oxidation even though it may lead to increased hunger and desire to eat. The researchers state that while consuming smaller, more frequent meals is often recommended for weight control, their findings suggest there are no clear metabolic or appetite benefits. In fact, such consumption may even have adverse effects on hunger and satiety.

According to a study conducted by Stote et al in 2007, limiting meals to once per day over the course of eight weeks resulted in weight loss in healthy adults, but did not appear to affect their serum lipids, glucose, or insulin levels compared to those who consumed three meals per day. The study also found that altering meal frequency is possible for healthy, normal-weight, middle-aged men and women. Participants who consumed one meal per day experienced weight loss and a decrease in fat mass, despite consuming a similar number of calories.

Similarly, a study conducted by Kahleova et al. in 2017, which included 50,660 adults in Canada and the United States, suggests that healthy adults may benefit from eating less frequently, avoiding snacks, eating breakfast, and having their largest meal in the morning to prevent long-term weight gain. The study found that individuals who consumed one or two

meals per day had a lower BMI compared to those who had three meals per day. Conversely, those who ate more than three meals per day had a higher BMI per year (ibid).

Despite these studies, it is currently unknown whether altered meal frequency would have a similar effect on weight and body composition in obese individuals. Blazey et al (2023) conducted a systematic review with meta-analysis of randomised trials on eating frequency and its impact on body composition. The study found that both high and low frequencies of eating had similar effects on weight change and other cardiometabolic health markers in adults. Out of the five trials involving 230 participants that compared low versus high eating frequencies on BMI, the evidence of a difference between the two frequencies was very low in certainty (mean difference: -0.4 kg/m^2 (95% confidence interval: -0.81 to 0.02 kg/m^2 , $p = 0.06$, $I^2 = 0\%$) (ibid). Blazey et al (2023) also noted that past trials on eating frequency interventions were underpowered and biased, highlighting the need for more research to draw conclusive results.

My study found that the number of meals amongst the locals deviated across Mongolia, and rural nomads had fewer meals compared to the urban residents in Ulaanbaatar. Numerous factors play a role in determining personal meal frequency, and this study found that these are almost certainly demarcated by the areas in which residents live. A significant majority of participants residing in Ulaanbaatar had adopted the practice of consuming three meals per day as a standard component of their daily routine. In fact, having three meals or more was common amongst 74.5% of urban participants, 33.8% of peri-urban participants, and 12.8% of rural nomad participants.

Meanwhile, having two meals or fewer per day was common amongst 87.2% of rural nomads, 66.2% of peri-urban residents and 25.5% of urban residents. There was a statistically significant relationship between the meal frequency (two meals or less; three meals or more) of adult participants and the areas (rural, peri-urban, and urban) they lived in, $\chi^2 (2) = 101.912$,

$p < .001$. Urban dwellers were more than nineteen times more likely to have three meals or more per day than rural nomads (*odds ratio* = 19.8) and peri-urban dwellers (*odds ratio* = 5.7). Despite the regional variation observed in this study, the relationship between the age groups (younger < 37; older \geq 37) of the adult participants and their meal frequency was statistically non-significant. The regional differences in meal frequency within Mongolia, along with the lack of generational differences, seem to indicate that meal frequency may be determined by the living conditions and food environments to a certain degree.

The results of the study also highlight the diversified daily eating habits within Mongolia, along with different working and living conditions and food environments. Considering the fact that many pastoral nomads in Mongolia used to have one meal per day, the habit of having three meals a day amongst urban dwellers seems to reflect dietary changes in post-socialist Mongolia.

During my research, I observed that residents of Ulaanbaatar tended to adjust their meal timings in accordance with their daily schedules and personal preferences, particularly when it came to managing their weight. Moreover, when an individual experiences higher levels of stress, it can lead to alterations in their eating habits and meal frequency. These changes may manifest in various ways, including increased snacking or binge eating, skipping meals, or consuming more or less food than usual. This may also play a role in the urban eating habits I observed.

Conversely, those residing in rural areas usually determined their meal frequency based on household needs due to their self-sufficient nomadic lifestyle, unique culinary customs, and limited options for purchasing or consuming food beyond what they produce themselves. The frequency at which individuals consume meals is subject to a range of factors, including but not limited to cultural norms and values, working conditions, and the availability of food

options in their immediate environment. Meal frequency can have a significant impact on the quality of food and on an individual's eating habits and overall dietary intake in both the short-term and long-term.

Based on the interviews I conducted, it has become evident that the frequency of meal consumption is greatly impacted by various factors, including societal norms, personal beliefs, traditional practices, and external variables like working conditions and the availability of food options in the surrounding area. The dietary habits of individuals residing in urban, rural, and peri-urban areas are influenced by a complex web of such interconnected factors that can vary greatly depending on the specific location and circumstances.

Understanding these regional distinctions and the complex interplay between these determining factors of meal frequency can provide valuable insights into the cultural and social dynamics of various Mongolian regions. In the next section, I will elaborate on the variance in the number of meals participants eat daily in rural Mongolia, urban areas in Ulaanbaatar, and suburban *ger* districts, respectively.

5.3.2. MEAL FREQUENCY IN RURAL MONGOLIA

While a three-meals-a-day pattern has become the norm amongst the rich in Ulaanbaatar, lower meal frequency was still the norm amongst study participants in rural areas and *ger* districts. As many pastoral nomad participants reported that they used to have one meal per day, the new dietary habit of eating three meals was a unique characteristic of urban participants that may indicate considerable changes in daily food consumption in post-socialist times. In the Mongolian language, breakfast is called өглөөний цай, which signifies “tea in the morning” or “tea of the morning.” During my research, I noticed that rural subjects’ dietary choices tended to centre around dairy products that had undergone various forms of processing, such as heating, stirring, or fermentation. It is interesting to note that the nomadic households I encountered typically consumed hot fermented milk as a daily staple instead of raw foods in the morning. Fermented milk was also sometimes consumed for lunch, and it was a common accompaniment to dinner.

Even amidst summer temperatures, most nomadic participants continued to enjoy this beverage throughout the day. Typically, they only drank fermented milk (айр) and sometimes ate yoghurt (тапар) for breakfast, both of which were always prepared by female household members. Some subjects mentioned that they consumed fermented milk twice daily, in the morning and at midday, and only ate dinner. Others said they drank fermented milk whenever they felt hungry or thirsty during the day and had meals shortly before sunset. Some individuals mentioned that they only ate lunch and dinner. Still, others stated that their eating habits depended on various factors, such as weather, body condition, and the availability of food in their household.

Additionally, I observed that participants who led nomadic lifestyles tended to consume smaller meal portions in comparison to their counterparts residing in Ulaanbaatar. This could be attributed to their limited food resources or customs. Although the nomadic families I spoke with did not have regular or immediate access to an abundance of food, they found satisfaction in the smaller portions they consumed, considering them to be delicious and sufficient. Despite having fewer resources than those living in Ulaanbaatar, these rural households made the most of what they had, sustaining themselves through the food and beverages they produced, enabling them to maintain their sustenance.

There are certain factors that may lead rural nomads to consume fewer meals per day. One of the main reasons is their self-sufficient lifestyle, which often keeps them away from food outlets such as food retailers, grocery stores, local food markets, and restaurants. This can significantly limit their food choices and options when compared to those who live in Ulaanbaatar.

In contrast to their rural counterparts, rural subjects had to rely mostly on their own resources to obtain food, which could sometimes lead to a reduced frequency of meals throughout the day. In rural areas, meals were often determined by the family unit. Usually, one of the female members was responsible for cooking, which she carried out without consulting other members about what to eat, when to eat, or how frequently meals should occur. Limited food options and a lack of individual choice in meal frequency were viewed as the norm and were not subject to any questioning or scrutiny. It is important to note that these practices were generally accepted without being problematic or concerning.

When comparing the self-sufficiency of rural nomads to that of city dwellers, it becomes apparent that the former group relies heavily on their own resources for survival. Nomadic subjects engaged in various food production activities, such as farming and animal

husbandry, to procure the necessary sustenance. However, it should be noted that these participants did occasionally consume items sourced from external sources. These products could include cereals and long-lasting cookies that did not require refrigeration and could be consumed without the need for an oven or microwave. This can be attributed to nomads' unique dietary habits, including their consumption of fewer meals overall and more locally sourced, seasonal, and homemade foods that often include animal-based ingredients.

By consuming fewer meals compared to their urban counterparts, rural subjects were able to stretch their limited food supplies over longer periods of time and conserve their limited food resources, which ultimately enabled them to maintain their nomadic lifestyle without travelling longer distances to urban food outlets. Meal frequency is an essential aspect of the nomadic lifestyle and demonstrates nomads' resilience in adapting to their rural environment without relying on faraway food outlets. In this sense, rural subjects' meal frequency can be interpreted as one of their resourceful strategies to thrive in rural regions, even in the face of challenging circumstances.

Moreover, after analysing the data gathered, I noted that there were stark differences in the number of participants who reported consuming five meals a day based on their residential location. None of the individuals living in rural areas mentioned consuming five meals daily, whereas three participants from urban areas and two from peri-urban regions reported doing so. In the following section, I will delve into the factors contributing to the higher frequency of meals in peri-urban areas.

5.3.3. MEAL FREQUENCY IN PERI-URBAN MONGOLIA

I observed that 33.8% of people residing in peri-urban regions in my sample had adopted the practice of consuming three or more meals daily, while a mere 12.8% of rural participants indulged in three or more meals per day. More precisely, 61.8% of peri-urbanists consumed two meals a day, while 27.5% consumed three meals a day. This result highlights the shifting dietary habits of Mongolians living in peri-urban regions, while also underscoring the persistence of traditional eating patterns among some peri-urbanists.

Interestingly, a significant difference in meal patterns existed between participants living in urban and peri-urban areas of Ulaanbaatar. A large majority of urban residents (66.9%) followed a three-meals-a-day pattern, while only 27.5% of those in the *ger* district followed this meal structure. A significant number of individual subjects mentioned experiencing discomfort after consuming three meals a day, whereas others found it difficult to allocate sufficient time for three meals. In certain cases, the financial burden of purchasing food presented a significant challenge to individuals who aspired to consume three meals on a daily basis. Subjects who resided in the *ger* districts often opted to consume two or fewer meals each day as a result of personal or household-related factors.

In certain peri-urban *ger* districts, when both partners were working, it was common for everyone in the household, including children, to have the freedom to decide what and how often they ate during the week, utilising their food allowances. With the introduction of a monetary system and food establishments, people in peri-urban areas gained the ability to purchase food products, including pre-cooked meals, at any time of day and as frequently as they desired, as long as they had sufficient finances.

However, there is a potential downside to this freedom. Some peri-urban children opted to use their food allowance to purchase snacks and sweets rather than meals, which was often not a concern for their parents. In contrast, parents in my study who lived in urban areas tended to be more mindful of the types of food their children consumed and often encouraged their children to make healthier food choices with their allowance.

In certain peri-urban households in this study, family members were granted the autonomy to decide on their own meals and meal frequency throughout the week. This was made possible by providing a designated food allowance that was equitably distributed among all members of the household. The decision-making process was a collaborative effort between partners and children, who collectively determined the best meal choices and appropriate budget allocation for each item. This approach to food provision enabled families to personalise their eating habits according to their individual tastes and requirements, which in turn fostered a sense of responsibility and independence within the household.

Furthermore, meal frequency amongst participants was found to be linked to both mental and physical well-being, as well as life history, in both the peri-urban *ger* districts and urban areas of Ulaanbaatar. This distinctive pattern was only identified within the city. In peri-urban areas, some individuals increased their meal frequency as a means of coping with stress, pressure, and anxiety. This often manifested as stress eating or binge eating, which can have negative consequences for both physical and mental health (Smith et al., 2018; Thompson & West, 2020). It is worth noting, however, that meal frequency could fluctuate significantly over time. For example, some peri-urban participants ate more during periods of stress, while others ate less. 3.8% of individuals in the peri-urban areas consumed one meal a day, while 4.6% consumed four meals, and 1.5% consumed five meals a day. These variations were influenced by a range of factors, including personal circumstances and individual coping mechanisms.

Overeating and more frequent eating due to stress was reported by some *ger* district residents. Although less common than overeating, stress was also associated with appetite loss lasting more than three months, as reported by one *ger* dweller ($n = 1$) and several urban residents ($n = 6$), but no rural participants. A 43-year-old woman who worked as a skilled labourer and lived in the *ger* district explained that she had lost her appetite following her recent miscarriage and her husband's job loss, both of which occurred around the same time. A total of twelve participants from the peri-urban areas experienced a temporary decrease in appetite for a few weeks before it returned to normal levels. Contributing factors included increased stress and anxiety, along with other unidentified elements. Over 50% of those who reported changes in their meal frequency attributed these shifts to changes in life circumstances, physical ailments, work-related stress, and financial concerns.

Curiously, these eating-related issues were not brought up by rural nomads during interviews regarding their eating habits. A thorough examination of the decision-making process of peri-urban residents with regards to their meal frequency is necessary to gain a comprehensive understanding of their daily dietary habits. Such an understanding may provide insights into the higher rates of obesity observed amongst peri-urban dwellers when compared to their urban and rural counterparts.

5.3.4. MEAL FREQUENCY IN URBAN AREAS

Amongst urban participants, 74.5% consumed three meals or more per day, whereas 25.5% consumed two meals or fewer per day. It was evident from my interviews that consuming more than three meals was quite prevalent amongst my subjects and was generally considered the norm, influenced by factors such as media, easy access to food, and personal priorities, which I will elaborate on in this section. In response to questions about meal frequency, some urban residents ($n = 7$) discussed the advantages of and motivations for consuming breakfast, even though these details were not explicitly asked for. Amongst those participants, breakfast was considered the most important meal of the day, leading to a virtuous cycle of thought and action by some.

Specifically, certain urban participants believed that regular consumption of breakfast could improve concentration and brain function. They emphasised the close connection between eating breakfast and achieving peak performance and excellence in their academic or professional pursuits. It is widely upheld amongst these subjects that a nutritious breakfast could lead to optimal school performance, improved work efficiency, and overall success in one's career, particularly in urban settings where social and economic status are regarded as crucial factors in life. This is unique to urban settings, where social and economic status are often viewed as significant factors in one's life.

In contrast, subjects in peri-urban *ger* areas appeared to attach less importance to these benefits, with only one participant mentioning the advantages of having breakfast. Meanwhile, rural nomads in this study did not specifically emphasise any motivations or benefits related to their breakfast habits. It appears that, amongst urban residents, meal frequency is viewed as a

matter of personal choice, reflecting individual priorities rather than a necessity for survival or a means of meeting household needs.

During an interview with one woman living in an urban area, she explained her typical morning routine, which started at 6:30 a.m. She emphasised the importance of having breakfast to help her stay focused during the morning hours. However, she also mentioned that there were times when she chose to skip breakfast. This decision was usually driven by a desire to avoid heavy traffic during her daily commute or to gain extra time to prepare for an important meeting. She saw skipping breakfast as a way to manage her time effectively, allowing her to accomplish all the tasks on her daily or weekly to-do list. Interestingly, the practice of skipping breakfast for time management purposes seemed to be more common in urban areas.

In addition, my interviews revealed a notable uptick in the adoption of international social and cultural influences in Mongolia. Urban participants, for instance, showed a preference for breakfast choices like cereals, toast, bacon, and eggs due to their busy lifestyles. Additionally, a light breakfast reminiscent of a continental breakfast, consisting of fruit juice, bread, tea, and coffee, was favoured by urban subjects. They described such a breakfast as “similar to the [breakfast] in other countries like the U.S.,” which many were familiar with through TV shows, films, and more recently through online platforms such as Instagram, Facebook, Netflix and YouTube. Some participants drew inspiration for their daily food choices from these platforms, with younger adults often experimenting with recipes suggested by influencers and being influenced by foods featured on Netflix. According to the insights shared by these participants, they often stayed up-to-date with the latest food trends by following various popular social media channels.

Fermented milk or *airag* (айраг), which was the most common rural breakfast, was not very commonly consumed, especially amongst the urban elites. In fact, during the interviews,

a number of younger participants expressed their displeasure with the scent of fermented milk. They noted that the aroma of such milk can linger for a significant amount of time, which they found unappealing. Despite the fact that the scent of fermented milk evoked feelings of nostalgia for many domestic rural-urban migrant subjects currently residing in peri-urban areas, some younger urban elite subjects and their children did not always find the scent to be pleasant.

It is worth noting that drinks containing alcohol, particularly fermented milk, were considered a crucial aspect of rural nomadic and peri-urban identity and food customs, while being viewed as disconnected from urban values concerning diet. Some urban participants explained to me that they did not want to have *airag*, particularly in the morning, because *airag* contains alcohol. Medically, the amount of alcohol in a cup of *airag* should not have been a concern, but the city dwellers conveyed that they did not want to appear as if they were alcoholics because of the smell of *airag*. Some individuals reported that they avoided drinking scented beverages, particularly in the morning, to prevent their colleagues from thinking that they were regular alcohol consumers who turned to drinking to cope with mental health issues or sleep problems. Many wealthy urban subjects had perceived sobriety, work-ethic, and moderation in personal habits.

Moreover, one interview participant mentioned that her eating habits varied throughout the year. She explained that she occasionally skipped either lunch or dinner to manage her weight, a method she had learnt from her favourite influencer, who demonstrated the practice of skipping one meal for weight loss on YouTube. For many urban participants, the decision to skip a meal or indulge in snacks between meals was largely based on personal preferences, and online platforms were seen as valuable resources for *exploring* new culinary experiences and weight management techniques from around the world. For these individuals, social media had established new norms concerning the frequency of daily meals. With the easy accessibility

of various online platforms, urban participants had a plethora of options at their disposal, enabling them to experiment and refine their preferences regarding meal frequency. It can be argued that social media has emerged as a powerful tool in the food industry, and its influence is likely to continue shaping Mongolian culinary culture, including meal frequency, in the years ahead.

During my interviews, I found that stress-eating was a common occurrence amongst some female participants ($n = 5$), who were all employed full-time in Ulaanbaatar. Additionally, some of them ($n = 3$) also managed household responsibilities in Ulaanbaatar. It was observed that stress could influence food intake in two ways, leading to either under- or overeating (Torres & Nowson, 2007). Interestingly, none of the rural participants mentioned stress during their interviews, despite the potential challenges and stress of living in the countryside.

My interviews revealed that individuals working in the stressful urban environment of Ulaanbaatar, where a wide range of food options is readily available, tended to adopt more liberal eating habits, particularly in response to stress. For instance, a 27-year-old woman employed in a research unit in Ulaanbaatar explained how food served as a coping mechanism for her anxiety: “I eat to feel better, even if only for a moment. When I eat, all I can think about is the taste of the food. [Eating] can be a better form of therapy than seeing a therapist or psychiatrist. I feel happy when I eat, and afterwards, I feel sleepy. This helps me avoid overthinking my anxieties.”

She described her consumption of snacks such as pizza, corn dogs, hot dogs, or fried chicken, often accompanied by a latte or hot chocolate, between lunch and dinner. However, she emphasised that she only engaged in this pattern of eating when experiencing anxiety or a sense of helplessness, noting that it was not driven by physical hunger. For her, food was no

longer merely a means of sustaining physical health but had become intricately linked to her psychological well-being.

Moreover, some participants reported experiencing difficulties with overeating during the lockdowns brought on by the pandemic. Those who had previously abstained from snacking in between meals found themselves struggling with feelings of self-loathing as a result of this overeating. As per participants' accounts in the interviews, eating had become a means of coping, providing a measure of comfort and distraction from the anxiety and uncertainty that surrounded them. For one participant, in fact, eating was the only thing she looked forward to, helping her tune out the lockdown and other unanticipated events. This is not surprising, given that stress may cause disruptions in normal eating behaviours even though the precise magnitude of the associations between stress and changes in eating habits remains unknown (Hill, et al., 2022).

It also became clear through my interviews that during times of stress, participants tended to seek comfort in non-Mongolian foods like pizza, hamburgers and French fries, often accompanied by drinks such as teas, milkshakes, smoothies, coffee drinks, hot chocolate and bubble tea. Sweets like doughnuts, chocolate, candies, gummies, and macarons were also popular choices. Stress can increase the risk of metabolic diseases such as obesity, and uncontrollable stress can alter eating patterns and make hyperpalatable foods more appealing, leading to changes in the body's stress response over time (Yau & Potenza, 2013).

Interestingly, many of these foods were not widely available in Mongolia during the Soviet era. This is understandable given the rapid expansion of Western cuisine, particularly American cuisine that has occurred only since the end of World War II. As noted by Laudan, the Cold War era witnessed the emergence of distinct culinary realms, western and socialist, contributing to the diversification of modern cuisine (2015: 313). By the dawn of the twenty-

first century, American cuisine had burgeoned into one of the most rapidly expanding branches of culinary art (Laudan, 2015: 311-313). Urban participants, including those experiencing stress or anxiety, frequently turned to American and other Western dishes as a means of coping with stress and maintaining their well-being. In this way, non-Mongolian foods had become essential for sustaining urban lives and preserving psychological health for some.

Furthermore, in urban areas, sweet food items had become a popular means of fostering a sense of community and alleviating stress and anxiety in the workplace. A 25-year-old woman, employed as an assistant in a multinational company in Ulaanbaatar, stated,

“During the workweek, I find solace in coffee for a quick energy boost. The bitterness of coffee often leaves me longing for something sweet to balance it out. Fortunately, there is an abundance of delectable treats to savour at work. I frequently bring an assortment of beverages and sweets to share with my colleagues. These moments of indulgence provide us with an opportunity to relax and converse, especially when we are under pressure due to impending deadlines.”

In urban work environments, where collaboration often involved interacting with unfamiliar individuals, these sweet treats acted as a unifying element, enabling people to swiftly form connections and establish valuable social ties. Hence, urban participants' increased frequency of consuming meals was sometimes due to the sweets and drinks shared at work, serving as a means to facilitate seamless communication in the city's workplaces.

5.3.5. SECTION CONCLUSION

The practice of consuming three or more meals per day was prevalent amongst urban participants, with meal frequency being determined at the individual level and influenced by various factors such as personal taste preferences, weight management, time constraints, and overall mental and physical health. This is in contrast to rural areas, where meals and meal frequency were typically decided at the household level. Urban participants also placed a strong emphasis on the importance of breakfast for overall health and work performance, a viewpoint that is not as widely embraced in rural and peri-urban settings.

Additionally, subjects in urban environments, particularly those in high-stress settings, often relied on additional meals or snacks between meals to support their mental health and well-being. Regardless of the frequency, meals in urban settings were often approached with a heightened level of mindfulness and intentionality to optimise performance at work, manage weight, and attend to various other factors impacting overall well-being.

5.4. FREQUENCY OF COOKING

5.4.1. REGIONAL VARIATIONS IN FREQUENCY OF COOKING

In addition to inquiring about seasonal food consumption and meal frequency, I asked about frequency of cooking at home (гэртээ хоол хийж идэх давтамж) during my interviews. Regardless of different processes and ingredients for home cooking, cooking in this section refers to the number of times a meal was cooked at home in a week. Specifically, subjects were asked about their weekly frequency of home cooking, and their answers were then dichotomised into two categories: cooking at least once a week or cooking less than once a week.

There was a statistically significant relationship between how often participants cooked and the regions (rural, peri-urban, and urban) they lived in, $\chi^2 (2) = 11.126, p < .005$. Table 5.2 shows the weekly frequency of home cooking amongst both men and women. Rural residents were more than twice as likely as peri-urban residents in my sample to cook at least once a week (*odds ratio* = 2.41). In all three regions studied, a higher percentage of women in larger households with two or more children cooked more than once a week, compared to women in smaller households with one child or without children.

Specifically, 64.8% of women in larger households cooked more than once a week, while only 42.5% of women in smaller households did. In peri-urban regions, 58.7% of women in larger households and 41.2% of women in smaller households cooked more than once a week. This trend may have been due to the fact that frequent dining out and takeout purchases can significantly increase expenses, especially for families with many members, leading many peri-urban households to cook at home to save on costs. In fact, during interviews about

cooking frequency, some peri-urban participants who cooked more than once a week mentioned the costs involved, without being prompted to do so. Interestingly, in urban regions, participants' family size did not have effects on the frequency of cooking, with 45.9% of women in larger households and 50.0% of women in smaller households cooking more than once a week.

During interviews with urban residents regarding their cooking practices, it was noted that a portion of respondents highlighted the convenience of saving both time and energy when it came to cooking, without being prompted on the subject. This points to the fact that, for some urban individuals, ease and efficiency were significant factors in their cooking routines. Mills et al (2020; 2017) have indicated that the factors influencing home cooking are diverse and go beyond just having basic cooking abilities. The reasons for cooking at home varied and included cost as a significant consideration for peri-urban subjects, while urban subjects often prioritised time and energy efficiency. This finding was not unexpected, given the respective socio-economic backgrounds of these subjects. I will delve into the criteria used for selecting food in Chapter 6.

Additionally, this study found that men in urban regions were more likely to cook than those in peri-urban areas, which could have contributed to less cooking at home for women. The relationship between the area in which male subjects lived and how often they cooked was statistically significant, $\chi^2 (2) = 20.051, p < .001$. Amongst men, only 7.0% in rural regions and 16.3% in peri-urban regions cooked more than once a week.

Meanwhile, 50% of men in urban regions cooked at least once a week. In rural and peri-urban areas, it was common to find individuals who engaged in cooking activities living alone or cohabiting with female family members who were unable to cook due to physical or mental

ailments. These included elderly women or those who had disabilities that prevented them from carrying out household tasks.

The responsibility of cooking had then fallen on one of the other family members. Similarly, the relationship between the area in which women participants lived and how often they cooked was statistically significant, $\chi^2 (2) = 40.517, p < .001$. Women in rural regions were more than fourteen times as likely as women in peri-urban areas to cook more than once a week (*Odds ratio = 14.74*).

In the context of urban living, women were afforded the opportunity to exercise their autonomy in determining whether to conform to traditional gender-based expectations, such as engaging in culinary activities, or to eschew them. Overall, these findings indicate that household composition and location are crucial factors that determine the frequency of cooking, especially among women, and the influencing factors behind this behaviour.

When subjects cooked at least once a week, chances were good that they cooked anywhere from four to seven times a week. However, individuals who rarely cooked may have gone years or even decades without ever doing so. This is because cooking habits become deeply ingrained and habitual over time.

Conversely, participants who relied solely on commercially prepared and processed foods may have continued to do so for an extended period. It is important to note that the use of commercially prepared and preserved foods was primarily feasible in urban areas and households with refrigerators and microwaves, rather than in peri-urban Ulaanbaatar or rural Mongolia.

Table 5.2. Weekly Cooking Frequency amongst Men and Women Combined (n = 379)

Variable		Percentage ²⁵	n
Times cooked in a week			
Cook at least once a week			
	Rural	59.6%	65
	Peri-urban	38.0%	49
	Urban	48.9%	69
Cook less than once a week			
	Rural	40.4%	44
	Peri-urban	62.0%	80
	Urban	51.1%	72

$\chi^2 (2) = 11.126, p < .005.$

Moreover, the frequency of cooking amongst men was explored, as shown in Table 5.3. Overall, 20.8% of males cooked more than once a week, whereas 79.2% did not cook at all during the week. There was a statistically significant relationship between how often men cooked and the regions (rural, peri-urban, and urban) they lived in, $\chi^2 (2) = 20.051, p < .001$. Urban males were more than thirteen times more likely than rural males in my sample to cook at least once a week (*odds ratio* = 13.3).

Table 5.3. Weekly Cooking Frequency amongst Men (n = 120).

Variable		Percentage ²⁶	n
Times cooked in a week			
Cook at least once a week			
	Rural	7.0%	3
	Peri-urban	16.3%	8
	Urban	50.0%	14
	Total		25
Cook less than once a week			
	Rural	93.0%	40
	Peri-urban	83.7%	41
	Urban	50.0%	14
	Total		95

$\chi^2 (2) = 20.051, p < .001.$

²⁵ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

²⁶ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

Although only 20.8% of males cooked more than once a week, 61.0% of females in the sample cooked more than once a week (see Table 5.4). Similar to what was observed amongst men, there was a statistically significant relationship between how often women cooked and the regions (rural, peri-urban, and urban) they lived in, $\chi^2 (2) = 40.517, p < .001$.

Urban females were more than sixteen times less likely to cook at least once a week (*odds ratio* = 16.3) than rural females in my sample. This may be associated with changing gender roles in cooking and the diversified types of food products available in the city. One possible reason for the phenomenon mentioned could be the evolving perceptions of gender roles in the culinary domain, which may have resulted in more individuals of all genders taking part in cooking.

Additionally, the proliferation of diverse food products and kitchen equipment in urban areas might also have contributed to this trend, as subjects had more options to experiment within their home kitchens. Cooking had become optional for many female participants living in the city, including those in the peri-urban *ger* districts, where 51.2% of women cooked more than once a week. As discussed earlier, many *ger* dwellers in the study had continued their seasonal food consumption in the city whenever possible. However, when it came to cooking, many seemed to have acquired different types of food products that did not require cooking.

Although there were regional differences in cooking frequency, the relationship between obesity and weekly cooking frequency was not statistically significant in the sample. Nevertheless, examining variations in home-cooking frequency across three Mongolian regions may provide important insight into the diversity of dietary behaviours and patterns within these populations. Such an exploration could also clarify the potential long-term relationship between cooking practices and body size, particularly given evidence linking home cooking to diet quality and obesity (Wolfson & Bleich, 2015; Mills et al., 2017). For example,

Tumin and Anderson (2017) found that adults who eat only home-cooked family meals have a 26% lower likelihood of being obese compared to those who consume some or no home-cooked meals.

Although no significant association was observed in the present dataset, this absence of evidence should not be interpreted as evidence of absence. Contextual and cultural determinants, including food availability, regional dietary traditions, and socioeconomic disparities, may still mediate these outcomes (Jabs & Devine, 2006; Kuhnlein et al., 2013). Moreover, cross-sectional analyses may obscure more complex longitudinal interactions between cooking frequency and other lifestyle factors, such as physical activity, household composition, and occupational demands, which collectively influence nutritional status over time (Winkler et al., 2020). Mongolia is currently experiencing rapid dietary and lifestyle transitions, and the interplay between traditional foodways and increasing urbanisation remains poorly understood (Popkin, 2015). Continued investigation is therefore warranted to elucidate how evolving domestic food practices contribute to obesity and to inform culturally sensitive public health strategies.

Moreover, a cross-sectional study by da Costa Pelonha et al. (2023) on university students in Brazil found that individuals who consume their primary meal outside of the home are more likely to be overweight or obese. Similarly, a study by Sawicki and Vernarelli (2017) analysing data from a diverse sample of 5,535 adults in the US found that eating out is associated with lower dietary quality, as indicated by dietary energy density (ED, kcal/g), and may be a risk factor for obesity among US adults. Nestle (2013) contends that the food industry's primary aim of encouraging people to consume more in order to boost sales and revenue in a fiercely competitive market is a significant contributor to the nutritional issues plaguing Americans, including obesity.

However, a recent quota-representative study of the Czech population by Pilarova et al. (2023) found that obese individuals tend to spend more time cooking compared to those who are not obese (ibid). The conflicting results make it challenging to interpret the effects of cooking on obesity, but it is an important area for further investigation. It is crucial to explore regional variations in culinary practices, as they could potentially impact body size in the long run. The contrast in the frequency of cooking activities between the rural and urban regions of Mongolia in my sample is indicative of the unique daily food practices observed in these areas. Cooking activities remain a fundamental aspect of rural life, with households in my study dedicating significant time and effort to preparing meals using their livestock and other locally sourced ingredients.

On the other hand, urban areas provide more options for purchasing or consuming food outside the home, with convenience and accessibility being key factors. In contemporary urban areas, the availability of various food outlets and the accessibility of diverse food environments provide individuals with the opportunity to determine how frequently they opt to prepare meals on a daily basis. This flexibility in food choices allows people to tailor their eating habits according to their preferences and schedules. Overall, the divergence in cooking practices between the three regions underscores the unique lifestyle and food-related behaviours observed in contemporary Mongolia, which will be further explored in the subsequent sections of this chapter.

Table 5.4. Weekly Cooking Frequency amongst Women (n = 259).

Variable		Percentage ²⁷	n
Times cooked in a week			
Cook at least once a week			
	Rural	93.9%	62
	Peri-urban	51.2%	41
	Urban	48.7%	55
	Total		158
Cook less than once a week			
	Rural	6.1%	4
	Peri-urban	48.8%	39
	Urban	51.3%	58
	Total		101

$\chi^2 (2) = 40.517, p < .001.$

5.4.2. COOKING AT HOME IN RURAL MONGOLIA

In rural nomadic communities, cooking plays a pivotal role in the daily lives of residents. During my visits to nomadic households, I observed that women typically heated up fermented milk in the morning for consumption throughout the day. In many households, nomads only consumed fermented milk in the morning, and it was also part of their lunch and dinner.

Some households only prepared dinner, while others cooked for both lunch and dinner, depending on food availability. It was less common to eat something in the morning; fermented milk was the primary breakfast choice for many. Preparing breakfast often meant preparing fermented milk rather than full meals, while dinner was cooked daily by a female family member. In some households, lunch was also cooked daily, while in others, the same fermented milk was consumed.

²⁷ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

During my stay with a nomadic family, I observed as a skilled woman expertly started a fire and then proceeded to prepare the family's meals. Some women preferred to cook outside the tent in pleasant weather, while others opted to cook indoors regardless of outdoor conditions. Certain individuals sought shade, while others were mindful of avoiding sunburn. A few younger women mentioned their susceptibility to sunburn and their preference for cooking indoors to avoid it, even when the temperature inside the tent approached 40 degrees before they had even begun cooking in summer. Many female nomads I met also expressed their aversion to getting a tan, similar to many female participants I met in urban and peri-urban Mongolia. None of the participants I met reported having a sun allergy. However, cooking inside the *ger* proved to be a practical solution for some nomads who wished to protect their skin from sunburn and the effects of tanning, without resorting to sunscreen, which was barely used in rural areas.

Typically, one person took on the daily responsibility of preparing all meals consumed by the entire household, instead of taking turns, for years. Despite dedicating approximately an hour to the task, none of the study participants who cooked at home regarded daily cooking as a time-consuming or exhausting activity. When questioned about their thoughts on daily cooking, some individual participants simply smiled and said that they had never really thought about whether they enjoyed or disliked the process. Cooking was seen not as a hobby or a source of pleasure, but instead as a necessary duty that a family member had to undertake due to longstanding cultural traditions and the lack of immediate or regular access to food outlets.

Additionally, I noticed during my research that all family members, excluding babies and toddlers, participated in daily household chores such as tidying up the living space, fetching water, and caring for younger siblings. I never encountered or observed any children refusing to do their assigned tasks. Instead, these tasks seemed to be integrated into their daily or weekly

routines in many cases, and the children seldom expressed dissatisfaction. On the contrary, they seemed to take pride in their roles as important contributors to the family. The same dish was consumed by the entire household on a daily basis. Since one of the female nomads decided what to cook for all her family, the rest of family usually had no choice in what to eat. However, this custom was common practice and was not considered an issue, and study participants appreciated whatever the dishes their family members prepared.

In rural households, there was often a clear division of labour based on gender, with one female family member typically responsible for daily cooking and food preparation, while other female members attended to various household tasks, including childcare. Upon interviewing nomads, it became clear to me that this gender-based distribution of food preparation responsibilities was not regarded as a negative aspect. Rather, it was viewed as a practical means of dividing the workload between genders.

According to Anselmi and Law (1998:195), gender roles are a set of socially and culturally determined attitudes, behaviours, and emotional responses that are expected from individuals based on their gender identity as either men or women. These prescribed gender roles appear to be deeply ingrained in Mongolian society and have a significant influence on how individuals perceive and interact with one another. In particular, norms and expectations surrounding household gender roles are culturally constructed within the local context.

The nomads I encountered in rural areas continued to adhere to traditional gender roles that had been passed down through generations. These roles were not contested, and the gender-based customs followed in everyday life were deeply embedded in their nomadic way of living. This adherence to gender division seems to reflect a broader cultural pattern, which resonates with West African communities, where the focus lies not on whether men and women

comply with gender expectations, but on whether they are willing and able to honour those expectations (Pottier, 1999:36).

For the rural participants, the gender division they observed growing up was naturally integrated into their lives. It was not questioned or discussed within the family, likely due to limited interaction with those living settled lifestyles, as well as restricted exposure to social media compared to their peers in Ulaanbaatar. Despite these traditional divisions, there was a mutual recognition and appreciation of the work performed by both men and women. The distribution of labour was viewed as equitable and fair, with no need for ongoing renegotiation or alteration over time.

Due to the absence of nearby food outlets, nomadic subjects in rural areas lacked the option to dine out, purchase takeaway meals, or access precooked food. The limited availability of food outlets in these environments was not a major concern. Many nomads I spoke with expressed a preference for avoiding what they considered the unhealthy food commonly found in urban areas. However, some did express a desire to occasionally enjoy processed or prepackaged meals, which were more readily available in cities.

5.4.3. COOKING AT HOME IN PERI-URBAN MONGOLIA

Unlike in rural Mongolia where cooking is a part of everyday food practices, cooking at home has transformed into a choice in peri-urban regions. Ulaanbaatar provides a range of food items and food outlets that enabled peri-urban participants to skip cooking, obtain ready-to-eat meals and make use of the highly valued time and energy saved on cooking in other tasks or activities. Opting out of home-cooked meals was often associated with modern, urban

privileges regarding food options and less fair or egalitarian access to different types of foods, especially amongst younger working people in the *ger* districts. This is such a significant change from traditional attitudes in rural areas. Amongst the subjects I met in the *ger* districts, daily cooking was often considered a less-than-ideal option or even an unappealing throwback to days past, an anachronism that has survived the passing years.

Cooking less often during the week was only possible in the city where food products that do not require any or much cooking were available, thanks to the sheer availability of wider-ranging food outlets exclusive to the city. Indeed, amongst urban subjects, occasional cooking was seen positively as a healthy habit.

In contrast to the reality in rural areas, peri-urban areas allowed mothers to cook for their children as an option, not a requirement. The peri-urban mothers in my study would either prepare meals in advance, leave precooked meals at home, or provide a food allowance for their children. Despite these challenges, female participants in peri-urban households continued to work hard to provide food for their families, often going above and beyond to ensure that their loved ones were well-fed and taken care of. Unlike in rural areas where foods were served and consumed soon after mothers finished cooking, peri-urban individuals, including children, could choose when to eat if dining by themselves or negotiate with their mothers or older sisters when dining as a family.

Overall, subjects living in peri-urban areas had a more diverse range of culinary traditions than rural nomads, who tended to share comparable cooking customs, which involved cooking on a daily basis. However, given their busy and unpredictable work routines, many peri-urban participants faced difficulties in coordinating home-cooked meals every day. Each family had its own unique expectations regarding meal preparation, including who would cook, what duties were involved, and how to carry them out effectively.

Nonetheless, similar to practices in the rural nomadic households discussed in the previous section in this chapter, it was not always, but often, the women in peri-urban households who were tasked with preparing meals for their families. Even when male family members were retired or between jobs, the expectation was that the women would take on this role. This became an additional chore for women, some of whom reported struggling to balance full-time or multiple part-time jobs, household chores, and even studies in pursuit of degrees or certificates.

As a result, it was challenging for women to provide healthy and nutritious meals for their families without resorting to pre-packaged or processed food products. Some cooking and eating customs observed in the *ger* districts were similar to those in rural settings, especially amongst older adults who were raised in rural nomadic households. During my visits to peri-urban homes, I noticed that none of them had dishwashers installed. One woman in each family had to wash all the dishes by hand in a bucket after every meal. This practice was quite similar to what I had observed in some rural households. It was evident that lack of access to modern appliances, such as dishwashers, was common in these peri-urban communities. This resulted in women spending a considerable amount of time washing dishes manually whenever they cooked at home, which incentivised them to opt for ready-to-eat food products that did not require extra household chores.

Similar to what I observed in rural areas, many women subjects in peri-urban areas were responsible for a multitude of household chores in addition to their childcare duties. For example, apart from cooking and washing dishes, many women also reported being responsible for washing clothes by hand, hanging them out to dry, folding them afterwards, sweeping the floors, and fetching water from water kiosks, all while taking care of children. These additional tasks could be time-consuming and physically demanding, leaving many women exhausted

and with very little free time. This made their workloads even more challenging, as they had to balance their domestic obligations with their personal and professional lives. As a result, the unequal distribution of household and childcare duties, in addition to their jobs outside the home, has made ready-to-eat products a more appealing option for women in the *ger* districts.

In households without mothers, teenage girls were expected to take on the responsibility of cooking for their fathers and younger siblings. Despite this being a significant responsibility for young girls, their efforts were deeply appreciated, and fathers were proud of their daughters' cooking skills. In some cases, fathers even voluntarily showed me photos of the dishes their daughters prepared during and after the interviews.

As previously discussed, a significant number of peri-urban participants were individuals who had migrated from rural regions. Prior to settling in the peri-urban *ger* districts, they were accustomed to consuming food that was produced, processed, and prepared solely by their family members. However, upon relocating to their new habitat, they faced uncertainties and questions regarding the process of meat production and other food items.

It is worth noting that some participants who had relocated from peri-urban regions to urban areas had begun to gravitate towards consuming non-traditional food items that were primarily found in Ulaanbaatar, and these items tended to be processed, pre-packaged and ready-to-eat products, which did not require any oven, microwave, or other kitchen equipment which was commonly owned in urban areas, but less common in peri-urban *ger* districts. This is an interesting shift in dietary habits that warrants further investigation to uncover the possible association with obesity. The observed shift in dietary habits may plausibly correlate with the heightened incidence of obesity amongst individuals inhabiting peri-urban regions relative to those dwelling in urban or rural regions in my sample. Although the differences were not statistically significant, the comparatively higher obesity rates observed in peri-urban areas

within this sample warrant further investigation into the potential influence of cooking practices and other underlying factors.

5.4.4. COOKING AT HOME IN URBAN MONGOLIA

In response to today's fast-paced and bustling urban lifestyle, many participants in this study have chosen to purchase a wide variety of food items from markets and the food industry located in Ulaanbaatar. Cooking has historically been a challenging and time-consuming task that required a significant amount of human energy (Laudan, 2015). However, Tracy Deutsch (2012), an expert in food politics and capitalism, notes that families in industrialised societies are increasingly choosing to purchase and consume commercially prepared foods in their ready-to-eat form at restaurants. The urban Mongolian culinary landscape of home cooking has undergone a significant transformation in recent times, marked by a fusion of various elements. The use of pre-cooked ingredients and packaged food has also become commonplace. The advent of modern kitchen appliances and convenience food has enabled individuals to streamline their time spent in the kitchen. This is a marked departure from the past, when Mongolian nomads spent extended periods preparing meals entirely from scratch, relying mainly on self-produced and processed raw animal-based ingredients sourced from their livestock.

For various reasons, many urbanists choose options that require minimal preparation time, for example, to save time and energy, manage their daily tasks, and reduce stress by consuming ready-to-eat meals and utilising semi-prepared and processed food in their home cooking. During my research, I noted that options such as convenience foods, prepared food to

be reheated or assembled at home, or eating out were only offered in Ulaanbaatar, and urban areas tended to have a higher consumption of processed and pre-packaged foods due to their convenience.

In this study, convenience foods are defined as pre-packaged meals that require minimal preparation, such as heating or microwaving, or meals prepared by local food venues, restaurants, or delivery services. These options have become increasingly popular for busy individuals seeking a quick and easy meal solution. Though convenience foods are widely viewed as unhealthy, it is important to note that some home-cooked meals can also be unhealthy, as Kolb (2022:104) has pointed out. As discussed in Chapter 2, this study did not find a statistically significant relationship between the frequency of home-cooked meals and obesity rates. As a result, it is challenging to draw definitive conclusions about the impact of home-cooked meals on obesity rates even though it is clear that the modern food landscape is changing rapidly.

The use of processed food and kitchen appliances had allowed city-dwelling participants to spend less time in the kitchen than rural nomads, who relied primarily on traditional cooking methods and self-sustained agricultural practices. It is important to note that participants residing in urban areas whom I had the opportunity to interview were fortunate enough to have access to basic facilities such as electricity, water systems, and kitchen equipment, which was not the case for their rural and peri-urban counterparts. This newfound convenience allowed for a greater variety of dishes to be prepared throughout the day without sacrificing too much time to cooking. Urban participants' physical and financial access to a range of foods outside of home, along with their cooking facilities, also allowed them to choose what to eat and how often. Cooking at home in rural and peri-urban areas almost always meant cooking for the entire family, whereas cooking at home in urban areas could mean cooking

only for oneself or some family members due to participants' unique daily schedules. The urban lifestyle allowed for more freedom and flexibility in terms of meal choices and timings, possibly leading to the more frequent food consumption seen amongst urbanists.

Amongst these urban individuals, there were four participants who mentioned food allergies as the main reason behind their cooking routines. Two of them had food allergies themselves, while the other two had children with food allergies. They reported that cooking meals themselves every day or every other day was a necessity to ensure that the food they consumed was safe and free of allergens that could potentially trigger allergic reactions. These individuals also avoided eating out at restaurants and preferred to cook at home, where they had better control over ingredients and cooking methods. They stated that cooking at home not only provided them with the assurance of safe and allergen-free food, but also allowed them to experiment with new recipes and flavours.

One of the participants with a food allergy mentioned that she put in extra time and effort to cook at home, but it was worth it as it helped her son avoid unexpected allergic reactions caused by eating outside the home. She emphasised the importance of taking extra precautions and being vigilant about the ingredients and potential allergens in the food her family consumed. This demonstrates how participants with food allergies were more likely to prioritise safety and take necessary steps to avoid any potential risks to themselves and their family members. Food allergies were a concern amongst some subjects living in urban areas, and home cooking had become a practical solution for those individuals to manage this issue effectively.

The avoidance of allergens could be a contributing factor to the regional differences observed within Ulaanbaatar. The research findings indicate that a higher percentage of urban participants, approximately 49.9%, cooked more than once a week, compared to the percentage

of their peri-urban counterparts who cooked more than once a week, which was approximately 38.0%, as discussed earlier. It is possible that the disparity in cooking frequency was due to the fact that some urban residents had to cater to the special dietary needs of themselves and their families, such as food allergies and other medical conditions like type 2 diabetes, and were therefore required to prepare meals more frequently than their peri-urban peers. This finding highlights the importance of considering variations in dietary needs and cooking habits when exploring regional differences in food consumption behaviours.

Meanwhile, none of the rural and peri-urban participants reported having any food allergies. A few participants shared their belief that food allergies were not very common amongst Mongolians, yet relatively common amongst those who were born outside of Mongolia. One of the participants who worked at a local hospital said it must be because of the association between allergic outcomes and caesarean delivery, which the participants stated, is relatively common in some countries like Australia and the United States. Some participants ($n = 4$) mentioned that they thought younger generations in Mongolia were more likely to have food allergies than their parents and grandparents, even though allergies were still not quite common amongst Mongolians. This insight was based on their personal experiences, and they noted that the reasons for this trend were not entirely clear.

As discussed earlier, cooking has long been viewed as a responsibility assigned to women in Mongolia. However, in urban areas, I observed that this dynamic was shifting as more men were taking an interest in food preparation, utilising a range of options including pre-cooked meals, take-out, and processed foods that were readily accessible in the city. The value that individuals placed on their time, the prioritisation of their activities, and the management of their schedules sometimes had a significant impact on their dietary practices. As competition and demands increase in both academic and professional settings in Mongolia,

cooking has become less common, and some participants were opting out of cooking altogether due to fatigue and time constraints. In fact, amongst some urban participants, cooking was associated with some rather negative images of rurality, pre-modern household chores, and lower economic status. This negative perception of cooking may have contributed to its devaluation as an activity and a skill despite its practical and cultural significance.

The reported frequency of weekly home cooking varied in Ulaanbaatar, depending on factors such as work schedules, household size, food preferences, and dietary needs. Amongst some urban subjects, food cooked at home was linked to a smaller variety of foods. A woman who lived with her husband in Ulaanbaatar said,

“I don't really mind cooking, but I often end up eating the same leftovers repeatedly just to clear out my fridge. It's even more difficult when my husband has to dine out due to work, leaving me as the only one to consume the leftovers. I prefer having more variety in my meals.”

She mentioned that while she did not mind cooking, the challenge lay in having to eat the same leftovers every time she prepared a meal. This made it difficult for her to cook fresh meals daily for herself and her husband. It appeared that people in rural areas were accustomed to a more limited food selection and were used to eating the same types of foods daily, whereas city dwellers craved a wider variety in their meals throughout the week. For this participant, it was a bit frustrating to consume the same type of meal twice in a row, and this made her reluctant to cook at home.

Moreover, a devoted mother who cared for her three children offered her valuable insights on cooking for a family. She astutely observed that whenever she prepared extra food, someone in the household inevitably enjoyed it later in the day, and by the following day, it was all gone. To cater to the diverse and varied culinary preferences of her children, she made a point of cooking a range of dishes every day. As a mother of three, she was mindful of keeping

her food expenses reasonable and believed home cooking was an effective way to save money. Interestingly, in some participating urban households where both partners worked, the cooking duties were alternated, a practice which was not yet widespread in peri-urban or rural regions but had its merits, particularly in urban areas.

Additionally, upon analysing participant attitudes towards gender roles in household work in Mongolia, the disparity between rural and urban areas was quite evident. During my research in Mongolia, there seemed to be a discernible difference in attitudes towards gender roles in household work between those residing in urban areas and those residing in rural areas. Many younger urban participants now believed in sharing household chores, including cooking, as a means to achieve gender equality.

Some female participants I spoke to had even become feminists after studying Gender Studies abroad, and they now placed a high priority on gender equity. It is worth noting that this change towards gender equality in Mongolian cuisine had been primarily driven by those living in urban areas. Many younger urban participants now view sharing household chores, including cooking, as a way to promote gender equality. This shift in mindset may, in part, reflect their exposure to different cultural expectations during periods spent studying, working, or travelling abroad. Some also mentioned encountering new ideas via online platforms such as YouTube and Instagram. Further research would be needed to explore this question in depth.

These urban participants had embraced new approaches to food preparation that challenged traditional gender roles and had inspired others to do the same, leading to a greater emphasis on equality and inclusivity in the way food was prepared. I observed that urban subjects had established distinct standards and practices pertaining to food consumption and preparation, which had gradually become the norm over the years. These individuals were

likely to introduce novel food traditions that were previously absent in the food landscape of Mongolia.

5.4.5. SECTION CONCLUSION

This study explored the diverse culinary traditions found in Mongolian households, revealing a wide range of regional cooking practices. In rural Mongolia, cooking remains an integral part of daily life. Conversely, in urban and peri-urban areas, cooking has transitioned from a necessity to more of a choice, given the availability of processed food items, which are scarce in rural areas. Some urban participants had chosen not to cook regularly, prioritising time management, as cooking at home was not always seen as worthwhile or feasible.

Furthermore, certain urban subjects had adapted their meal frequency to cope with stress and anxiety and navigate their hectic schedules. Stress and anxiety were not mentioned during interviews in rural Mongolia, despite rural participants' more unpredictable nomadic lifestyles, which were more susceptible to climate-related issues compared to the lives of their peers living in Ulaanbaatar. The varying meal frequencies in Mongolia also shed light on how increased meal frequency serves as a coping mechanism in high-stress, time-constrained urban environments, enabling individuals to balance numerous responsibilities both at home and in the workplace.

Similar to seasonal food consumption and meal frequency, the frequency of cooking at home for peri-urban subjects fell between that of their urban and rural counterparts. In the sample, the more urban a participant was, the less likely they were to cook at home. Overall, the regional differences in cooking in Mongolia illustrate distinct ways of life, values, and

priorities within the country and emphasise the evolving significance of meal frequency in the capital city.

5.5. CHAPTER CONCLUSION

This study uncovered variations in seasonal food consumption, meal frequency, and cooking traditions across different regions of Mongolia, reflecting disparities in spatial and economic conditions amongst residents of rural, peri-urban, and urban areas. Statistically significant regional differences were found in all three dietary practices examined across the three regions. The overall findings indicated that regional differences were more pronounced than similarities and overlapped across all three areas studied. Regional similarities in dietary practices were rarely found between rural and urban Mongolians, as the two groups had distinct dietary habits. The dietary practices of peri-urban residents often fell between those of rural and urban Mongolians, possibly due to the rural upbringings of these participants and their current residence in peri-urban areas around the capital city.

These regional differences may not be surprising, as the food environment of a community or region is significantly influenced by the social and human-built environments, determining the accessibility, availability, and adequacy of food within a specific area (Mah et al., 2016; Mah et al., 2019; Whelan, et al., 2018). In today's world, food connects local and global spheres in complex ways, shaped by both local and international geopolitical factors (Tierney & Ohnuki-Tierney, 2012; Ohnuki-Tierney, 1994). While international geopolitical factors significantly influenced urban and peri-urban Mongolia, their influence was much less pronounced in rural Mongolia.

Based on my in-depth interviews with a diverse group of individuals, it was evident that the availability of imported processed foods in urban and peri-urban areas had significantly

enhanced access to convenient food options, reducing the need for extensive cooking. Urbanisation and the growth of the market economy have led to a wider variety and quantity of food products in Ulaanbaatar, offering residents more choices for their meals and food planning. The increased availability and affordability of food in the capital city have resulted in a broader range of food customs when compared to rural areas, leading to more frequent meals and reduced home cooking.

These shifts in food practices are a response to the global food systems adopted in the wake of social, economic, and political changes in post-socialist Mongolia, creating distinct differences in food consumption norms between urban and rural areas. However, these changes have not had the same impact on meal frequency, seasonal food consumption, and home cooking amongst rural nomads. Their nomadic lifestyles, limited access to food establishments, and minimal exposure to non-Mongolian food customs all seem to have contributed to the divergence in food practices from those of their urban and peri-urban counterparts.

The study also revealed significant differences in dietary patterns amongst residents in both urban and peri-urban areas of Ulaanbaatar, highlighting the diverse and complex food-related values and lifestyles that extend beyond simple urban and rural distinctions. Based on the interviews I conducted, it is evident that various factors, both historical and current, such as income, lifestyle, education, and family background, contributed to the complexity of dietary habits in my sample. This finding aligns with a study by Swinburn et al. (2013), which suggests that people interact with their food environments in diverse ways, including through preferences and education, to shape their diets.

While peri-urban participants had adopted new dietary habits such as increased meal frequency and reduced home cooking after moving from rural areas to the city, they also tended to preserve or prefer dietary customs, such as seasonal food consumption, that were common

in their hometowns. Thus, the dietary habits of urban and peri-urban Ulaanbaatar residents are complex, emphasising the need for a comprehensive understanding of the selection process within both Ulaanbaatar and Mongolia as a whole.

Some studies (Hawkes, 2006; Kjellstrom et al., 2007) attribute changes in dietary habits to modern urban food environments and the globalisation of food supply and consumption patterns, which in turn contribute to the rise in obesity. However, in my sample, these regional differences in dietary behaviours were not linked to obesity, although this may change in the long term, as discussed in Chapter 3. According to Guthman (2011), obesity is not just a personal issue but also an ecological one that requires a comprehensive understanding of the larger political-economic and cultural landscape. Further study on these regional variations in dietary behaviours and obesity in the long term may contribute new knowledge in this area.

It is also noteworthy to observe these regional variations in contemporary food habits within a racially and ethnically homogeneous country like Mongolia. This is especially striking given the historical context, where food in Mongolia was predominantly produced and consumed within the same geographic location (Kjellstrom et al., 2007). It is also noteworthy because of the assumption that individuals from the same ethnic and racial backgrounds would typically share relatively similar food preferences which would contrast with the preferences of those from different backgrounds. In the upcoming chapter, I will explore food sharing, food selection criteria, and the knowledge of caloric and nutritional aspects to gain a deeper understanding of contemporary food practices in the country.

CHAPTER 6 – GENERATIONAL SIMILARITIES AND DIFFERENCES IN FOOD CONSUMPTION

6.1. INTRODUCTION

This chapter delves into the topic of food and diet across different generations, examining dietary behaviours such as food commensality, food selection criteria, and nutritional knowledge. One of the most fascinating observations that emerged from my research sample was the way in which certain food practices and beliefs in Mongolia have persisted across different generations, particularly amongst those who have lived through the socialist era and beyond. The chapter examines changing eating behaviours, providing insight into the interplay between tradition and modernity in terms of food practices in present-day Mongolia. By analysing the food and dietary habits of different age groups, the study aims to provide a comprehensive and detailed account of the continuities and differences of such dietary practices amongst different generations. Overall, this study aims to deepen our understanding of the complex interplay of factors that shape food habits and practices in Mongolia and provide a more nuanced account of the cultural and societal influences on dietary practices across different generations.

6.2. FOOD COMMENSALITY

6.2.1. REGIONAL VARIATIONS IN FOOD COMMENSALITY

This section delves into food commensality, with a particular emphasis on the variations that exist across generations in rural, peri-urban and urban Mongolia. Food commensality practices in Mongolia exhibit a wide range of variation across different regions. As explained in Chapter 3, participants were asked about their daily dining experiences, whether they usually had lunch alone or with others. Lunch was selected as the focal point for examining commensality because it represents the most consistently consumed and socially patterned meal across urban, peri-urban and rural contexts. Breakfast was frequently omitted, often consisting only of tea or fermented milk in rural areas, and thus provided little scope for analysing shared eating. Evening meals, meanwhile, showed considerable variability, with lighter foods, earlier consumption, or deliberate omission being common, particularly among urban participants.

By contrast, lunch is generally retained even where other meals are irregular, and in urban and peri-urban settings it coincides with formal breaks at work or school, making it a routine occasion for social interaction. Focusing specifically on lunch therefore minimises ambiguity arising from inconsistent meal practices and allows for more robust comparison of commensality across regions.

If the participant typically shared meals with others, it was categorised as food commensality and coded as “1.” Conversely, if they usually ate alone, it was categorised as “no” and coded as “0.” Initially, some participants responded with “it depends” but were then asked to indicate whether they tended to eat alone or with others more often. The study

respected the participants' interpretation of the term “usually,” while organising their responses into categories for statistical analysis.

As with the seasonal food consumptions discussed in Chapter 5, the study found a statistically significant relationship between food commensality and the regions (rural, peri-urban, and urban) in which subjects lived, $\chi^2 (2) = 21.828, p < .001$. Urban dwellers were more than seven times more likely to eat alone (odds ratio = 7.9) than rural nomads in my sample, as shown in Table 6.1. In Ulaanbaatar, eating alone was not unusual anymore, unlike in the countryside out of the city. 4.6% of participants in rural areas, 20.5% in peri-urban *Ger* districts, and 27.7% in urban Ulaanbaatar reported that they ate alone.

Eating alone was an option solely for the few rural participants who lived independently, and commensality remained the benchmark amongst nomads. While Ulaanbaatar residents were slightly more likely to eat alone than peri-urban residents (odds ratio = 1.49), the difference between the two groups in the city was non-significant. Ulaanbaatar residents (urban and peri-urban altogether) were more than six times more likely to eat alone (odds ratio = 6.62) than rural nomads.

The act of daily communal eating, which has been a significant part of the Mongolian nomadic culinary tradition, has become less prevalent amongst the inhabitants of Ulaanbaatar's urban and peri-urban areas. Many participants I interviewed in urban areas were inclined to eat alone and prioritise their work and family responsibilities over daily communal food sharing. The difference between these groups in communal eating can be attributed to various factors, such as the availability of food and the living and working conditions in the city, along with changes in values, priorities and norms concerning food-sharing practices.

This difference in communal eating has led to the emergence of new food-related customs and practices, such as solo eating, which has become increasingly common amongst young adults in urban and peri-urban areas. In the following sections of this chapter, I will delve further into the reasons behind this difference and its intricacies and discuss its potential ramifications and consequences, providing a comprehensive understanding of its implications.

Table 6.1. Food Commensality in Rural, Peri-Urban and Urban Mongolia (n = 367).

<i>Variable</i>		<i>Percentage</i> ²⁸	<i>n</i>
<i>Food commensality</i>			
<i>Eat alone</i>			
	<i>Rural</i>	4.6%	5
	<i>Peri-Urban</i>	20.5%	25
	<i>Urban</i>	27.7%	38
<i>Eat with others</i>			
	<i>Rural</i>	95.4%	103
	<i>Peri-Urban</i>	79.5%	97
	<i>Urban</i>	72.3%	99

$\chi^2 (2) = 21.828, p < .001.$

Furthermore, participants were asked who they typically shared their meals with. After the interviews, their responses were categorised as alone, colleagues, family, friends, or classmates. The people with whom subjects shared meals varied greatly, with considerable diversity in the types of food consumed and the ways in which they were prepared and served. In researching the relationship between the area that participants lived in and their food commensality, χ^2 testing detected a significant relationship: $\chi^2 (8) = 206.246p < .001$. Amongst the participants in the countryside, eating as a family was most common, usually practised by 93.5% of the participants.

²⁸ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

Conversely, 28.7% of the peri-urban *ger* dwellers and 5.8% of urban Ulaanbaatar residents usually ate with their families. 35.2% of peri-urbanists and 45.3% of urbanists reported eating with their colleagues. Based on the data I have gathered, it seems that a substantial number of people who have relocated from rural regions to Ulaanbaatar have undergone some notable changes in their dietary habits. In particular, a large number of these subjects who now live in the peri-urban areas have mentioned that they tend to eat alone or with colleagues more often than with their families. This suggests that new eating customs have emerged and evolved as a result of their relocation to the city.

6.2.2. GENERATIONAL VARIATIONS IN FOOD COMMENSALITY

This study revealed that there were no significant differences between different age groups across the three regions when it came to food sharing, as shown in Table 6.2. This suggests that regional factors have a more substantial impact on food sharing than do generational differences. In urban areas, 30.1% of younger adult participants (younger than 37) and 24.1% of older adult participants (37 or older) typically ate alone, with no significant variation in food commensality between the two age groups.

However, there were noticeable differences in the eating behaviours of Mongolians across various age brackets. Some participants reported skipping meals, consuming larger portions, opting for less nutritious snacks, and eating at irregular intervals when eating alone. These eating patterns, which can disrupt the body's natural hunger and fullness cues and potentially lead to overeating later in the day, were particularly prevalent amongst younger adults residing in urban areas.

Table 6.2. Food Commensality amongst Younger and Older Adults (n = 367).

<i>Variable</i>	<i>Percentage</i> ²⁹	<i>n</i>
<i>Food commensality</i>		
<i>Eat alone</i>		
<i>Younger adults</i>	21.2%	40
<i>Older adults</i>	15.7%	28
<i>Eat with others</i>		
<i>Younger adults</i>	78.8%	149
<i>Older adults</i>	84.3%	150
<i>Food commensality in rural areas</i>		
<i>Eat alone</i>		
<i>Younger adults</i>	3.0%	1
<i>Older adults</i>	5.3%	4
<i>Eat with others</i>		
<i>Younger adults</i>	97.0%	32
<i>Older adults</i>	94.7%	71
<i>Food commensality in peri-urban areas</i>		
<i>Eat alone</i>		
<i>Younger adults</i>	19.2%	14
<i>Older adults</i>	22.4%	11
<i>Eat with others</i>		
<i>Younger adults</i>	80.8%	59
<i>Older adults</i>	77.6%	38
<i>Food commensality in urban areas</i>		
<i>Eat alone</i>		
<i>Younger adults</i>	30.1%	25
<i>Older adults</i>	24.1%	13
<i>Eat with others</i>		
<i>Younger adults</i>	69.9%	58
<i>Older adults</i>	75.9%	41

²⁹ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

One urban young adult subject shared,

“When I play games on my phone, I usually only eat snacks. My favourite thing to do is to make myself a cup of tea and eat chocolate cookies while playing online games, especially during winter. In summer, I prefer to drink iced tea or coke and eat chocolate cookies while playing the same type of games. I know that this may not be healthy, but it makes me happy and helps me relax and forget about work and family-related issues. Last Saturday, I played games until 2 am and kept eating snacks until I stopped playing. Then, I fasted on Sunday until 10 pm so that I would not gain any weight. However, when I eat with someone, I have a more decent type of meal, not just snacks, and I think I never eat past 10 pm. I have just realised that as long as I eat with someone, I eat more healthily compared to when I eat alone or spend time alone.”

She said she realised that her eating habits were influenced by communal eating. She added that she made healthier choices when she was with company rather than alone, but she said she never gave much thought to this until she participated in my interview. Unlike their rural and peri-urban counterparts, urban participants often had private dining spaces or their own rooms at home, possibly leading to increased instances of snacking at random times throughout the day. Additionally, unmarried urban subjects and younger urban couples without children were found to have a higher tendency for late-night snacking than older adults or rural residents.

One participant in her twenties, residing in an urban area, highlighted the contrast between her food practices when dining socially and when eating alone. Hot meals such as soups and pasta were typically consumed in the company of friends or colleagues, whereas solitary eating was associated with convenience foods, including pastries, crisps, and chocolate brownies.

Convenience emerged as the primary factor shaping these choices. Quick, portable items were considered more practical in the context of time constraints and mobility, particularly as they could be eaten while travelling. In contrast, hot meals required greater time investment, with social lunches often extending to an hour or more. The participant also noted

that food establishments serving hot meals were frequently overcrowded, especially near her workplace in Ulaanbaatar, further discouraging their use during busy periods.

Although she expressed an appreciation for hot meals and the sociability of shared dining, she reported frequently prioritising work or personal obligations over commensality. For her, solitary eating offered efficiency, financial savings, and autonomy. She further remarked that her preference for eating alone diverged from conventional representations of Mongolian food culture, which traditionally emphasises collective dining.

This case reflects broader generational and urban trends. Several participants observed that solitary eating was becoming increasingly accepted among younger urban Mongolians, signalling a gradual departure from traditional norms of communal food consumption. These findings suggest that the growing prevalence of solo dining is closely tied to the demands of urban lifestyles, shifting temporal priorities, and changing cultural expectations regarding commensality.

As discussed in Chapter 3, this research did not establish a direct association between solitary eating and obesity. Nevertheless, certain dietary behaviours reported by younger participants in Ulaanbaatar, such as eating alone, late-night snacking, and a greater consumption of energy-dense, less nutritious foods, may contribute cumulatively to long-term weight gain. These patterns appear to diverge from those observed in rural Mongolia, where food practices are shaped by different social and environmental conditions.

In the following sections, I examine how generational differences influence approaches to communal eating across rural, peri-urban, and urban contexts.

6.2.3. FOOD COMMENSALITY BY DIFFERENT GENERATIONS IN RURAL MONGOLIA

Amongst my participants, food commensality was practised daily in rural Mongolia, primarily with a participant's family. Unless subjects were living on their own, food sharing was a daily food custom amongst rural participants (95.4%) and commensality usually occurred as a matter of course in rural sites. This may not be surprising, considering that sharing food has been a long-standing tradition that transcends age groups, as people of all ages come together for communal meals in rural regions. Based on my interviews, meals in rural areas were typically enjoyed in the company of family members, and this tradition transcends age groups, with people of all ages participating in communal meals.

Amongst the nomads in my sample, 97.0% of younger adults and 94.7% of older adults continue to share meals with others, usually with their family members (see Table 6.2). Eating meals together as a family has always been a significant aspect of the daily routines of pastoral nomads, and such food sharing occurs organically in rural regions. This food-sharing practice has been deeply ingrained in the nomadic way of life. It is a testament to pastoralists' customs and traditions, reinforcing their identity as nomads with a distinctive way of life.

According to James et al (2009: 49), commensality serves as a crucial method for 'doing family,' allowing children to feel like valued and contributing members of their household. In this sense, by partaking in shared meals, the majority of rural households in my study developed stronger bonds with one another and created a positive and cohesive atmosphere that promoted a sense of belonging and togetherness. This was especially important for participating families living a pastoral nomadic lifestyle in which they resided in tents and worked together every day. From the youngest to the oldest member, each person contributed in a way that was

essential to the smooth functioning of the family unit, and food sharing amongst all members seemed to serve as a way to strengthen their bonds and work together as a cohesive unit to overcome challenges in the harsh, remote environments of the open countryside. The act of sharing meals provided an important foundation for strengthening relationships and fostering a sense of unity, both of which were essential for the self-sustainability of nomadic lifestyles and the well-being of rural households.

Only a small proportion of participants (4.5%) living in rural areas reported usually eating alone. Solitary dining was observed exclusively in single-person households and was not regarded as an acceptable practice unless the household comprised only one individual.

With the exception of a single case, rural participants who lived alone were elderly individuals who had either experienced the loss of a spouse, had a spouse who was hospitalised, or whose spouse was temporarily residing with relatives to care for ill family members. Their children had generally relocated to urban areas, primarily Ulaanbaatar, or had established new households in rural areas following marriage. These findings suggest that solitary eating is highly uncommon in rural contexts.

Occasional food-sharing events were typically confined to small circles of relatives and extended family members with whom participants had cultivated strong bonds. This relative privacy in food sharing represents a distinctive cultural characteristic of rural nomadic households, one that was less frequently observed in other contexts, particularly among urban residents in Mongolia.

Sharing meals was an essential part of daily life for rural nomads. For most of the participants in my study, mealtimes were collective occasions, with eating alone, dining out, or ordering takeaways being rare or unfeasible. While this practice was not universal among all the rural nomads I interviewed, it remained a deeply ingrained custom. For many, sharing meals meant eating with family, usually with food prepared by female family members, unless living alone, which was uncommon.

One male nomad spoke fondly of the moments spent with his children during meals, noting how mealtimes offered him the opportunity to observe their growth and behavioural changes. He recalled how one child, who had once been prone to running around during meals, no longer did so, while another, who had previously eaten at a slower pace, now ate at a similar speed to the adults. These moments filled him with joy and anticipation for the future, as he eagerly looked forward to witnessing his children's continued growth.

In a similar vein, a female nomad shared the emotional significance she attached to mealtimes with her family. She confessed that it was during these shared moments that she most acutely felt the absence of her daughter, who now resided in Ulaanbaatar. Her daughter's laughter and lively conversation were sorely missed, and the void was particularly noticeable during mealtimes. Although memories of her daughter offered some comfort, they also deepened her sense of longing. For both participants, shared meals were not merely occasions for sustenance, but also served as emotional touchstones, moments to reflect on the passage of time, strengthen familial bonds, and cherish the irreplaceable experiences of togetherness.

Nevertheless, it is important to note that most nomads I interviewed engaged in daily food sharing without attributing to it specific objectives or purposes such as team building, family bonding, or information exchange. The evidence suggests that most participants did not have the option of eating later in the evening or separately from other family members, as

household tasks such as washing dishes, brushing teeth, feeding watchdogs, and preparing for sleep had to be completed before nightfall.

Synchronised mealtimes were therefore a practical and reasonable means of conserving both time and energy, particularly given the labour-intensive nature of meal preparation. The processes of making a fire, cooking, and washing dishes, undertaken manually and without modern amenities such as electricity or running water, rendered collective dining the most efficient arrangement.

Interviews further indicated that these environmentally sustainable practices were not consciously framed in terms of practicality, fuel conservation, or time and energy efficiency. Rather, communal meals occurred organically as part of the everyday rhythm of nomadic life. The absence of explicit objectives did not diminish the cultural or social significance of food sharing, which remained highly valued among participants.

For rural households, daily commensality played a crucial role in fostering solidarity and mutual support, both of which were fundamental to the self-sufficiency of the nomadic lifestyle.

6.2.4. FOOD COMMENSALITY BY DIFFERENT GENERATIONS IN PERI-URBAN MONGOLIA

In the peri-urban *ger* district, the semi-urban settlement located on the outskirts of Ulaanbaatar, subjects had relatively easy access to various food outlets ranging from small convenience stores to markets. I found that a large majority (79.5%) of peri-urban residents typically enjoyed their meals in the company of others, which reflects the importance of socialising and communal eating practices in the local culture.

Amongst the peri-urban residents in my sample, 70.2% of younger adults and 71.7% of older adults shared meals with others. Nonetheless, children in the *ger* districts had become accustomed to buying their food using the food allowances given to them and eating alone or with their friends. Amongst my subjects, it was common for family members or guardians, especially mothers, to determine the food allowance amounts and disburse them as needed, whether on a daily, weekly, or monthly basis. These allowances played a pivotal role in fulfilling the basic food requirements of residents in peri-urban areas, particularly in households where most parents were employed outside the home, which differed from the situation in rural areas.

Interestingly, some parents who provided food allowances for their children mentioned that during their own childhoods, their mothers would prepare meals for them daily, and they never received food allowances. Similar patterns were observed amongst parents who grew up in peri-urban *ger* districts and in rural Mongolia. As a result, the practice of buying food using a food allowance represents a relatively new dietary habit for children in peri-urban areas.

However, families in peri-urban regions tended to eat together, and communal dining was viewed as an essential aspect of daily life. In contrast to participants in urban regions, residents of peri-urban *ger* regions often fetched water from specific kiosks in their district, which made it more practical to cook for the entire household, eat together, and do the dishes at the same time whenever possible, similar to practices amongst those living in rural areas with no access to running water. Yet, the traditional habit of sharing handmade dishes had become less common amongst younger adults, mainly due to their working conditions and changes in lifestyles that require women to work outside the home.

In contrast to their urban counterparts, peri-urban *ger* dwellers, across both younger and older generations, were often unable to participate in shared meals as a means of cultivating personal or professional relationships. Whereas urban residents described dining together as a strategy for career advancement and social networking, peri-urban participants cited budgetary and time constraints as limiting such opportunities. This was the case even though many recognised the considerable benefits of collaborative networks, which were widely regarded as essential for job security.

Despite prolonged residence in the capital, peri-urban participants, particularly older adults, continued to rely primarily on long-standing ties with family, relatives, and acquaintances in securing employment. Unlike urban residents, who often forged new connections through workplace or social dining, peri-urban dwellers maintained a stronger dependence on established kinship and community networks.

Moreover, peri-urban participants' everyday food practices diverged from both rural and urban patterns. While rural households engaged in routine food sharing within tight kinship circles, and urban residents increasingly experimented with modern food trends and diverse dining spaces, peri-urban dwellers tended to remain within socially and economically

homogenous neighbourhoods. This relative isolation limited their exposure to non-traditional recipes and contemporary food practices.

Cost further constrained participation in urban-style dining. Several peri-urban participants noted that restaurant meals were prohibitively expensive, often costing at least twice as much as home-cooked or pre-prepared alternatives. Consequently, dining out was rarely viewed as a viable option, reinforcing the tendency towards more traditional and home-based food practices.

As a result, food sharing required not only time and effort, but also financial resources that may have made some peri-urban residents hesitant to engage in this social practice of eating out with others. Due to limited shared dining experiences, some peri-urban *ger* dwellers were limited in their social interactions to people from similar economic and sociodemographic backgrounds. This limited social circle could make it difficult to access job opportunities that offered upward social and economic mobility, ultimately hindering participants' ability to improve their financial situations.

Many young peri-urban individuals strongly preferred using smartphones during meals, regardless of whether they were dining alone or with company. While some people admitted to being addicted to the habit of constantly checking their phones, others claimed that boredom was the main reason for needing their phones during meals. A few younger peri-urban adults said it was vital to stay updated on social media and respond to messages in real time, even during mealtimes. Some younger adults reported that watching entertaining videos on YouTube while eating was an enjoyable pastime.

However, it could be speculated that this behaviour suggests a certain disengagement from the act of eating itself, potentially diminishing the overall pleasure and satisfaction of the

culinary experience, particularly within the context of a busy lifestyle (Higgs, 2015). Studies suggest that multitasking during meals, such as engaging with media, can lead to reduced mindfulness and lower enjoyment of the eating process (Robinson et al., 2013). In this light, it might be useful to distinguish food-sharing practices in peri-urban areas, where adults commonly use their phones during meals, from those in nomadic families in rural areas, where food-sharing is often more communal and deeply embedded in social rituals that encourage mindful eating (Smith & Johnson, 2017). These differences in cultural practices may influence the degree of attentiveness to food and its associated pleasures.

Moreover, many of young adult peri-urban subjects had incorporated smartphones into their daily mealtime routines. Some of them mentioned that smartphones made eating alone more enjoyable and desirable, and a few participants also expressed a preference for solitary dining as long as they could access the internet on their phones. Some were quite mindful of their mobile data usage and made a deliberate effort to manage and reduce their data consumption, especially if they did not have internet access at their workplace. Spending long hours browsing the internet was a status symbol amongst both younger and older adults I interviewed in peri-urban areas.

One subject mentioned that when he saw someone using the latest model of an Apple iPhone to watch movies, videos, or play online games while dining at a location without free Wi-Fi, he immediately assumed that the person is affluent enough to afford such an expensive device and cover the high monthly data usage. The use of mobile phones during meals had evolved into a unique form of communication through which participants used their dining habits to express their identities and social standing. This trend has given rise to a distinct form of non-verbal communication, enabling people to subtly convey their social status, personality traits, and interests through their use of mobile phones while dining.

Meantime, a few elderly individuals expressed their disapproval of using phones while dining. One female participant mentioned that she found it unpleasant to see someone using their phone during mealtime. She shared that her daughter, on the other hand, preferred to stay occupied with music and messaging her friends on her phone during meals. Interestingly, the mother had decided not to confront her daughter about her phone use during mealtime to avoid any potential conflicts.

Several younger adults reported that they had developed a habit of multitasking during mealtimes, which they found difficult to break unless they consciously made an effort to avoid it. One participant mentioned regularly multitasking while eating after starting her first job, in order to respond to messages from family and friends that she missed while she was on duty, away from her phone. Another participant, who was pregnant at the time of our meeting, had begun multitasking by searching online for information related to pregnancy, childbirth, and babies while eating. She explained that she experienced some anxiety during her pregnancy and found that using her phone to keep occupied with new information helped her to avoid worrying about worst-case scenarios, even while eating. She added that she was mindful of her calorie intake and only ate certain portions of food, so multitasking while eating did not have any effect on her weight. However, she did note that she often felt hungry shortly after eating and wondered if this was due to her pregnancy or other factors, such as not paying full attention to her food while eating.

These examples highlight a broader trend amongst the younger adults I interviewed, many of whom identified multitasking during mealtimes as a habitual behaviour that they struggled to disengage from, unless they deliberately made an effort to do so. In this study, *multitasking during mealtimes* specifically refers to the act of engaging in multiple tasks simultaneously while eating, rather than a broader, more generalised approach to managing

time and attention during meals (Thompson et al., 2019). This behaviour is intricately linked to broader concepts of mindfulness, efficiency, and social dynamics, all of which influence eating habits and mealtime experiences (Kabat-Zinn, 2017; Brown & Clark, 2020).

Research indicates that multitasking during meals is often associated with a diminished sense of presence and attentiveness to the act of eating itself, which can have significant implications for individual well-being. For example, multitasking may contribute to impaired digestion, overeating, or reduced emotional satisfaction with meals (Davis & Johnson, 2022; Markowitz et al., 2021). Additionally, such behaviours can interfere with the quality of social interactions during mealtimes, as individuals may be physically present but mentally absorbed in other activities, often involving screens (Lee & Park, 2020). This suggests that, while multitasking might appear to enhance efficiency, it may in fact undermine the potential benefits of mindful eating and limit the depth of shared mealtime experiences. In a broader cultural context, this trend reflects a societal shift towards prioritising productivity and constant engagement, potentially diminishing the richness of in-person interactions and mindful consumption (Jain & Patel, 2022; Schneider & Larson, 2018).

The prevalence of multitasking during meals, particularly amongst peri-urban young adults, raises concerns about its potential long-term impact on obesity rates. In my research sample, the obesity rate amongst peri-urban young adults is 21.3%, which is notably higher than the 17.2% obesity rate amongst older adults. This trend is particularly concerning given that, globally, younger adults generally have lower obesity rates compared to their older counterparts (Finkelstein et al., 2018). The increasing obesity rate amongst younger adults in peri-urban settings may reflect a broader shift in lifestyle factors, including the increased engagement with digital technologies during meals, which often leads to multitasking behaviours. These behaviours include using smartphones, browsing the internet, or engaging

with social media, which have become commonplace in modern life (Schneider & Larson, 2018).

Interestingly, the incidence of multitasking during meals was more pronounced amongst younger adult participants than older adult participants in my sample. This finding is consistent with broader studies that highlight a generational divide in eating habits, where younger individuals are more likely to divide their attention between food and other tasks, such as checking emails, watching television, or browsing social media (Lee & Park, 2020). This increase in digital engagement, especially during meals, has been linked to mindless eating behaviours, whereby individuals fail to pay full attention to the act of eating and are less aware of internal cues, such as satiety or hunger, which regulate food intake (Meule et al., 2012).

Research has demonstrated that multitasking during mealtimes can lead to overeating by reducing the cognitive processes that normally regulate food intake. For instance, Davis and Johnson (2022) note that distracted eating, particularly when combined with technological engagement, can result in a lower awareness of the quantity of food consumed and a delay in the recognition of fullness. Finkelstein et al. (2018) found that when individuals multitask while eating, they are more likely to eat more calories, as they fail to monitor portion sizes and tend to consume food more quickly, which also affects the perception of fullness. Additionally, multitasking can lead to increased food consumption due to the cognitive overload associated with dividing attention between eating and other tasks (Lange et al., 2020).

Studies have shown that individuals tend to consume more calories when exposed to distractions during mealtimes. For example, research by Stroebele and Castro (2006) highlighted the fact that individuals were inclined to consume about 10% more carbohydrates and proteins when they listened to music while eating. Similarly, a more recent study by Gonçalves et al. (2019) revealed that distractions during meals could result in a 15% increase

in caloric ingestion. Furthermore, the use of smartphones during meals has been associated with higher calorie and liquid consumption, particularly amongst older men (Gonçalves et al., 2019). Moreover, research by Higgs and Donohoe (2011) found that paying close attention to one's meal during eating led to consuming fewer snacks later in the day. This indicates the potential impact of mindful eating practices, or lack thereof, on overall snacking habits. These findings underscore the importance of mindful eating and its potential contribution to healthy eating habits.

Further, the potential impact of multitasking and using online communication tools while eating on food sharing and dietary intake amongst peri-urban younger adults is an area that would benefit from future monitoring. It would be intriguing to observe whether Mongolians' eating habits, including multitasking while eating, evolve as they mature, persist without change, or are transmitted to the next generation.

Additionally, the potential link between multitasking and emotional eating cannot be ignored. Ward et al. (2019) highlighted that many individuals use technology during meals to distract themselves from negative emotions, such as stress or anxiety, which often leads to emotional eating – a behaviour that is frequently associated with obesity.

Moreover, the impact of multitasking on the quality of social interactions during meals further complicates the relationship between this behaviour and obesity. Lee and Park (2020) emphasise that multitasking, particularly when it involves screen use, diminishes the richness of social engagement during meals, which may lead to less mindful eating and the neglect of shared social cues that can encourage healthier eating habits. In the context of obesity prevention, this diminished social interaction is significant, as shared meals are an important setting for cultivating healthy eating habits, social support, and mutual accountability (Jain & Patel, 2022).

These findings suggest that multitasking during meals is not only linked to poor eating habits but may also reflect a broader cultural shift towards prioritising productivity and constant engagement, which may undermine the benefits of mindful eating (Schneider & Larson, 2018). As Jain and Patel (2022) argue, in an age where multitasking is ingrained in daily life, young adults, especially in peri-urban settings, may find it increasingly difficult to disconnect from external distractions, which compromises both the quality of their eating experiences and their overall health outcomes.

The increasing prevalence of multitasking during mealtimes, particularly amongst younger adults in peri-urban areas, presents a trend with significant implications for public health. Research suggests that engaging in digital distractions while eating can contribute to overeating, emotional eating, and disrupted social interactions, all of which are linked to poorer dietary habits and weight gain.

Given the higher obesity rates amongst peri-urban young adults, it is crucial to explore interventions that can address these behaviours. Strategies such as digital detoxes during meals, education on the impacts of multitasking on eating habits, and encouraging social meals that prioritise face-to-face interaction over screen use could all prove effective in mitigating these risks (Davis & Johnson, 2022; Lange et al., 2020). Jain and Patel (2022) further emphasise that fostering a more mindful approach to mealtime, away from technological distractions, could be crucial in reversing these trends, especially in the context of the growing digital culture.

The relationship between multitasking, mindful eating, and overall health is multifaceted, and further investigation into the long-term consequences of these behaviours, particularly amongst younger populations, is essential. Future research should continue to explore the intersections of cultural, technological, and psychological factors that shape eating

behaviours, with a particular emphasis on how these trends may evolve over time and across generations.

6.2.5. FOOD COMMENSALITY BY DIFFERENT GENERATIONS IN URBAN MONGOLIA

Amongst the urban residents in my sample, 65.9% of younger adults and 69.5% of older adults shared meals with others. Food commensality was often more about social relatedness than family gatherings in urban areas where communal dining experiences were frequently cherished as a means of fostering interpersonal connections and establishing a rapport with others.

Whether it is a quick snack or a lavish fine dining experience, there are an abundance of flavourful cuisines available to satisfy any discerning palate. In light of the growing trend towards entertainment dining, which were far less common only a decade ago according to some urban participants, affluent urbanists are increasingly seeking out options for food that not only possess superior quality, but also offer convenience and affordability. Be it an intimate gathering of close friends, a business lunch, or a formal dinner party, many of the urban wealthy that I interviewed often ate together for the purpose of enjoyment, entertainment and to refresh, recharge or refocus.

For those who could afford it, food commensality provided a source of pleasure, fulfilment and sometimes even a feeling of superiority over those who could not participate in

this social ritual. This divide between the haves and have-nots highlights the stark realities of economic inequality in Mongolia and the limitations it places on access to simple pleasures.

The urban environment afforded these participants access to a diverse and cosmopolitan range of dining options, a privilege that is emblematic of city life. From casual snacks to lavish fine dining, these food outlets catered to a wide spectrum of tastes and preferences, allowing urban dwellers to approach food not only as a means of nourishment but also as an expression of indulgence and personal fulfilment.

The connection between convivial commensality, luxury, and self-care in these settings, however, stood in stark contrast to the experiences of rural and peri-urban participants, for whom food was not typically associated with luxury or indulgence in the same manner. This marked a clear cultural distinction, with rural participants not invoking the idea of “treating oneself” through food. The absence of such discourses amongst rural and peri-urban participants may serve as a clear marker of social differentiation between urban and non-urban food cultures.

This distinction between urban and rural food cultures resonates deeply with broader theories of globalisation and class distinction. As Sklair (2001) posits, urban elites, particularly in global cities, engage in cosmopolitan practices that both reflect and reinforce their social distinction from other groups. The expansion of global consumer culture, encompassing access to luxury goods, fine dining, and international travel, has further solidified these distinctions, positioning individuals within these circles as part of a global elite (Zukin, 2011).

In parallel, Bourdieu’s theory of cultural capital (1984) highlights the role of non-economic resources, such as tastes, preferences, and leisure activities, in the construction of social hierarchies. According to Bourdieu, class identity is not solely determined by material

wealth but is also shaped by cultural and symbolic capital, with specific cultural practices like dining and leisure serving as markers of social positioning. These markers not only distinguish the elite from other social groups but also contribute to the perpetuation of class structures.

In this context, the luxury of diverse dining options, alongside the association of food with self-care and indulgence, emerges as more than a mere reflection of material wealth. These practices function as markers of social distinction within a globalised, consumer-oriented world, where cultural consumption plays a significant role in defining social status. The relationship between food, class, and culture thus becomes a key lens through which to understand contemporary urban identities.

This analysis underscores the importance of examining how such practices shape social identities and reinforce class dynamics, particularly in urban environments where global influences intersect with local traditions. In turn, it challenges us to rethink how food consumption can be both an individual choice and a powerful tool for signalling belonging within a broader social order.

Commensality, or the act of sharing food and eating together, has evolved into a significant social ritual, particularly amongst urban elites, where it plays a pivotal role in the cultivation of social capital. In affluent city circles, the practice of communal eating has transcended its traditional function, becoming a strategic tool for networking and relationship-building.

As discussed in Chapter 3, the establishment and maintenance of personal connections are crucial for securing employment in Ulaanbaatar, with sharing meals serving as a means to forge new ties, sustain existing relationships, and exchange valuable information. These social interactions often revolve around career advancement and exclusive investment opportunities,

typically accessible only to a select group of individuals who already possess substantial financial resources, such as money, stocks, and property. In this way, food-sharing practices are intricately linked to the reproduction of social and economic power, reinforcing the elite's privileged position within the broader socio-economic landscape.

One urban participant shared that dinner with potential business partners and clients was an integral part of her job. She stated that she could not simply decline the invitation for lunch, dinner, or even breakfast, when she was invited by her previous, existing, or potential business partners and clients. The conversations she had with these clients over dinner often brought new opportunities that she could not obtain by herself, and they opened many doors for her. She added that declining an invitation several times could lead to people stopping the invitations altogether.

Despite being unwell a week before the interview, she managed to attend all the meetings over lunch and dinner she was invited to. According to her, it was well worth attending because she was able to meet a business owner whom she had been following on social media and had heard a lot about from people around her. Also, she said she was able to obtain the latest information that was useful for her husband's current business project, as well as some potential ones in the future.

The act of engaging in conversations over meals was no longer limited to idle chit-chat but was now heavily oriented around broad career goals such as networking to achieve shorter and longer-term career objectives for subjects themselves and for their kin. This practice has become a common way of gathering information regarding investment, business and educational opportunities. Dining together has become a means of establishing social connections and expanding one's circle of influence, especially within the urban elite community.

In the world of urban elites, shared meals can serve as a powerful tool for career advancement and establishing social connections. It is not just about the food, but the relationships that are formed over a communal lunch or dinner. Through this act of food commensality, people utilise their social capital to create new ventures, get promoted, and find higher-paying jobs. The act of sharing a meal with the right person can open doors to new opportunities and establish connections that can be leveraged for future success in urban contexts. Therefore, food commensality is not just a reflection and creation of a form of relationality, but rather a strategic tool for urban elites to achieve their career aspirations and establish social networks.

Additionally, amongst urban subjects, lunchtime served as a pivotal opportunity for numerous parents to convene and exchange information regarding their children's education and learning. Discussions ranged from various options for private schools to summer school programmes and after-school tutoring and activities, providing valuable insights for parents seeking the best educational opportunities for their children. Some participant parents emphasised that quality education was critical for their children's future financial stability, and they were willing to invest in their children's education to ensure their success.

Some wealthy urban subjects frequently engaged in communal dining to gather information about top-tier educational programs, both within and beyond Mongolia's borders. Some individuals I spoke with believed that the insights they gained from parents who had enrolled their children in prestigious schools and extracurricular activities would help their own children thrive, establish valuable connections, and secure stable social and economic positions in the future. Certain parents emphasised the significance of enrolling their children in esteemed educational institutions to foster robust personal connections and secure promising career prospects for both their children and themselves.

Regular or frequent shared meals in Ulaanbaatar widen the socioeconomic gap between affluent urbanites and disadvantaged peri-urban individuals. This disparity is particularly evident in the long term, as those who are financially better off are able to sustain their participation in shared meals more easily, while those who are less advantaged may struggle to keep up. As a result, the socioeconomic gap between the two groups tends to widen over time. In this sense, commensality or lack thereof in the urban context is also affected by the post-socialist economy with money and capital.

Furthermore, during lunch breaks, some urban participants used their time not only to satisfy their hunger but also to achieve their personal objectives. Some subjects utilised food sharing as a means of enhancing their English language proficiency and boosting their motivation. One female participant, for instance, took the initiative to organise a lunch table where the guests conversed only in English, with the aim of improving their language skills. She claimed that her monthly English-only lunch with friends helped refine her language abilities and provided her with an opportunity to practise speaking the language with others.

For this participant, acquiring proficiency in English was crucial, as international corporations offered much higher salaries and wages to employees than did local companies. Additionally, she pointed out that international corporations offered more equal opportunities to get promoted based on one's skills, rather than personal connections, as was the common practice in some Mongolian workplaces. This, in turn, created a more merit-based work culture, which could be highly beneficial for employees looking to advance in their careers based on their abilities and hard work. English proficiency, therefore, was a prerequisite for securing better-paying jobs at international companies. In addition to securing a higher-paying job, mastering English was also a milestone in her goal to proficiently communicate with international clients and colleagues who may have interesting perspectives, different from

many people from Mongolia. Furthermore, she hoped to use her language skills to assist her child, who currently attended an international school where the medium of instruction is English, with their studies.

I observed that sharing food with a specific purpose in mind, such as improving English language skills, was a distinct food practice that had not been reported in rural and peri-urban areas of Mongolia. The act of regular food sharing amongst urban residents had a double significance, as it not only provided nourishment but also brought people together who shared a common interest. In this sense, urban commensality often carried the potential for professional advancement and job security for the affluent. This highlights the novelty of organising communal meals with clear objectives in an urban setting, making it a unique and noteworthy phenomenon. It can be inferred that urban communal eating sometimes plays a supportive role in achieving mid- or long-term individual, career-oriented goals and objectives.

However, it is important to note that this type of food commensality was only present amongst those subjects who could afford to dine out and had extra time to spare. Communal eating could bring together members of social, community, or regional groups through a shared pursuit that reflected or is originated from their values. Thus, it created a world of shared meanings and exclusive experiences.

In comparison to the more relaxed approach to mealtimes and daily activities prevalent in rural areas, urban participants tended to adhere to a more structured and regimented routines. I observed that individuals who worked in urban professional settings tended to possess the trait of meticulously planning out their daily schedules, which even included setting aside specific times for lunch. This behaviour may not be as prevalent amongst individuals in other industries or settings. Some urban subjects only took longer lunches when meeting someone, while they normally preferred quick lunches when they ate by themselves. In contrast to rural

nomads, many urbanists I met placed a high value on time and were typically more conscious of their schedules. Many participants in urban settings had designated lunch breaks and were aware of the amount they typically spent on lunch, and this was a defining characteristic of urban life in which time had become a valuable commodity or luxury.

The practice of eating together is not just about sharing certain foods or the symbols and meanings of those foods, but also about intentionally or unintentionally transmitting collective messages to others in urban settings. Sharing specific types of food in particular settings can function as a means of signalling one's social and economic status, while simultaneously conveying implicit messages to both members of the group and the broader public. This practice serves to reinforce the distinction between "us" and "others," with food commensality acting as a subtle mechanism that draws boundaries between these groups. By doing so, it plays a pivotal role in negotiating and enacting the social dynamics within the most populous city in the country.

Notably, the presence of "others" within this urban context appears to contribute, in some measure, to the strengthening of a collective sense of community. The presence of "others" in the city seems to strengthen a sense of community to some extent. Social groups or communities are not merely created by "us" but also by the presence of "others," and the boundary between them. This notion of "us" and "others," depending on place of residence and social belonging, was particularly prominent amongst urban participants in my study. Such strong, differentiated identities or social groups constantly prevalent in the city did not seem to exist in rural regions even though a differentiation of "us" and "others" existed when rural nomads talked about urban Mongolian people.

I observed a growing trend among younger Mongolians using food as a means of projecting a particular image of themselves on social media. Sharing images, clips, and

anecdotes related to cuisine on various social media platforms was common among some older adults and many younger adults, especially women. By sharing such content, participants sought to express their identities, interests, and sense of belonging in the virtual world. Food commensality, therefore, could be directed at an external audience or intended to make statements about participants, both during the process and afterwards on social media.

Social media has revolutionised the way people share their food experiences. Users' values, lifestyles, and other socioeconomic characteristics of people are now more visible and accessible to others, thanks to the vast array of photos and videos of food being shared from a multitude of food establishments such as bars, cafes, lounges, and restaurants. This newfound transparency has become more prominent in recent years, particularly amongst younger generations. By sharing their food experiences on social media, young people project a certain image of themselves and affirm their identity and social status.

In essence, sharing photos of meals and dining spots has become a way of conveying one's values and lifestyle choices to one's peers and even those outside one's immediate circle. The trend of sharing food experiences on social media is not only about the food itself but also provides a glimpse into a person's life and the social group they are a part of. In today's world, where social media has become an integral part of our lives, eating together has taken on a new meaning and significance. Communal eating has, thus, become a powerful symbolic act that not only communicates one's values and affiliations to members of one's own community but also to the wider community at large. This is no less true in the modern Mongolian context.

Similar to peri-urban young adults, urban study participants had increasingly indulged in solo dining while simultaneously being accompanied by their smartphones, even though eating alone itself was still not necessarily considered favourably. The ease and convenience of technology allowed individual subjects to savour their meals while remaining connected to

the world through various online platforms such as social media. This phenomenon has brought about a new dimension in the way Mongolians perceive their eating habits, particularly the concept of solo dining in the presence of a smartphone. Such a trend has not only transformed the way people eat but also affected the way they interact and socialise with others through food commensality.

Similar to younger adults in peri-urban areas, younger adult participants in urban areas had been increasingly using their smartphones during meal times. According to my interview with a 23-year-old male camera operator, he had never experienced feelings of loneliness while dining alone. The reason for this was that he always used his phone to keep himself occupied, engaged, and entertained. Likewise, a 28-year-old female administrative assistant said,

“When I eat with my friends, I will be checking social media or watching some videos [on my phone]. So do my friends. It doesn’t actually make a difference whether I eat alone or with my friends. I will talk [to my friends] sometimes, but [my friends and I] will be using the phone for the most part [while eating].”

The sight of people absorbed in their smartphones while dining has become ubiquitous in Mongolia, regardless of whether they are by themselves or in the company of others. Whether in a workplace, a coffee shop, a school cafeteria, or a fancy restaurant, the younger generation of Mongolians, in particular, appears to be more captivated by their digital devices than by their immediate environment. The allure of staying connected via social media, messaging, or simply browsing the web seems to trump the traditional social norms of enjoying a meal with family, friends, or colleagues in the city.

While urban subjects may have exchanged a few words here and there, their primary attention remained fixated on their screens. In contrast to many nomadic subjects who had adopted a mindful approach to eating, free from the distractions of modern technology, many

city participants had developed a habit of using their smartphones while eating, resulting in a significant lack of attention and awareness during mealtimes.

The food-sharing practices of the wealthy city-dwellers in this study were unique and complex, setting them apart from those of their rural counterparts, who tended to consume meals with their family members on a daily basis. The sharing of food amongst the urban elites in Ulaanbaatar holds great significance, particularly as these subjects prioritised their time, careers, personal networks, and work-life balance (ажил амьдралын тэнцвэр). For them, food-sharing was not simply a means of satisfying hunger; rather, it also provided an opportunity to exchange valuable information, establish meaningful connections, build trust, and even advance careers or business prospects.

These interactions had resulted in long-term friendships and business relationships, with social relatedness being a significant factor that made food-sharing special in an urban context. The sharing of meals amongst urban subjects was not limited to the consumption of food; rather, it was a platform for sharing stories, experiences, and expertise, all while relishing the delights of delicious food. Whether it was a formal business meeting or a casual social event, sharing meals amongst these participants was often done with a medley of purposes, such as fostering friendships, networking, or even sealing business deals.

The food-sharing practices of these affluent individuals can be seen as a future-oriented dietary behaviour that incorporates knowledge acquisition and the establishment of significant connections alongside food consumption. Particularly in the post-socialist Mongolian context, gaining financial success is heavily reliant on an individual's ability to leverage networks and gain access to valuable information. In this sense, food-sharing practices have emerged as a crucial means of securing jobs and other opportunities that offer both monetary and non-monetary benefits. Frequent or regular food commensality was particularly prevalent amongst

the wealthy urban subjects, who used commensality to enhance their financial stability and promote their overall financial gain.

6.2.6. SECTION CONCLUSION

My research found that both younger and older adults in rural areas shared similar food-sharing experiences, with no inter-generational effects evident in this subgroup. However, in urban and peri-urban areas, there were noticeable differences in food commensality, and some generational variations in food-sharing practices were observed. For example, some younger adults in urban and peri-urban areas had developed certain non-traditional eating habits such as eating alone while using phones or listening to music.

These behaviours have been found to be associated with an increased calorie intake, as reported in previous studies conducted by Stroebele and Castro in 2006 and Gonçalves et al. in 2019. Nevertheless, these dietary behaviours could potentially contribute to higher obesity rates in the long term.

The practice of urban commensality amongst the wealthy in Mongolia is a multi-faceted activity that adds social, cultural, and symbolic meaning to participants' food consumption practices. Food commensality offers a unique opportunity to engage in meaningful conversations, express gratitude, and create lasting memories. Simultaneously, the consumption of particular foods in specific settings, and with unique foods, can either unite or segregate members of human communities in a profound and tangible way. Consuming certain types of foods such as fast-food and other processed food products was viewed as fashionable

by some young adult urban participants, setting them apart from older generations who grew up without access to such foods.

This phenomenon is closely linked to the expression of social status and cyclical changes in the relative importance of both types of relationships in urban settings. Intriguingly, the way in which the urban participants shared their food is unique and seems to have been influenced by daily food customs in some Western societies to some extent. However, it is worth noting that the commensality of the urban wealthy in Mongolia is quite distinct from that of other sociodemographic groups in the country. Their food-sharing practices have acquired a new set of values and a new significance, thanks to their complex and multi-dimensional nature that serves several purposes beyond the mere act of sharing a meal. In essence, food is an integral part of social identity and status, and plays a crucial role in defining different social groups in modern-day Mongolia.

In the context of the digital age, commensality, the act of sharing food or eating together, has taken on new dimensions, facilitated by the increasing presence of digital technologies in daily life. Scholars have noted that digital devices, such as smartphones and tablets, are increasingly integrated into social dining practices, altering the traditional nature of mealtime interactions (D'Andrea, 2018; Magsamen & Bauer, 2020).

In many urban settings, eating is no longer confined to face-to-face interactions but can now occur alongside digital engagements, such as phone calls, social media use, or streaming videos, effectively blending social and technological spaces (Buehler, 2015). In Ulaanbaatar, these changes are particularly evident as technology facilitates new forms of commensality. However, this digital integration is not uniform across the country. There is a marked contrast between the urban and rural experiences of commensality, with rural nomads often excluded from the digital commensality practices that are commonplace in more developed, urban areas.

Commensality in the digital age has evolved to incorporate the use of technology, with practices such as eating while engaging in phone conversations, scrolling through social media, or watching videos on digital devices becoming increasingly common in Ulaanbaatar. However, the nature of these digital experiences varies significantly depending on individual access to content, which is shaped by factors such as subscription services, financial resources, and the availability of data plans. The duration of these interactions is often constrained by factors like data limits, access to free Wi-Fi at the workplace, and the quality of internet connectivity at home or in public spaces.

These digital forms of commensality were largely absent amongst rural nomads, where access to the technological infrastructure required for such practices remains limited. Consequently, commensality in the digital age manifests in distinctly different ways across various regions of Mongolia. Specifically, while urban and peri-urban residents have the option to incorporate digital devices into their mealtimes, rural nomads are largely excluded from such practices due to infrastructural constraints. This disparity underscores the role of digital technology in shaping contemporary social practices and highlights the divide between urban and rural experiences of commensality in Mongolia.

6.3. FOOD SELECTION CRITERIA

This section aims to examine the various priorities that individuals have when it comes to selecting their food based on their living circumstances. The selection of food items is a complex process that may vary across different regions depending on various motives and priorities. According to Nestle (2013), people typically choose foods based on their personal tastes, considering the way they react to the flavour, aroma, presentation, and texture.

While adults tend to gravitate towards tasty, visually appealing, and aromatic foods that are familiar and offer diversity, their preferences are significantly shaped by factors such as family and ethnic background, education level, age, income, and gender (ibid). According to Biltekoff (2013), the social implications of our dietary choices are as crucial as the biomedical ones, and these implications encompass our identities, moral principles, and social status. Therefore, food selection criteria can provide valuable insights into the cultural meanings that different foods hold, the values that they represent, and the categories that people create in relation to food.

In this chapter, I seek to understand the differences in food selection criteria between various generations. By food selection criteria, I refer to the important factors or key elements people consider when deciding what to eat in their given living circumstances. These criteria serve as the basis for our food preferences and can exert a profound influence on long-term health outcomes and body weight, particularly in urban and peri-urban environments where there exists a much wider range of food options, newly introduced to Mongolia in the past few decades.

The intricacies of these criteria elucidate priorities in the participants' ways of living, along with their norms, customs and beliefs in relation to food. These factors include sensory attributes such as taste and texture, nutritional value, cultural and social influences, and psychological factors like emotions and beliefs. Through this exploration, I seek to gain insight into how people make food choices and how these choices differ across generations in the following sections on food selection criteria.

6.3.1 REGIONAL VARIATIONS IN FOOD SELECTION CRITERIA

In this study, the participants' food selection criteria were grouped into two primary categories: "taste" and "time or cost." Overall, the factors that determined food selection criteria differed significantly across the various regions of Mongolia. This diversity can be attributed to the different motivations and priorities of residents in each living circumstance.

Table 6.3 presents an overview of the food selection criteria reported by participants residing in rural, peri-urban and urban areas. The findings provide important insights into how food choice priorities differ across settings. Among nomadic participants, only 0.9% prioritised cost and time, suggesting that availability and accessibility were far more decisive factors in shaping food decisions.

By contrast, in Ulaanbaatar a marked divergence emerged: while two-thirds of urban residents (66.1%) prioritised cost and time over taste, this preference was reported by only 22.8% of peri-urban residents. Such contrasts underscore the differing motivations shaping food choices across the urban and peri-urban spectrum, with potential long-term implications for dietary behaviours and body size trajectories.

These findings point to the influence of urbanisation and lifestyle change in reshaping the food preferences of urban Mongolians, where convenience and affordability increasingly outweigh traditional taste-based considerations. This pattern is consistent with wider global trends. In the United States, for example, Nestle (2013) reports that nearly half of all meals are consumed outside the home, a quarter of them fast food, while the frequency of snacking almost doubled between the mid-1980s and mid-1990s. In response, the food industry expanded the

production of pre-packaged meals, “home meal replacements,” and convenience-oriented products such as power bars, yoghurts in tubes, and supermarket hot-food bars.

The parallels with Mongolia are striking. My study suggests that, in post-socialist urban and peri-urban contexts, time and cost have themselves become valuable resources and determinants of dietary practice. Unlike in rural areas, where decisions were more strongly shaped by subsistence practices and limited availability, urban and peri-urban residents exercised greater autonomy in food selection, mediated by financial means and time pressures. This shift towards a more varied, personalised and convenience-driven food culture appears to represent not only a behavioural change but also an emergent social value in urban Mongolia, one that remains largely unfeasible in rural contexts.

Qualitative interviews reinforced this picture. Participants employed diverse individual or household strategies for evaluating food, which varied by location. In Ulaanbaatar, where work schedules and efficiency dominate daily routines, participants frequently selected lunch on the basis of preparation and consumption time, with professional respondents in particular framing time as a scarce and valuable commodity. In rural areas, by contrast, time was less central to decision-making, as daily activities were not organised around the same rigid schedules. In the following section, I turn to the role of generational differences in shaping food selection criteria.

Table 6.3. Food Selection Criteria in Rural, Peri-urban, and Urban Mongolia (n = 346).

<i>Variable</i>		<i>Percentage</i> ³⁰	<i>n</i>
<i>Food selection criteria</i>			
<i>Taste</i>			
	<i>Rural</i>	99.1%	106
	<i>Peri-urban</i>	77.2%	98
	<i>Urban</i>	33.9%	38
<i>Time or cost</i>			
	<i>Rural</i>	0.9%	1
	<i>Peri-urban</i>	22.8%	29
	<i>Urban</i>	66.1%	74

$\chi^2 (2) = 115.417, p < .001.$

³⁰ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

6.3.2. GENERATIONAL VARIATIONS IN FOOD SELECTION CRITERIA

In this section, I will expand on variations in food selection criteria. Table 6.4 provides a breakdown of the food selection criteria used by both younger and older adult participants residing in all three regions of Mongolia. The study found that the food selection criteria of younger and older adults in rural and peri-urban Mongolia were almost identical, with only subtle generational differences observed amongst urban residents.

Thus, the results indicate that age had a less significant impact on shaping food preferences than did the influence of urban food environments. This study suggests that the urban way of life and the food environments in Mongolia significantly influence how individuals choose the foods they consume.

Moreover, the availability, accessibility, and variety of food options, including out-of-home meals present in urban areas, were referred to only by urban residents during the interviews. These processed and ultra-processed foods, unobtainable in rural areas, seem to have shaped food selection criteria in modern-day Mongolia, regardless of individual ages or generations. In the subsequent section, I will delve further into the differences in food selection criteria across the three regions of rural, peri-urban, and urban Mongolia.

Table 6.4. Food Selection Criteria amongst Younger and Older Adults (n = 346).

<i>Variable</i>		<i>Percentage</i> ³¹	<i>n</i>
<i>Food selection criteria in all three areas</i>			
<i>Taste</i>			
	<i>Younger adults</i>	66.1%	119
	<i>Older adults</i>	74.1%	123
<i>Time or cost</i>			
	<i>Younger adults</i>	33.9%	61
	<i>Older adults</i>	25.9%	43
<i>Food selection criteria in rural areas</i>			
<i>Taste</i>			
	<i>Younger adults</i>	100%	35
	<i>Older adults</i>	98.6%	71
<i>Time or cost</i>			
	<i>Younger adults</i>	0%	0
	<i>Older adults</i>	1.4%	1
<i>Food selection criteria in peri-urban areas</i>			
<i>Taste</i>			
	<i>Younger adults</i>	77.6%	59
	<i>Older adults</i>	76.5%	39
<i>Time or cost</i>			
	<i>Younger adults</i>	22.4%	17
	<i>Older adults</i>	23.5%	12
<i>Food selection criteria in urban areas</i>			
<i>Taste</i>			
	<i>Younger adults</i>	36.2%	25
	<i>Older adults</i>	30.2%	13
<i>Time or cost</i>			
	<i>Younger adults</i>	63.8%	44
	<i>Older adults</i>	69.8%	30

³¹ Valid percentage is a percentage that does not include missing cases as opposed to a percentage of the total cases.

6.3.3. FOOD SELECTION CRITERIA IN RURAL MONGOLIA

The way Mongolian pastoral nomad subjects chose their food was vastly different from methods used by urban and peri-urban subjects. The vast majority of rural participants (99.1%) prioritise taste above all else when selecting their food, even if it meant spending more time cooking. They placed a particular emphasis on locally sourced and fresh food, which they believed was critical factors for maintaining good health. Their food choices were based not only on taste but also on how the food made them feel after consuming it. They believed that the freshness of the ingredients played a pivotal role in determining the palatability of the food they consumed.

However, their concept of taste was not limited to flavour alone. It was not merely about ingredients but also about relishing every aspect of the food, from the texture to the freshness, and even the tantalising aromas that filled the air. For the participants, the best meals were those that were cooked at the right temperature and for the right duration and consumed during the best seasons.

The nomadic subjects valued the sensory experience of their meals, from the colours and smells to the textures of the food. Their experiences encompassed the entire sensory experience of eating, bringing a refreshing and delicious sensation that was often associated with locally produced, freshly prepared seasonal food products. In other words, taste was not merely the sensation of flavour, but also a complex experience that allows nomads to distinguish and appreciate high-quality food products. These were associated with nomadic identity and the pastoral nomadic way of living. The criteria used by rural subjects sharply contrasted with those used by city dwellers in Ulaanbaatar, who prioritised convenience and cost over taste when deciding what to eat.

Moreover, the rural nomads' food preferences were heavily influenced by the self-sustaining nature of their food production, and by the rural environment they lived in. Their dietary decisions were intricately linked to the resources available to them and the livestock they raised, which played a crucial role in shaping their food habits. However, during my interviews with nomads, they themselves rarely mentioned seasonality, self-sustainability, or availability of foods as factors that affected their dietary choices.

Unlike urban participants, those living in rural areas tended to have more relaxed schedules, but they still adhered to daily routines such as herding, cooking, livestock care, and other daily chores at roughly consistent times throughout the day. While they may not have been as time conscious as their urban counterparts, they still recognised the importance of structure and consistency in their day-to-day lives. Ultimately, time management practices in relation to food preparation, consumption, and sharing are shaped by a combination of location and lifestyle factors.

A significant number of rural nomads I met told me they did not pay much attention to their mealtimes, food intake or food selection criteria. When I inquired about the length of the nomads' lunch breaks, some of them chuckled and told me that it was the first time they had ever been asked or thought about it. During my stay with these nomadic families, I noticed that they did not have specific mealtimes, but they had a general sense of time passing throughout the day. They tended to follow their daily routines, performing tasks at roughly the same time every day without relying on a clock or watch. It was fascinating to observe that even though they were not consciously keeping track of time, their meals were typically consumed at roughly the same time each day.

Additionally, I noticed that rural nomads spent more time on lunch than their urban and peri-urban counterparts. The contrast was especially stark when comparing nomads to young

adult participants living in urban areas, who had designated lunchtimes or were conscious of the time spent on meals daily.

Although taste was the most significant factor for rural nomads when selecting food, some nomads also took cost into consideration when travelling to urban areas like Ulaanbaatar. One participant remarked that food products in Mongolian cities were less fresh and tasty, and had a peculiar texture compared to those found in the countryside.

As a result, she did not have high expectations for food in cities and was more focused on cost when selecting food products there. Furthermore, she would often carry ample food from the countryside while travelling to cities so that she could avoid purchasing overpriced and unpalatable food products unless there were no other options available.

On the other hand, some other nomadic subjects indicated that their food selection criteria would remain unchanged even when they travelled to the city. The food selection criteria were relatively uniform in rural areas, irrespective of age or generation. However, slightly different food selection criteria amongst nomads were reported when they travelled to Ulaanbaatar. This highlights how influential food environments can be compared to sociodemographic factors such as rural nomadic lifestyles and age.

6.3.4. FOOD SELECTION CRITERIA IN PERI-URBAN MONGOLIA

In the peri-urban areas I studied, individuals prioritised the affordability of food over other factors such as nutrition, convenience, and preparation time. Some subjects preferred to buy food that was more affordable, even if it meant compromising on the quality of the food. The price of food was a significant factor for these participants, and some reported going to great lengths to find food products that fit their budget.

Their food selection processes were heavily influenced by their personal preferences, as well as by their financial and time management strategies, at both the individual and household levels. For example, some participants mentioned that they chose certain food items in order to save money for purchasing new phones, while others opted for food items that met their basic needs and helped them make ends meet.

Regardless of the reasons behind their choices, many subjects in peri-urban areas tended to select food items that were affordable and required minimal or no preparation time. For this reason, ready-to-eat food products such as bread, cereals, and crisps were often preferred, as they did not require any preparation or cooking time before consumption but still made subjects feel full for a while. This is unsurprising, considering that the convenience factor also encourages the food industry to develop and market more products that can be consumed quickly and with minimal preparation (Nestle, 2013).

It is important to note that the preparation time required for food products is a key factor that influences the purchasing decisions of consumers. In the context of my study, this food selection trend mirrors the fast-paced and financially driven lifestyle commonly found in peri-

urban areas in Mongolia, setting this region apart from the more traditional rural region discussed earlier in this chapter.

In peri-urban areas, time and financial resources had emerged as crucial determinants for the food selection preferences of participating individuals and households. Remarkably, amongst the rural participants in my sample, only one individual highlighted time as the primary factor influencing their own food selection choices, even though time was frequently cited as an important factor for study participants overall, second only to cost.

It is worth noting that a significant proportion of peri-urban participants (92.0%) had grown up in rural areas, while only a small percentage of urban participants (14.3%) had. This finding implies a shift in values amongst peri-urban residents, where traditional food selection criteria such as taste are being replaced by practicality and convenience, factors which helped peri-urban subjects navigate their lives after moving to Ulaanbaatar. This shift may be indicative of a larger dietary transition that is taking place in Mongolia, especially considering the growing population in the city.

As more people move to urban areas in search of better job opportunities and improved quality of life, their food selection preferences are being shaped by practical considerations such as time and financial resources. This suggests that work environment and lifestyle are powerful influences in cities, where job security and financial stability play a significant role in shaping dietary choices. This contrasts with rural areas, where nomads rely on their livestock for sustenance. Also, in urban areas, Mongolians often lead busy lives, leaving little time for meal preparation or grocery shopping. As a result, they tend to favour quick and convenient food options that fit into their busy schedules. The shift towards urbanisation seems to have brought about significant changes in the dietary habits of Mongolians, and it is likely that this trend will continue to evolve in the future.

In the present sample, the food-selection criteria reported by younger and older adults in peri-urban areas were strikingly similar. Specifically, 22.4% of younger adults and 23.5% of older adults identified either time constraints or financial cost as the principal determinants of their food choices. This close alignment suggests that generational differences alone do not adequately account for variation in dietary decision-making. Rather, the findings underscore the influence of broader structural and socioeconomic factors, particularly those linked to affordability and time availability.

Although some might contend that a proportion of just over one-fifth is modest, such a figure cannot be readily dismissed. In dietary and behavioural research, even seemingly moderate prevalence levels may represent significant findings when they reveal systematic constraints on individual choice. As Giskes et al. (2011) demonstrated in their review of dietary inequalities, relatively small yet consistent proportions can reflect entrenched structural barriers that shape eating patterns. Similarly, French et al. (2019) observed that economic limitations exert measurable effects on food purchasing behaviour across income groups, indicating that even minority proportions may signal broader inequities. From this perspective, a prevalence of approximately 20% is far from trivial, particularly when it highlights affordability and time as enduring determinants of dietary decisions.

Further research is warranted to examine whether these generational similarities persist across larger or more diverse samples, and whether they shift over time in response to changing circumstances, including but not limited to economic conditions and the evolving food environments of peri-urban areas. Longitudinal and comparative studies could be especially valuable in clarifying whether such constraints remain consistent across successive generations or whether different age cohorts adapt to structural pressures in distinctive ways.

6.3.5. FOOD SELECTION CRITERIA IN URBAN MONGOLIA

Only subtle generational differences in the food-selection criteria of younger and older adults in urban areas were observed in this study. Specifically, 69.8% of older adults reported prioritising time or cost as their primary criteria when selecting food items. Among younger adults, this proportion was slightly lower, at 63.8%. This variation may be linked to the more demanding jobs often undertaken by older adults, as well as their greater responsibilities and commitments within the household. Nevertheless, overall, urban residents displayed broadly similar food-selection criteria regardless of age, suggesting that structural influences, such as the urban food environment, work demands, and wider social pressures, play a decisive role in shaping everyday dietary choices.

A distinctive feature reported by older urban participants was the variation in their food-selection criteria according to the day of the week. During interviews, several respondents explained that their priorities differed between weekdays and weekends. On working days, they tended to opt for more convenient and rapid food options, while weekends were viewed as an opportunity to prepare and enjoy more leisurely meals as a form of reward or indulgence. The tight schedules of urban employees during the working week appeared to exert a strong influence on these patterns, producing a distinctive rhythm of food choices in urban contexts.

This adaptation reflects how individuals tailor their eating habits in response to the demands of their social and occupational environments. The weekday–weekend distinction observed among older adults illustrates how food selection functions as a strategy to manage time poverty, a constraint in contemporary urban life (Jabs & Devine, 2006). Time scarcity has been consistently associated with reliance on convenience foods and reduced meal preparation, particularly among those balancing employment and household obligations (Jabs et al., 2007).

The present findings resonate with such evidence, revealing that positive perceptions of time-saving food products stem not only from their role in reducing cooking and dishwashing but also from their perceived contribution to work–life balance. In this sense, demand for convenient and efficient food solutions can be understood as a broader coping strategy to reconcile the competing pressures of professional and domestic responsibilities (Devine et al., 2009).

Interviews revealed that many urban women struggled to devote substantial time to cooking, particularly during weekdays. This difficulty coincided with the expanding availability of ready-to-eat, pre-packaged, and minimally processed foods in the city. Such products were widely valued for reducing the burden of unpaid domestic labour, thereby enabling women to navigate professional and personal responsibilities more effectively. Several participants described these foods as essential to their capacity to maintain a sense of equilibrium between work and home life.

The concept of work–life balance is useful for interpreting these findings. Although often associated with Western contexts, its origins can be traced to the Industrial Revolution, when reformers such as Robert Owen advocated shorter working hours to enhance both productivity and well-being (Gottfried, 2009). The term gained prominence in the late 1970s and 1980s in the United Kingdom, coinciding with the Women’s Liberation Movement, which highlighted the challenges women faced in combining paid employment with domestic labour (Hochschild & Machung, 2012; Lewis et al., 2007).

Since then, the concept has been adopted internationally, though with marked cultural variation. Scandinavian countries, for instance, have pioneered flexible working arrangements that set global benchmarks (Hofäcker & König, 2013), while in Japan, the phenomenon of

karoshi (death from overwork) prompted government interventions to limit excessive working hours (Kawahara, 2021).

Within Mongolia, the notion of work–life balance appeared more salient among urban participants than among rural or peri-urban residents. Several urban women referenced the concept spontaneously, despite it not being introduced by the interviewer. This contrast may be explained by urban residents’ greater exposure to international workplaces and study abroad opportunities, which were largely absent among rural participants. Such findings underscore the influence of globalisation in shaping urban perceptions of work, family, and self, and they highlight the socio-cultural specificity of work–life balance as a lived concept.

Nevertheless, structural gender norms remained entrenched. Despite some women earning more than their husbands, many reported that they were still expected to prepare meals for their families. As Hayden (1980) has argued, women’s position in the domestic sphere is closely tied to their economic status, yet financial empowerment alone does not necessarily overturn enduring cultural expectations.

For older adults, particularly those in the so-called sandwich generation, food choices were also shaped by intergenerational caregiving obligations. Many participants reported a strong cultural expectation to provide financial, physical, and emotional support to children, parents, and even extended kin. Unlike in Western contexts, where elder care is often outsourced, Mongolian participants framed caregiving as both a duty and a source of pride.

One woman remarked that she did not perceive such responsibilities as a burden but as an opportunity to repay her parents for earlier sacrifices. Nonetheless, fulfilling these obligations alongside employment was described as highly demanding, making time-efficient food options a pragmatic strategy for managing competing responsibilities.

Across generations, convenience and time efficiency consistently emerged as decisive criteria in urban food choices. These priorities often came at the expense of traditional meals, with some participants skipping lunch or relying on snacks to maintain productivity. Yet urban residents also placed considerable emphasis on food quality, nutritional value, and exclusivity, reflecting their wider access to diverse dining options.

Food selection thus entailed a continual negotiation between convenience, nutrition, and quality, shaped by both socio-economic resources and urban infrastructures. Compared with rural and peri-urban residents, urban participants demonstrated markedly more diverse food-selection criteria, underscoring the importance of both physical and financial access in shaping dietary behaviour.

6.3.6. SECTION CONCLUSION

This study found that food selection criteria of younger and older adults in rural regions, as well as peri-urban Mongolia, were strikingly similar, indicating that relatively similar food selection criteria has been passed down from generation to generation in these two regions. On the other hand, subtle generational differences were observed in urban regions. However, overall, such generational differences were not significant in each of the three regions. It can be inferred that food selection criteria for participants in all three regions are largely influenced by their geographical locations rather than age or generation.

These findings are consistent with previous research, such as studies (Mah et al., 2019; Whelan et al., 2018) which highlighted the significant influence of social and human-built environments on the food environment of a community or region and the role of these factors

in determining the accessibility, availability, and adequacy of food within a specific area. Notably, none of the participants in any of the three areas I studied reported using food shipping or delivery services. This suggests that the types of food available and accessible in a given neighbourhood significantly impacted the types of foods consumed in different areas.

The food preferences I observed in Mongolia were shaped by a myriad of influences. Factors such as lifestyles, values, and priorities all played a significant role in determining what people chose to eat. The urban participants, in particular, enjoyed a wide variety of food options and consequently displayed the most diverse food choices amongst all three groups. In the urban areas I studied, food selection went beyond just taste and type of food. It also involved strategies to effectively manage time and finances. The practical considerations of saving time and money were particularly important, especially for older adult participants who were navigating the demands of work life balance, and financial responsibilities. This underscores the significant impact of financial considerations on food choices in urban settings.

Additionally, relocating from rural areas to Ulaanbaatar represented a significant life change for peri-urban subjects. Migrants in peri-urban areas now had the autonomy to make food choices and adopt new food selection criteria that aligned with their unique preferences. This transition underscores the shifting priorities of individuals in modern peri-urban settings, highlighting the necessity for practical solutions to streamline daily activities. As detailed in Chapter 3, my research indicates that current criteria for food selection may not predict adult BMI. Nevertheless, the prioritisation of factors such as time and cost in urban areas may have long-term impacts on weight, warranting continuous monitoring.

6.4. CALORIE AND NUTRITIONAL KNOWLEDGE

6.4.1. REGIONAL VARIATIONS IN CALORIE AND NUTRITIONAL KNOWLEDGE

In this study, participants were asked about their familiarity with calories and nutrition. To clarify, for the purposes of this investigation, the term “calorie and nutritional knowledge” (хүнс тэжээл, калорийн талаарх мэдлэг) pertains to one’s understanding of the concept of calories and the nutritional value of food.

As shown in Table 6.5, there was a statistically significant relationship between calorie and nutritional knowledge and region (rural, peri-urban, and urban), $\chi^2 (2) = 37.795, p < .001$. Urban residents were more than ten times as likely as their peers in rural regions to have calorie and nutritional knowledge (*odds ratio* = 10.3), and more than three times as likely as their peers in peri-urban regions to have calorie and nutritional knowledge (*odds ratio* = 3.44).

The results of this study suggest that there may be an uneven distribution of nutrition education or useful information on diets between urban and rural communities, as well as between urban and peri-urban communities in Ulaanbaatar. The lack of calorie and nutrition knowledge amongst peri-urban residents may have long-term implications for obesity. Furthermore, this lack of knowledge could potentially impact the weight of their children over time.

Table 6.5. Calorie and Nutritional Knowledge by Region (n = 380).

Dependant variable: calorie and nutritional knowledge (haves vs have-nots)

		<i>B Coefficient</i>	<i>95% Confidence Intervals Lower Bound</i>	<i>95% Confidence Intervals Upper Bound</i>	<i>P- value</i>	<i>Exp (B)</i>
<i>Calorie and nutritional knowledge</i>	<i>Rural</i>				<.001**	
	<i>Peri-Urban</i>	1.096	1.067	8.398	.037	2.993
	<i>Urban</i>	2.332	3.925	27.030	<.001**	10.300
	<i>Constant</i>	-3.025			.049	

* $p \leq 0.05$

** $p \leq 0.01$

*** $p \leq 0.001$

Firstly, in my research conducted in rural Mongolia, I found that only 1.9% of the rural participants possessed knowledge of calories and nutrition. As rural nomads heavily rely on livestock for sustenance, their lack of calorie and nutritional knowledge may not currently be a significant concern. However, for future nomads who migrate into Ulaanbaatar and begin to consume foods primarily available there, having a basic understanding of calories and nutrition would also be beneficial.

Some nomads in my sample had family members living in Ulaanbaatar. These individuals sometimes visited their relatives in the city and also received regular and occasional visitors, mainly family and relatives, from Ulaanbaatar. It was customary for these visitors to bring an abundance of candies, chocolate, and other food items that were not easily accessible in rural Mongolia, as reported by my participants. In such cases, understanding the calorie and nutritional content of these gifted food items would aid in making informed decisions about daily food consumption.

Furthermore, some nomads expressed cautious attitudes toward overindulging in the sweet treats brought from urban areas, as they were known to contribute to dental issues, swollen jaws, and necks. These concerns were based on personal experiences, observations, and accounts from their family members. However, calorie and nutrition information were not concerns amongst the rural nomads in my study when it came to food items brought by their guests, their daily cooked and consumed foods, and food items purchased occasionally during their visits to urban areas.

Secondly, in peri-urban regions, 6.2% of the participants had a good understanding of calories and nutrition, while in rural areas, only 1.9% of subjects possessed this knowledge. However, the lack of knowledge regarding calorie and nutritional value amongst peri-urban inhabitants poses a more serious concern than it does amongst their rural counterparts due to more sedentary lifestyles amongst peri-urban participants and the specific food environments in which they reside.

During my fieldwork, I had the opportunity to interview parents residing in peri-urban *ger* districts and found that many of them did not monitor their own food intake or that of their children. This lack of monitoring can have severe consequences for the health of both parents and children alike. Upon further investigation into this behaviour, I found that one of the primary reasons behind it was limited knowledge and understanding of nutrition amongst these parents. In comparison to their urban counterparts, who had access to a wealth of information and resources on healthy food choices in both Mongolian and English, peri-urban parents in my study, most of whom did not speak English, often lacked the same level of access to such resources.

For Mongolians, proficiency in English provides access to calorie- and nutrition-related information, including authorities in numerous English-speaking countries across Africa,

Europe, Oceania, and North America. English fluency also grants access to the latest articles and research published globally. The scarcity of such knowledge and resources can significantly affect peri-urban residents' ability and motivation to provide their children with healthy, balanced meals.

In today's interconnected world, a wealth of information is readily available on the internet to a larger audience than ever before. Laudan (2015) suggests that in the industrialised world, the latest nutritional advice is not limited to the affluent class, thanks to newspapers, magazines, and advertisements. People often seek information regarding diet and health from various media sources such as newspapers, magazines, television, radio, and the internet (Nestle, 2013: 20). While information on diet and health is more accessible in Mongolia today than ever before, peri-urban participants, in contrast to urban participants who owned smartphones, had limited access to calorie and nutrition-related information on the internet. Many peri-urban residents owned Nokia mobile phones and were concerned about data usage due to limited data plans, leading to smartphones being used primarily for social communication rather than for information seeking. Furthermore, many peri-urban residents expressed a lack of knowledge about calories and nutrition, as they had not received education on these topics either at school or at home. This limited access to information and lack of knowledge on important health-related topics pose significant challenges for these communities.

Thirdly, 74.6% of urban residents in my study possessed calorie and nutritional knowledge, a significantly higher rate than what was seen amongst their rural and peri-urban counterparts. Some urban participants noted their awareness of the health consequences of consuming high-fat, high-sugar foods. This awareness had resulted in consumer concerns

regarding the risks associated with these foods, especially the risks associated with obesity and overweight.

In contrast to their urban counterparts, peri-urban *ger* dwellers, both younger and older adults, were often unable to participate in shared meals as a means of cultivating personal or professional relationships. While urban residents frequently described communal dining as a strategy for career advancement and social networking, peri-urban participants faced significant budgetary and time constraints that limited such opportunities. Nevertheless, many were fully aware of the considerable benefits of collaborative networks, which they regarded as essential for job security.

Despite prolonged residence in the capital, peri-urban participants, particularly older adults, continued to rely primarily on long-standing ties with family, relatives, and acquaintances to secure employment. Unlike urban residents, who often formed new connections through workplace or social dining, peri-urban dwellers remained dependent on established kinship and community networks, reflecting a more conservative approach to social and professional engagement.

Peri-urban participants' everyday food practices also differed from those observed in rural and urban settings. Whereas rural households engaged in routine food sharing within tightly knit kinship circles, and urban residents increasingly experimented with modern food trends and diverse dining spaces, peri-urban dwellers tended to inhabit socially and economically homogenous neighbourhoods. This relative isolation limited their exposure to non-traditional recipes and contemporary food practices, reinforcing adherence to more conventional patterns of home-based cooking and eating.

Financial considerations further constrained the adoption of urban-style dining practices. Several peri-urban participants noted that restaurant meals were prohibitively expensive, often costing at least twice as much as home-cooked or pre-prepared alternatives. As a result, dining out was rarely a viable option, reinforcing reliance on traditional meal preparation within the household and limiting engagement with broader culinary trends.

Similar food selection, calorie and nutritional knowledge amongst study participants seemed to be associated with their cultural and social identity, as well as personal values and beliefs derived from nutritional education and knowledge. Some participants reported taking notes on the calories or the types of foods they consumed on their smartphones. One of them said this prevented overeating and allowed her to eat less the following day if higher calories than ideal had been consumed. Such daily management of calorie intake was only common among a few urban women (n=3).

Although one of these participants had a six-year-old boy, she said she only monitored calorie intake for herself and not for her child. However, she said her son was already curious about calories and sometimes asked her about them. Children in some participating households in urban areas seemed to be aware of calories and nutrition to some extent before starting school, which was unlikely to happen in rural and peri-urban Mongolia, where the majority of adults were not familiar with the concepts of calories and nutrition.

Throughout human history, populations have developed numerous strategies for meeting their nutritional needs through the consumption of available plants and animals (Nestle, 2013: 414). Apart from breast milk, no single food is without limitations or entirely essential; by combining different foods, individuals are able to construct diets that support health while reflecting their cultural, ethnic, or religious practices (ibid).

Following the decline of major deficiency diseases by the end of World War II, nutrition research increasingly focused on the role of diet in the prevention and management of chronic illnesses. Researchers began to highlight the risks associated with overweight and obesity (Nestle, 1993). Consequently, maintaining good health has become a central concern in modern life, with illness prevention serving as a benchmark against which many behaviours and social phenomena are assessed, as observed by Crawford.

Nutrition as a field has evolved into an ostensibly objective framework for understanding the relationship between food and health (Biltekoff, 2013: 174). Biltekoff (2013: 181) emphasises that nutrition extends beyond the provision of information; it is framed as a moral and social obligation, encouraging individuals to use knowledge of diet for self-improvement and enabling moral evaluation of themselves and others.

In the Mongolian context, however, access to such information remains uneven, particularly among residents of rural and peri-urban areas, limiting opportunities for informed dietary choices and health optimisation. This gap underscores the importance of examining local food practices and dietary behaviours across rural, peri-urban, and urban settings.

As discussed in Chapter 4, the relationship between calorie and nutritional knowledge and exercise was statistically significant, $\chi^2 (1) = 12.847; p < .001$. The participants who exercised at least once a week were more than twice as likely to be familiar with calories and nutrition (*odds ratio* = 2.59). I also observed that the majority of these individuals resided in urban areas. Additionally, I found that obesity rates were higher among peri-urban men, most of whom did not have calorie and nutritional knowledge.

Studies conducted in multiple countries, including Brazil (Valmórbida et al., 2017), China (Ma & Schluter, 2023), and Cyprus (Akkartal & Gezer, 2020), have identified a clear association between body mass index (BMI) and levels of nutritional knowledge.

In 2018, Puthiyamadam et al. conducted a systematic review demonstrating the effectiveness of comprehensive nutritional education programmes in reducing childhood obesity. These programmes, which incorporated changes to school nutrition policies alongside parental education, were found to reduce obesity rates by up to 50% in a cohort of 22,000 participants. Furthermore, participation in the programmes led to an increase in physical activity levels of up to 12%.

Parizkova (2008: 30) argues that the most effective strategy for addressing obesity lies in prevention through education and intervention. Given the limited understanding of calories and nutrition in rural and peri-urban Mongolian regions, the implementation of targeted food education initiatives has significant potential to reduce obesity rates, which are currently higher than those in all other East Asian countries.

6.4.2. GENERATIONAL VARIATIONS IN CALORIE AND NUTRITIONAL KNOWLEDGE

In my sample, younger adults in all three regions were more likely than older adults to have calorie and nutritional knowledge. The relationship between calorie and nutritional knowledge and age group (younger < 37; older ≥ 37) of adult participants was statistically significant, $\chi^2(2) = 8.905, p < .005$. Younger adults were nearly twice as likely to have calorie

and nutritional knowledge than older adults in all three regions combined (*odds ratio* = 1.99). In urban regions, 80.2% of younger adults and 66.7% of older adults had calorie and nutritional knowledge.

Younger adults were twice as likely as older adults to have calorie and nutritional knowledge (*odds ratio* = 2.03). In peri-urban regions, 7.6% of younger adults and 4.0% of older adults had calorie and nutritional knowledge. Likewise, in rural regions, more younger adults (3.0%) than older adults (1.4%) had calorie and nutritional knowledge even though the difference was subtle.

Moreover, there was a significant relationship between occupation and knowledge of calories and nutrition amongst urban participants in my study. Specifically, the findings revealed that in urban regions, the majority of students (80%) and qualified workers (75.3%) possessed knowledge of calories and nutritional content. However, it was concerning to note that only a small percentage of skilled workers (16.7%) in urban regions had any knowledge in this area. Despite living in the same area, people had different levels of awareness when it came to calorie consumption and nutritional values. Interestingly, in both urban and peri-urban areas, students were found to have the most familiarity with calories and nutrition, while skilled workers were the least knowledgeable in this area.

My research findings indicate that in peri-urban regions, a mere 25% of students and only 5.6% of skilled workers had adequate knowledge of calories and nutrition. Only one qualified worker in my peri-urban sample possessed calorie and nutrition knowledge. This means that many individuals in the workforce in peri-urban regions were not well-informed regarding calories and nutrition, which was possibly related to their upbringings in rural nomadic households. This suggests the influence of current occupation and educational background on shaping people's understanding of nutrition. These findings are concerning,

particularly when considering the potential long-term effects of inadequate nutritional knowledge on individuals' health.

This finding also highlights the need for improved nutrition education programmes for skilled workers in peri-urban areas. Such individuals may not have received adequate exposure to such topics during their formal education, in contrast to their counterparts in urban areas who reported learning about calories and nutrition at home, in private schools, or during their time studying abroad.

These findings reveal the unequal distribution of food education amongst people with differing levels of educational opportunity. The calorie and nutrition knowledge urban study participants possessed may have contributed to the lower prevalence of obesity amongst them, despite their greater meal frequency and financial access to a wide range of food items compared to their rural and peri-urban counterparts.

During my research interviews with participants, one interesting finding was related to the level of calorie and nutritional knowledge amongst students and graduates who have attended either private or international schools in comparison to those who have attended Mongolia's public schools. Rural nomads and peri-urban residents in skilled professions did not hold university degrees or possess private school credentials. This potentially underlies their lack of familiarity with calories and nutrition.

Some participants reported that nutrition education in public schools in Ulaanbaatar only began in autumn 2018, whereas it had already been a part of the education programmes in many private schools and international schools in the city for years. Some urban participants reported that private schools and international schools they attended offered formal and

informal food education opportunities such as lunchtime programmes, summer schools, and after-school activities.

Meanwhile, none of the peri-urban residents attended these types of schools. This could explain why students and graduates from private and international schools demonstrated more advanced knowledge of calories and nutrition. Considering these factors, it is not surprising that many of the younger adult participants reported that they first learnt about calories and nutrition at school, rather than through their family or friends.

I also found that some urban students learnt about calories and nutrition while studying abroad in countries such as Australia, Japan, and the United States. Most of the participants who had long-term study-abroad experience were graduates of private schools or international schools, except for one participant whose study abroad programme in Japan was fully funded by the Japanese government. It was almost exclusively younger adult participants who reported study abroad experience, though three older adults also reported the experience of studying abroad.

I also observed that many school-aged children attended schools where they primarily interacted with peers from similar social and economic backgrounds. The lack of interaction and information exchange amongst people residing in different residential areas in Ulaanbaatar may have resulted in the perpetuation of regional disparities in nutritional knowledge amongst adult Mongolians.

During my interviews, subjects who had graduated from private schools also placed a strong emphasis on the importance of eating a balanced meal to achieve optimal health outcomes by utilising their calorie and nutritional knowledge. However, it is worth noting that

some of these same graduates have also admitted that their eating habits were often more influenced by their emotions and desires than by their nutritional knowledge.

Despite their comprehensive understanding of calories and nutrition, some reported that they still struggled to maintain healthy dietary habits in practice. This finding highlights a growing concern - that establishing a clear link between obesity and nutritional knowledge is far from straightforward and may be influenced by a host of additional factors.

According to some participants, food education in Mongolia was launched at public schools for the first time in 2018. Therefore, the number of Mongolians who have calories and nutritional knowledge is likely to increase, especially in urban and peri-urban areas, in the coming decades. Although my research primarily focused on the dietary habits and nutritional knowledge of adults, it is essential for future research to examine the eating patterns of adolescents as well.

During my research, many participants mentioned that their adolescent children had different norms, preferences, and knowledge about healthy foods. By investigating the dietary habits of this age group, we can gain a better understanding of their food preferences, food choices, and the nutritional knowledge they possess, all of which could provide valuable insights into the factors that influence their dietary choices and body size.

Adolescence is a critical period in the development of eating habits that can impact an individual's health throughout their lifespan (Canavan & Fawzi, 2019). Specifically, poor dietary habits and limited physical activity in adolescence can lead to noncommunicable diseases such as hypertension, diabetes, and obesity in adulthood (ibid). Researching adolescents would provide us with a more detailed account of their dietary habits and how they relate to their calorie and nutritional knowledge.

6.4.3. SECTION CONCLUSION

The results from this study revealed that there were variations in levels of calorie and nutritional knowledge amongst different geographical regions. In particular, participants living in urban areas had significantly higher odds of possessing such knowledge than those residing in rural areas. This research reveals that currently, only the urban wealthy in Mongolia, who have access to private educational institutions, are benefiting from nutritional information, while the rest of the population still needs to be made aware.

Interestingly, the study also observed that younger adults in all three regions demonstrated greater calorie and nutritional knowledge than their older counterparts. This knowledge gap could be influenced by various factors, including differences in educational opportunities, access to nutritional information, and cultural beliefs about food and health. It is crucial to ensure that this knowledge is accessible to all members of the Mongolian population, irrespective of their sociodemographic circumstances, including age, place of residence, or level of education.

Furthermore, my interviews also underscore the high-pressure work environment commonly found in urban areas, where both younger and older adults often turn to food as a way of relieving stress (сресс), even if only temporarily. It is worth noting that while the interviews did not explicitly focus on stress, anxiety, and insomnia, these subjects arose during conversations with individuals living in urban and peri-urban regions, regardless of their age.

Conversely, none of the nomads interviewed mentioned these issues. This suggests a possible link between urban lifestyles and a greater likelihood of experiencing stress-related health issues. Some individuals in the capital city used food consumption as a way to deal with

or divert attention from challenging situations. In such cases, their understanding of calories and nutrition did not necessarily lead to healthier food choices.

Moreover, a recent study by Chimedtseren et al. (2022) revealed that Mongolian consumers make limited use of nutrition label information when grocery shopping. The study found that only half of the participants in Ulaanbaatar reported consulting food labels, with the primary purpose being to check expiry dates rather than nutritional content.

Current Mongolian legislation permits labels in English and Russian; however, Chimedtseren et al. (2022) suggest that providing labels exclusively in Mongolian, coupled with public education on nutrition labelling, could enhance their utilisation.

Food education was introduced in Mongolian public schools in 2018, and it is anticipated that knowledge of calories and nutrition will increase, particularly in urban and peri-urban areas, in the coming years. Nevertheless, evidence indicates that awareness of nutritional information does not automatically translate into healthier food choices. Further research is therefore required to understand how individuals apply this knowledge in their daily food selection and consumption.

6.5. CHAPTER CONCLUSION

The research indicates that individual dietary habits, such as food commensality, meal frequency, and nutritional knowledge, vary more by region than by generation in Mongolia. This suggests that eating behaviours are shaped more by work and living environments, as well as the availability of food items, than by age group. The findings support the notion that factors

such as cultural traditions, financial status, and access to specific foods play a particularly significant role in shaping the dietary practices of people in a given area.

The food environment of a community, influenced by both social and human-built contexts, is crucial in determining the accessibility, availability, and adequacy of food (Mah et al., 2016; Mah et al., 2019; Whelan et al., 2018). While individuals make dietary choices based on personal preferences and education (Swinburn et al., 2013), this study suggests that the local food environment exerts a stronger influence on behaviours such as commensality and meal frequency. These behaviours differed markedly between rural areas and both urban and peri-urban Ulaanbaatar.

Changes in dietary habits driven by the globalisation of food supply and consumption patterns have been linked to rising obesity rates (Hawkes, 2006; Kjellstrom et al., 2007). Within the study sample, variations in obesity and distinct dietary patterns were observed between urban and peri-urban Ulaanbaatar, indicating that the effects of food globalisation are unevenly distributed across the capital. Urban and peri-urban participants demonstrated significantly different food practices, likely influenced by socioeconomic status and nutritional knowledge, which in turn shaped their unique dietary habits. Despite some older participants' belief that Mongolian food preferences were uniform across regions, the study demonstrates that modern Mongolia exhibits distinct patterns in food commensality, meal frequency, caloric intake, and nutritional knowledge.

I also observed that there was a difference in nutrition knowledge between generations, with younger adults possessing more nutritional knowledge than the older generation in all three areas studied. This indicates that younger generations are more aware of the importance of good nutrition and have access to more sources of nutritional information. However, the rates of obesity in the sample were found to be higher amongst younger adults than amongst

older counterparts (see chapter 4), suggesting that education on calories and nutrition alone may not be sufficient to maintain a healthy weight in my sample.

Moreover, as highlighted by Willams-Forson and Counihan (2012), several factors influence dietary choices, including health, convenience, nutrition, personal values, and economic considerations. Within the study sample, health and nutrition were prioritised only when individuals had the time, knowledge, and physical and financial means to access and prepare such foods. Notably, these factors appeared to be predominantly taken into account by affluent urban participants and were scarcely considered by others. Variations in educational and socioeconomic background within regional sub-groups may have led to greater regional differences in food habits, meal frequency, and nutritional knowledge, while generational differences within the same regional subgroups were subtle or negligible.

The nuanced variations across different age groups in terms of food practices may signify gradual changes in the societal outlook, values, and behaviours related to food in contemporary Mongolia. Understanding these changes and their association with generational differences is essential to comprehending the factors influencing dietary choices and the enduring impact of preferred food practices on body size.

Although my research primarily focused on the dietary habits and nutritional knowledge of adults, it is essential for future research to examine the eating patterns of adolescents as well. During my research, many participants mentioned that their adolescent children had different norms, preferences, and knowledge about healthy foods than adults.

This observation highlights the need to explore the dietary behaviour of adolescents more comprehensively. Adolescence is a critical stage in the formation of eating habits that can impact an individual's health throughout their life, and poor dietary habits and insufficient

physical activity during adolescence can lead to obesity and diabetes in adulthood (Canavan & Fawzi, 2019). Therefore, in addition to consistently examining younger and older adults, studying adolescents would yield a more comprehensive understanding of their distinct dietary behaviours and how these behaviours may be linked to factors such as age, obesity, and diet.

CHAPTER 7 – CONCLUSION AND DISCUSSION

7.1. DISCUSSION

In conclusion, this study demonstrates significant associations between migration, regional context, and dietary behaviours in Mongolia. Firstly, in Ulaanbaatar, men residing in peri-urban areas exhibited higher BMI values compared with those in other regions (Table 4.2), although this difference did not reach statistical significance. By contrast, internal migrants were found to have significantly higher BMI, with overweight and obesity more prevalent among this group than among non-migrants, $\chi^2(1) = 4.871, p < .05$ (Table 4.18). These findings indicate that elevated BMI is closely linked to internal migration. Secondly, distinct regional differences were observed in dietary practices, particularly regarding seasonal food consumption, meal frequency, and cooking frequency, across rural, peri-urban, and urban settings. Thirdly, behaviours such as food commensality and meal frequency were more strongly associated with regional context than with generational differences. This suggests that lifestyle patterns, occupational settings, and food availability within specific areas exert a greater influence on eating practices than age. By integrating statistical evidence with qualitative perspectives, this mixed-methods approach provides a nuanced understanding of how migration and regional context interact to shape dietary patterns and influence nutritional risk.

My first research question examined whether there are discernible differences in BMI levels among Mongolians based on their place of residence. Statistical analysis revealed that, in Ulaanbaatar, internal migrants were nearly twice as likely to be overweight or obese compared to non-migrants in the sample, as detailed in Chapter 4.

Many peri-urban men work in physically demanding occupations, such as construction or cooking, which require greater physical activity than the largely sedentary, office-based work common among urban adults. Despite this, peri-urban men exhibited higher obesity rates. This is particularly concerning given the financial constraints and job instability faced by many, owing to the temporary and seasonal nature of their employment and limited opportunities for upward financial mobility, as outlined in Chapter 3.

Several studies have identified stress as a key factor in the development and persistence of obesity (Van der Valk et al., 2018; Scott et al., 2012; Kumar et al., 2022; Tomiyama, 2019). Emotional eating is associated with psychological conditions such as depression and anxiety, unhealthy dietary patterns, and an increased likelihood of overweight and obesity (Dakanalis et al., 2023). Prolonged periods of stress, depression, or sadness have been shown to prompt individuals to consume food in excess of nutritional recommendations and at an accelerated rate (Devonport et al., 2019).

Relocating to a new environment can be an exhilarating experience for some peri-urban residents. Given that migration in this context is almost exclusively from rural to urban areas, most urban participants had never experienced relocation from urban to rural settings within Mongolia. Consequently, the transition into life in Ulaanbaatar was a unique experience for peri-urban residents and may contribute to higher stress levels and obesity among adults in this group, many of whom were rural–urban migrants.

In certain respects, rural–urban migrants can be understood as existing in a state of liminality. Liminality refers to a transitional phase in which individuals or groups occupy an intermediate position between distinct social roles or states of being, characterised by ambiguity and the suspension of established societal norms.

The concept was first introduced by Arnold van Gennep (1960) in his theory of rites of passage, which identifies three stages: separation, liminality, and reincorporation. The liminal phase represents a period of disorientation, in which participants are neither fully integrated into their previous identity nor entirely incorporated into a new one.

Victor Turner (1969, 1974) subsequently expanded upon van Gennep's theory, emphasising the transformative potential of the liminal phase. He argued that the temporary breakdown of social hierarchies during this stage facilitates the re-evaluation and reconstruction of self-identity, providing individuals with opportunities for both personal and social transformation. Nonetheless, the ambiguity inherent in liminality can also provoke feelings of confusion or dislocation, as individuals navigate their position within this "in-between" state (Turner, 1969).

Further exploration of this concept would be valuable for anthropologists and qualitative researchers interested in the transitional experiences of migrants. It is important to note, however, that liminality is not limited to rural-urban migration, but rather applies to a variety of social contexts. For instance, adolescents entering adulthood often undergo a liminal phase, as they are neither fully children nor fully adults.

Similarly, individuals undergoing rites of passage, such as circumcision or vision quests, experience a temporary suspension of identity, during which their role within society remains ambiguous. Liminality can also be observed in significant life transitions, such as retirement, where individuals may feel they are neither active members of the workforce nor yet fully aligned with their new role as retirees.

Furthermore, Zygmunt Bauman (2000) extends the concept of liminality to the contemporary social landscape, suggesting that modern life is increasingly characterised by fluidity and continuous transitions. In this context, individuals often find themselves inhabiting

liminal spaces as traditional social structures and roles become more fragmented. Similarly, Philippe Bourgois (1995) explores how marginalised groups, such as drug dealers in East Harlem, occupy a liminal position, caught between mainstream society and the criminal underworld, constantly negotiating their identities in response to exclusion and societal norms.

Application of the concept of liminality to rural-urban migrants, or indeed, to a broader range of transitional states, offers an intriguing avenue for further research, particularly within the context of migration, identity formation, and social integration. By examining these “in-between” states, scholars may gain valuable insights into the complexities of human experience during periods of transition.

The elevated obesity rates amongst peri-urban men observed in this study is consistent with similar outcomes in other developing nations such as Uganda and Bolivia. For instance, a population-based survey in Uganda revealed a higher prevalence of obesity in peri-urban areas (17.8%) compared to rural areas (3.9%) (Kirunda, et al., 2015). Similarly, in Bolivia, residing in peri-urban areas was linked to increased odds of overweight and obesity within the same family, such as in households with an overweight woman and a stunted child, a situation which is much rarer in urban and rural areas (Jones et al., 2018). Although the reasons for the higher obesity rates in peri-urban areas are not explicitly identified in these studies, they emphasise the importance of understanding how the environment influences nutritional outcomes, which could guide comprehensive policies addressing both obesity and undernutrition.

In my sample, dietary behaviours such as seasonal food consumption, food sharing, food selection criteria, and nutritional knowledge amongst peri-urban adults fell between those of rural and urban adults, as discussed in detail in Chapters 5 and 6. It is worth noting that while

India has seen rapid urbanisation and improved infrastructure, blurring the distinctions between rural and urban areas (Denis et al., 2012; Pingali et al., 2019), Mongolia still experiences clear differences in access to food outlets and food consumption habits between rural and urban areas, as outlined in Chapters 1, 3, and 5 of this study. Through my interactions with participants, I noted the absence of a settled rural way of living in Mongolia, unlike in urban and peri-urban areas. These distinct lifestyles may have resulted in varied regional characteristics of dietary behaviours between rural and urban areas in modern Mongolia, as detailed in Chapters 4, 5, and 6.

In addition to peri-urban men, other participant subgroups, including married adults and internal migrants of both sexes, exhibited an increased likelihood of overweight or obesity. Marital status demonstrated a significant relationship with body mass index (BMI, kg/m²), as discussed in Section 4.5.2. Married participants were almost twice as likely to be overweight or obese as single participants, $\chi^2(1) = 4.016$, $p < .05$ (see Table 4.14). This association was particularly marked among women, where marital status and BMI (binary) were significantly linked, $\chi^2(1) = 5.060$, $p < .05$. Single women were more than twice as likely as married women to have a normal BMI (odds ratio = 2.25) (see Table 4.15).

Internal migration was also associated with higher BMI. Participants with internal migration status were nearly twice as likely to be overweight or obese as non-migrants, $\chi^2(1) = 4.871$, $p < .05$. Among residents of the ger districts, 92.0% were internal migrants, compared with 14.3% of participants in formal urban areas. Within this migrant group, 74.0% were overweight or obese, compared with 60.5% of non-migrants (see Table 4.18).

Obesity prevalence was higher among young adults than older adults in the sample, although this difference was not statistically significant. This contrasts with global trends indicating higher obesity rates amongst older populations (CDC, 2023; NHS, 2020). The

pattern may reflect urban dietary behaviours among young adults, such as stress-related eating and reduced commensality, as discussed in Chapters 4, 5 and 6. If sustained, these behaviours could contribute to increasing obesity rates among Mongolians over time, though this remains speculative.

Moreover, a critical disparity in knowledge about calorie intake and nutritional value between peri-urban and urban adults was highlighted in this study. Chapter 6 revealed that only 6.2% of peri-urban participants possessed this essential knowledge, potentially contributing to the high obesity rates seen amongst peri-urban men and the second-highest rates amongst peri-urban women in the sample. This knowledge gap is particularly alarming, given that peri-urban residents have access to a wide variety of food products in greater quantities throughout the day and year, unlike their rural counterparts, who lack consistent access to diverse food sources. Although there is no direct evidence, this lack of knowledge could potentially lead to weight gain amongst peri-urban residents, potentially contributing to higher obesity rates in the long term. The scarcity of studies conducted in peri-urban areas compared to urban and rural areas in relation to obesity makes these findings of higher obesity rates in peri-urban men particularly valuable in shedding light on an understudied field.

Air pollution has long been a significant concern for the residents of Ulaanbaatar. During the initial stages of my fieldwork, I did not anticipate any direct connection between air pollution and obesity. However, throughout the course of structured and semi-structured interviews conducted, pollution emerged as a recurring topic of discussion, despite not being explicitly addressed in the interview questions.

Participants, across various demographics, frequently linked concerns about pollution to a perceived decline in outdoor physical activity. This was particularly evident in a reluctance to engage in exercise routines such as running, walking, and yoga. Notably, cycling did not

appear as a viable alternative for most participants, as bicycle ownership was uncommon among those I interviewed in Ulaanbaatar. These findings suggest that the intersection of air pollution and physical activity in urban Mongolia merits further ethnographic exploration.

There is an urgent need for research examining the potential effects of air pollution on rural-to-urban migrants residing in Ulaanbaatar. The city consistently ranks amongst the most polluted urban centres globally, particularly during the winter months. This is largely due to the widespread use of raw coal and other solid fuels for heating in the ger districts, where many of the city's poorer populations reside (Soyol-Erdene et al., 2021; Nakao et al., 2017).

Recent studies have confirmed that the combustion of residential coal is the primary source of wintertime air pollution, with household stoves and low-pressure boilers contributing up to 80% of particulate matter (PM_{2.5}) emissions (Allen et al., 2013; Amarsaikhan et al., 2020). These emissions result in concentrations of fine particulate matter that frequently exceed World Health Organization (WHO) air quality guidelines, posing serious health risks. Chronic exposure to such pollutants has been linked to a range of adverse health outcomes, including impaired respiratory function and diminished reproductive health (Enkhmaa et al., 2019; Jadambaa et al., 2021).

Despite the implementation of policy measures, such as restrictions on the use of raw coal, pollution levels in Ulaanbaatar remain critically high during the winter months (Chisholm et al., 2021). Emerging studies suggest a possible link between air pollution and obesity, although the evidence remains inconclusive. Some research reports a positive correlation between pollutants such as PM_{2.5} and nitrogen dioxide (NO₂) and an increase in body mass index (BMI), while other studies observe no significant effects (Luo et al., 2020; Wang et al., 2023; Chen et al., 2024). Genetic factors, as well as biological mechanisms such as

inflammation and metabolic disruption, may further complicate the relationship between air pollution and obesity (Cai et al., 2020; Ghosh et al., 2021).

Given the widespread concern about air pollution in Ulaanbaatar and its potential impact on physical activity, further studies investigating the association between air pollution and obesity, as well as its effect on outdoor exercise, would be particularly valuable. Such research is essential for understanding the broader health implications of environmental factors in the context of urban Mongolia.

This study's second research question was aimed at exploring whether differences exist in Mongolian dietary practices and food consumption based on place of residence. There was a statistically significant relationship between degree of seasonal food consumption, meal frequency, frequency of cooking in a week, and the areas (rural, peri-urban, and urban) subjects lived in, revealing noteworthy regional variations in dietary behaviours across different Mongolian regions.

In my sample, regional similarities in dietary practices were rarely found between rural and urban Mongolians, as the two groups had distinct dietary habits. Specifically, urban dwellers displayed lower levels of seasonal food consumption, higher meal frequency, and less home cooking than their rural counterparts. Meanwhile, the dietary practices of peri-urban subjects often fell between those of rural and urban Mongolians, possibly due to their rural upbringings and current residence in the peri-urban areas around the capital city.

These regional disparities in dietary behaviours observed in Mongolia could be seen as reflective of varying norms and strategies best suited to the local food environment and the priorities of the populace. For example, seasonal food consumption, prevalent in rural areas, is intimately tied to the sustainability of nomadic lifestyles reliant on livestock, whereas seasonal

consumption is more optional for urban and peri-urban residents in Ulaanbaatar. These regional variations could be interpreted as distinctive dietary habits that align with the local environment, enabling the population to thrive and sustain their unique ways of living. Nestle (2013) points out that in order to meet the expectations of shareholders, the food industry increases the sizes of food products, leading to food environments that encourage overeating. This shareholder-driven food environment appears to be specific to urban Mongolia and may have led to an increase in the frequency of meals there.

These regional differences in the abovementioned food behaviours found in this study are consistent with a study (Mah et al., 2016; Mah et al., 2019; Whelan, et al., 2018) that highlights the significant influence of social and human-built environments on the food environment of a community or region and their role in determining the accessibility, availability, and adequacy of food within a specific area.

Specifically, in rural areas examined in this study, meal frequency was largely determined at the household level, with limited food choices and fewer meals per day being common amongst rural nomads. In contrast, urban and peri-urban subjects had the freedom to make daily meal decisions based on their schedules and financial statuses. Food choice freedom does not necessarily reduce stress or alleviate the pressures of a stressful work environment. While the ability to make daily meal decisions offers autonomy, it is not always synonymous with a stress-free lifestyle. Many people with the freedom to choose their meals still face time constraints and other stressors that make food decisions feel burdensome.

The freedom to choose one's food is often perceived as empowering; however, it can also introduce stress. While having the autonomy to select food allows for personal choice, it can lead to decision fatigue and overwhelm due to an excess of options. Research indicates that a surplus of food choices can sometimes increase stress, particularly when individuals feel

pressured to make the "right" decision or meet specific dietary goals (Iyengar & DeVoe, 2003). This tension between freedom and overwhelm is often exacerbated by the mental load of constantly deciding what to eat, resulting in what is known as choice overload (Chernev, 2003).

Moreover, food choices are frequently influenced by social norms and cultural expectations, which can add another layer of stress. For example, individuals may feel compelled to follow specific diets or health trends, even when they have the freedom to choose. This external pressure can create anxiety around food, shifting the focus from personal preference to conforming to social standards (Polivy & Herman, 2002). On the other hand, those who feel liberated from these pressures often experience reduced stress and greater satisfaction with their food choices (Sobal & Bisogni, 2009).

The relationship between freedom and stress is also evident in the context of health-related food decisions. For individuals managing chronic health conditions or striving towards specific dietary goals, the freedom to choose can become stressful if there is concern about the nutritional quality of their selections (Micha et al., 2017). However, those who possess the tools and knowledge to navigate food choices confidently may find that autonomy in their decisions actually reduces stress, contributing to a sense of well-being (Fay et al., 2021).

Lastly, the emotional aspect of food adds further complexity to the dynamic between freedom and stress. While some individuals may experience stress related to emotional eating or guilt about their food choices, others may find greater freedom in making food decisions detached from emotional triggers. This leads to a more relaxed and balanced relationship with food (Vitousek, 2005). Overall, the coexistence of stress and freedom in food choices depends on a person's ability to manage external pressures, the cognitive load of decision-making, and their emotional attachment to food.

Moreover, the proximity to local food outlets allowed urban and peri-urban residents to enjoy varying numbers of meals daily, ranging from three or more to just two or one, depending on individual preferences and schedules. Research on the correlation between meal frequency and indicators of obesity has not yet yielded a definitive conclusion. Some cross-sectional studies (Drummond, et al., 1998; Lioret, et al., 2008; Ma, et al., 2003; Ruidavets, et al., 2002; Toschke, et al., 2005) have suggested a negative relationship between regular meal consumption and metrics such as body weight, body mass index (BMI), or percentage body fat, while other studies (Andersson et al., 2000; Duval et al., 2008; Hartline-Grafton et al., 2010; Howarth et al., 2007; Mills et al., 2011) have found no discernible links. Conducting additional research on meal frequency and obesity amongst Mongolians will not only benefit Mongolian communities but also contribute to broader societal knowledge, and further exploration of the potential effects of increased daily meal frequency amongst urban residents on their weights in the longer term is crucial.

Additionally, some urban residents in this study highlighted deviations in dietary preferences from their parents. Conversely, many rural nomads emphasised the enduring nature of their dietary practices, reflecting traditions passed down through generations. When it comes to peri-urban residents, some had continued to practise traditional seasonal food consumptions, whereas others had adopted and developed new food practices and pb after coming to Ulaanbaatar. The overall findings indicate that regional differences amongst participants were more pronounced than similarities and overlapped across all three areas studied.

Considering the burgeoning urban population in Mongolia as reported by various studies (Asian Development Bank, 2022; Byambadorj et al., 2019; FAOSTAT, 2021; IOM, 2023), these findings underscore potential shifts in dietary behaviours, particularly within

urban areas, and highlight the importance of further research, especially focusing on Ulaanbaatar residents, both long-time locals and newcomers.

Finally, the third research question was aimed at exploring variations in food practices related to age, encompassing the factors used for food selection, the social aspect of dining, and knowledge about nutrition, as well as potential connections to obesity. This study concluded that individual behaviours such as food selection criteria, calorie and nutritional knowledge, and food commensality were not influenced by generational differences. Instead, statistically significant variations were observed amongst different regions in Mongolia (rural, peri-urban, and urban areas) in relation to these food-related factors.

My ethnography research has also shown that for many in urban areas, regardless of their generation, food choices, along with food commensality, can be interpreted as a reflection of their values, beliefs, and social status, and could also serve as an indicator of their identity, including their sense of belonging to a particular region. This aligns with studies showing that symbolic and social meanings of food are closely connected to identity (Polese et al., 2020; Vivanco, 2018; Lum & De Ferrière le Vayer, 2016; Albon, 2013; Cheung & Chee-Beng, 2007; Leynse, 2006; Castellanos & Bergstresser, 2006), social relationships (Hemmings et al., 2016; Tierney & Ohnuki-Tierney, 2012; Cheung & Chee-Beng, 2007), and divisions and social boundaries (Vivanco, 2018; Tierney & Ohnuki-Tierney, 2012). These study findings align with the diet and dietary behaviours of urban and peri-urban residents in Ulaanbaatar, even though they are less applicable to their rural counterparts. It can be inferred that the dietary behaviours of those in Ulaanbaatar have more similarities with others across the world, whereas those of rural nomads are rather unique and more distinguishable from dietary behaviours in other parts of the world. As discussed in Chapter 5, it can be inferred that the dietary behaviours of individuals in Ulaanbaatar share similarities with those in other urban centres around the world.

For example, one participant in the interviews described a light breakfast as being “similar to [breakfasts] in other countries like the U.S.” In addition, it became evident through interviews that during times of stress, participants in Ulaanbaatar sought comfort in non-Mongolian foods such as pizza, hamburgers, and French fries. These foods were often consumed alongside beverages like teas (e.g., Assam and Darjeeling from India), milkshakes, smoothies, coffee (with Ethiopian coffee being a particular favourite for some urban participants), hot chocolate, and bubble tea from Taiwan.

These global food items and beverages were frequently mentioned in the interviews, whereas rural nomads did not reference these foods at any point during the study. Notably, foods like pizza and hamburgers (the former originating in Italy and the latter in Hamburg, Germany, though popularised in the United States), as well as international beverages like coffee, are now deeply integrated into urban Mongolian life. This pattern reflects a broader globalisation of dietary preferences, where urban centres, such as Ulaanbaatar, exhibit dietary behaviours that are more aligned with those found in other major cities worldwide. In contrast, rural nomads in Mongolia, with less exposure to global food cultures, maintain more traditional eating habits, which were not influenced by these global trends.

This comparison further highlights the divide between urban and rural dietary behaviours in Mongolia, where urban populations in Ulaanbaatar are exposed to and incorporate a wide range of foods and beverages from across the globe, in contrast to the more traditional, locally based food practices observed in rural areas. Eating per se is a multi-dimensional act that entails an intricate and nuanced representation of relationality (Abbots & Lavis, 2013), and urban participants seemed to have more layers and nuanced meanings of their

diets and dietary behaviours than did their rural and peri-urban counterparts, possibly because of their greater physical and financial access to the widest range of foods.

Amongst urban Mongolians, a diverse range of international dishes and culinary delights have achieved an unprecedented level of acclaim and popularity, particularly for their convenience, availability throughout the year, and exceptional flavour profiles that captivate the palates. The higher social and economic status of urban residents were acknowledged by study participants in all three areas, including rural nomads. In this sense, food is not just a source of sustenance, but also a way to express one's cultural and social identity.

Although many rural nomads in my sample viewed foreign dishes and imported food products such as pizza and pasta as peculiar and exotic and some even had an instinctive dislike of such food products, many younger urban residents readily embraced and consumed such foods. Numerous wealthy younger urban subjects appreciated the escalating varieties of food available locally and across the world, which were unobtainable during the socialist era and still remained unavailable for the less wealthy in the city or their rural counterparts.

The introduction of some types of food to Mongolia after the dissolution of the Soviet Union, including chicken, corndogs, and pizza, which older participants had not grown up eating, were sometimes seen as a symbol of urban living that entails modernity, advancement, and economic development linked to higher social status in present-day Mongolian society. For these urban participants, the consumption of foreign dishes and food items was a way to reflect and validate their identities, which were often tied to urban values and economic advancement. Some urban residents noted that the wealthy in urban areas often initiated new traditions in culinary practices and other cultural aspects, which were later adopted by the rest

of the city. This suggests that current food practices in urban regions may eventually become new dietary norms for other Mongolians residing in peri-urban areas, indicating an ongoing evolution of food consumption behaviours in Ulaanbaatar. This stands in contrast to the study's findings in rural Mongolia where only traditional dietary behaviours were observed.

Moreover, this study found that younger and older adults in rural areas possessed similar food-sharing experiences, with no inter-generational effects evident in this subgroup. However, in urban and peri-urban areas, some unique characteristics in the food commensality of younger adults were found through interviews, even though the generational differences between younger and older adults were statistically non-significant. For example, some younger adult subjects in urban and peri-urban areas had developed certain non-traditional eating habits such as eating alone while using phones or listening to music. These behaviours have been found to be associated with an increased calorie intake, as reported in previous studies conducted by Stroebele and Castro in 2006 and Gonçalves et al. in 2019, although this correlation was not observed in my study. Nevertheless, these dietary behaviours could potentially contribute to higher obesity rates in the long term.

Individual behaviours such as food commensality and meal frequency that are more closely linked to region than to generation suggest that lifestyle, work environment, and food availability in different regions have a greater influence on eating habits than does age group. Nonetheless, many adult participants mentioned that their children have different tastes, listing fast food items like hamburgers and French fries, as well as sweets such as cakes, macarons, and ice cream as the favourite and most frequently consumed foods of their children.

Some parents noted that their children did not enjoy drinking water and preferred juice and other sweet, flavoured drinks. Clearly, there were generational differences in dietary preferences between children and their parents, while such differences were not observed

amongst younger and older adults in this study. This finding suggests that in the coming decades, generational differences in Ulaanbaatar may become more pronounced than they were amongst adults who participated in this study. In summary, food consumption in Ulaanbaatar goes beyond mere sustenance and is equally a means of establishing social status and affirming one's distinct identity, which is closely linked to one's social and financial background and educational achievements.

This study has shown that such regional variations in dietary behaviours are more significant than generational differences and possibly associated with more varying obesity rates in different Mongolian regions in the longer term, as many children and younger adults prefer new types of foods their parents did not grow up having. The regionally different obesity rates observed in this study are particularly interesting, and the trend of obesity in different Mongolian regions over time should yield increased understanding of the effects of food environments and other potential contributing factors of obesity in the future.

7.2. CONCLUDING REMARKS

In this section, I will synthesise the main findings, draw together key insights from the research, and reflect on the broader implications of the study. My research has revealed notable variations in Body Mass Index (BMI) and dietary patterns among Mongolians residing in different regions. A thorough analysis of the data highlighted specific subgroups within the study participants, with peri-urban men exhibiting the highest prevalence of obesity. Furthermore, my findings provide insight into significant variations in seasonal food intake, meal frequency, and weekly cooking habits, all of which are influenced by the participants' rural, peri-urban, or urban locations.

In this regard, the inclusion of peri-urban participants, alongside rural and urban groups, as well as the introduction of new themes such as pollution, offers a novel approach to understanding public health in Mongolia. This research provides valuable insights for policymakers by challenging existing assumptions and offering a more granular perspective on the intersections of health, environment, and behaviours. While quantitative measurement undeniably holds significant weight in fields such as medicine, public policy, and health research, the anthropological approach of this study contributes to these disciplines by offering a more comprehensive and contextually sensitive analysis.

The study uncovered distinct differences in food selection criteria, nutritional awareness, and communal eating practices, which were more closely linked to participants' geographical areas of residence rather than their generational cohorts. These regional disparities in obesity rates and dietary behaviours underscore the need for more nuanced discussions surrounding diet, obesity, and food environments in Mongolia. Current research often oversimplifies these issues by grouping them under broad categories such as 'Mongolia'

or ‘Mongolians,’ thus failing to account for the complexities inherent in the diverse lifestyles of different regions.

Furthermore, the research findings reveal a significant contrast in food accessibility between rural and urban areas in post-socialist Mongolia. Residents in rural areas, who lead nomadic lives, face challenges in accessing regular food sources, while those in urban areas have access to modern food environments akin to high-income countries. These results emphasise the need for further exploration of regional dietary behaviours and their potential long-term implications for obesity. It is essential to analyse these dietary behaviours within the broader context of local food environments, food education systems, food policies, and global food systems. This comprehensive approach will provide insights into the substantial regional variations within Mongolia and the intergenerational differences in dietary practices amongst Mongolian adults.

As dietary patterns shift under the growing influence of Western food culture, facilitated by online platforms, it becomes increasingly important to conduct thorough investigations into these factors within the contemporary Mongolian context. Understanding these shifts is vital for comprehending the complexities of obesity and dietary habits in Mongolia, and the insights gained will be invaluable for healthcare professionals, policymakers, and food educators. Continuous research is essential for tracking these changes over time and for improving our understanding of the evolving dynamics at play.

While this study has highlighted important regional differences in dietary behaviours across Mongolia, it is crucial to acknowledge that BMI and dietary habits are often generalised in health, diet, and obesity-related studies due to the perceived homogeneity of Mongolians in terms of race and ethnicity. This study aimed to provide a more nuanced understanding of the similarities and differences in obesity, dietary behaviours, and sociodemographic factors

amongst Mongolians in rural, peri-urban, and urban areas. By focusing on these regional disparities within specific local contexts, this research has offered valuable insights into the dietary behaviours in different Mongolian regions.

This study also points to the need for further exploration into the complex interplay between obesity, migration, and environmental factors. Given the study's limitations, particularly the sample size and its correlational design, future research should aim to explore these relationships in greater depth. Longitudinal studies and experimental medical research focused on causality, rather than correlation, would provide a clearer understanding of the underlying mechanisms of obesity. Additionally, large-scale public health studies would offer the necessary breadth to assess the societal and environmental influences on obesity across diverse populations in Mongolia. Such research would be instrumental in developing more effective interventions and policies to address the growing obesity epidemic.

While this study respected participants' preferences, ensuring that no weight or height measurements were taken if they felt uncomfortable, including these data, where participants agreed, could have resulted in different findings. The measurement of body size was entirely voluntary, and as such, I did not record details regarding those participants who refused to be measured, nor did I make any assumptions about their body size based on visual appearance. To do so would have raised significant ethical concerns, including the potential for bias based on subjective judgments of appearance, which would be inappropriate and could undermine the integrity of the study. Moreover, collecting such data without the participants' explicit consent would not align with the ethical principles of respecting participant autonomy and privacy.

Nevertheless, the statistically significant relationships identified between seasonal food consumption, meal frequency, cooking habits, and regional location (rural, peri-urban, or

urban) provide significant insights into the regional variations in dietary behaviours across Mongolia. Including data from a larger sample, irrespective of individuals' perceptions of their own weight and height, would further enhance the accuracy of our understanding of obesity and its relationship to dietary behaviours and sociodemographic factors. Furthermore, it would facilitate a deeper exploration of how regionally distinctive food consumption practices influence obesity patterns.

Although this study provides valuable insights within the field of medical anthropology, it is, by its nature, constrained by its scope and methodology. With a sample size of approximately four hundred participants, the research combines statistical analysis with ethnographic methods, which, while offering depth, also introduces different subjectivity and a degree of informality. Despite these limitations, I hope this work contributes to the broader body of knowledge on obesity, dietary behaviours, and sociodemographic factors in Mongolia. Furthermore, it offers valuable lessons for similar studies in other regions undergoing rapid socio-economic and lifestyle transitions, particularly those involving urbanisation, rural-to-urban migration, and the growing concerns around pollution, issues that are not only pertinent to Mongolia but resonate globally.

Ultimately, this research emphasises the necessity of adopting a multidisciplinary approach to addressing complex health issues such as obesity. It calls for an integration of perspectives from medical anthropology, public health, medical sciences, and other relevant fields, in order to develop a more comprehensive understanding of the factors influencing health in contemporary society.

APPENDICES

APPENDIX SUMMARY:

INTERVIEW QUESTIONS, CODING FRAMEWORKS, AND QUALITATIVE THEMES

This appendix provides a comprehensive account of the interview questions and the analytical coding applied to participant data. The material is organised into three sections:

- **Appendix 1A:** Structured and semi-structured questions from the main data collection instrument, detailing the original response formats, coding procedures, and variable types used for quantitative analysis.
- **Appendix 1B:** Semi-structured exploratory prompts designed to inform, enrich, and contextualise the analysis. These were not subjected to quantitative analysis but generated contextually rich qualitative insights.
- **Appendix 1C:** Interpretive themes derived exclusively from qualitative interview analysis, providing depth, nuance, and contextual understanding.

Open-ended responses in Appendix 1A were systematically coded into binary, categorical, or numeric variables to enable quantitative analysis. Coding decisions, including the creation of binary and categorical groupings, are specified to ensure transparency and replicability. Semi-structured questions in Appendix 1A were also followed up with prompts, allowing participants to expand upon their responses and thus contributing both quantitative and qualitative insights.

The exploratory prompts in Appendix 1B were introduced to capture additional qualitative perspectives on issues such as environmental exposure and barriers to physical activity. These were not part of the statistical modelling but informed and contextualised the interpretation of findings. Field notes were systematically recorded to document reflections, emergent themes, and contextual observations.

Appendix 1C presents interpretive themes derived solely from qualitative analysis. These themes enrich understanding of participants' dietary practices, lifestyle choices, and decision-making processes. Illustrative quotations have been lightly edited for clarity while preserving their intended meaning.

Taken together, these appendices provide a transparent methodological record, demonstrating how structured quantitative data and semi-structured qualitative data were integrated within a mixed-methods framework. They support both the statistical analysis of key factors associated with obesity and the interpretive exploration of participants' lived experiences, ensuring methodological rigour and contextual depth.

APPENDIX 1A: STRUCTURED AND SEMI-STRUCTURED QUESTIONS WITH ANALYTICAL CODING

Introduction:

This appendix summarises the structured and semi-structured interview questions used to examine sociodemographic factors, dietary behaviours, and physical activity in relation to obesity. Questions are presented in the order in which they were asked. Many were intentionally posed in an open-ended format to encourage conversational responses with minimal presumptions. Responses were subsequently coded into quantitative or categorical variables to support statistical analysis. Coding procedures are described in Sections 3.4.3, 3.4.4, and 3.5 of Chapter 3, and Section 6.2.1 of Chapter 6.

Both structured and semi-structured questions in this appendix allowed for follow-up prompts to explore topics in greater depth, ensuring that interviews remained adaptive and participant-led rather than survey-like.

Table A1.1: Interview Questions, Themes, Analytical Themes and Coding Procedures

	Interview Question	Analytical Theme/Factor	Original Response Format	Analytical Coding / Variable Type	Notes
1	What is your current occupation, if any?	Demographics (Occupation)	Open-ended	Categorical (nomad, skilled workers, students, qualified professionals)	Participants' responses describing specific occupations were systematically classified into four categories: nomads, students, skilled workers, and qualified professionals.
2	What is your age?	Demographics (Age group)	Open-ended numeric (Discrete)	Binary (Younger < 37/ Older ≥ 37)	Participants initially reported their age in years. For subsequent analysis, responses were recoded into two categories: younger adults (< 37 years) and older adults (≥ 37 years).
3	What is your current marital status?	Demographics (Marital status)	Open-ended	Binary (Married / Single)	Divorced and widowed participants coded as "single."

4	Have you relocated from a rural area?	Demographics (Migration status)	Open-ended	Binary (Migrant/Non-migrant)	Responses coded according to whether participants reported rural-to-urban relocation.
5	Who do you usually eat lunch with?	Dietary Behaviour (Commensality)	Open-ended	Binary (Eat alone / Eat with others)	“Eat with others” coded as yes to commensality; “Eat alone” coded as no.
6	What types of food do you consume most frequently?	Dietary Behaviour (Commonly consumed foods)	Open-ended	1) Binary (Protein foods / Other) 2) Binary (Traditional Mongolian foods / Fast foods)	Responses were coded in two ways: firstly by distinguishing protein-based foods from all other types, and secondly by distinguishing traditional Mongolian foods from fast-food items.
7	Do you regularly include seasonal foods in your diet? / Do you change the types of food you eat depending on the season?	Dietary Behaviour (Seasonal food consumption)	Open-ended	Binary (Yes / No)	Participants were classified as consuming seasonal foods if they reported varying their diet according to seasonal availability. Any mention of seasonal variation was coded as “Yes”; otherwise, responses were coded as “No.”
8	On a typical day, how many meals do you usually eat?	Dietary Behaviour (Meal frequency)	Open-ended numeric (discrete)	Binary (Lower ≤ 2 / Higher meal frequency High ≥ 3)	Responses of two meals or fewer were coded as <i>lower meal frequency</i> ; three meals or more were coded as <i>higher meal frequency</i> .
9	What is the most important factor influencing	Dietary Behaviour (Food selection criteria)	Open-ended	1) Categorical (Taste/Time / Cost)	Responses were initially categorised into detailed groups (taste, time, cost). For subsequent

	your food choices?			2) Binary (Taste/ Time or Cost)	analyses, a simplified binary coding was applied, contrasting taste against time or cost.
10	How do you describe your gender identity?	Demographics (Gender)	Open-ended	Binary (Male / Female)	Participants' responses were limited to male and female categories; no transgender or non-binary identities were reported.
11	How many times per week do you prepare meals at home?	Dietary Behaviour (Meal Preparation Frequency)	Open-ended numeric (discrete)	Binary (High >1 per week / Low ≤1 per week)	Participants reported the number of meals they prepared per week. For analysis, responses were categorised as "High" (cooking more than once per week) or "Low" (cooking less than once per week).
12	How often do you engage in physical exercise during a typical week?	Physical Activity Behaviour (Exercise)	Open-ended numeric (discrete)	Binary (Exercising ≥1 / Not exercising)	Participants reported the number of exercise sessions per week. Responses were coded as "Yes" for those exercising at least once per week and "No" for those who did not exercise at all.

Concluding Note:

This table provides a transparent account of the structured and semi-structured items used in quantitative analysis. Coding decisions are detailed to ensure methodological rigour and replicability. Follow-up semi-structured prompts within Appendix 1A further enhanced qualitative understanding of participant responses.

APPENDIX 1B:

SEMI-STRUCTURED EXPLORATORY PROMPTS

Introduction:

This appendix presents semi-structured interview prompts designed to elicit in-depth qualitative insights. These exploratory prompts were integral to the mixed-methods design, intended to inform, enrich, and contextualise the analysis.

The semi-structured questions addressing the main factors discussed in the abstract and substantive chapters are already included in Appendix 1A. The prompts reported here were not subjected to quantitative analysis but capture participants' reasoning, perceptions, and experiences that extend beyond structured responses. Detailed field notes were recorded to document reflections, emergent themes, and contextual nuances. For instance, the question on environmental pollution was added during data collection after participants themselves repeatedly raised the issue. Other incidental observations were not systematically analysed due to their context-specific or anecdotal nature.

Table B1.1: Semi-Structured Interview Questions and Focus Areas.

	Interview Question	Participant Group	Focus Area	Analytical Purpose
1	How have your food consumption patterns changed or remained consistent since childhood?	All participants	Lifespan dietary changes	To document long-term changes in dietary behaviour
2	How have your dietary habits changed or remained consistent following relocation within the country?	Internal migrants	Dietary adaptation and regional influences	To assess the impact of geographic relocation on dietary practices
3	What factors limit or constrain your engagement in physical exercise during a typical week?	All participants	Barriers to physical activity	To identify environmental, social, or personal factors affecting exercise participation
4	Have you experienced or observed environmental pollution affecting your daily activities, including exercise?	All participants	Environmental exposure	To examine the potential influence of environmental pollution on physical activity

Concluding Note:

The semi-structured prompts in Appendix 1B are exclusively qualitative in nature. They were designed to capture richer, contextually informed insights that supported the interpretation of structured data and the overall mixed-methods analysis.

APPENDIX 1C: INTERPRETIVE THEMES ONLY

Introduction:

Appendix 1C presents themes derived exclusively from the analysis of interviews. These were not included in statistical modelling but offer interpretive depth and contextual understanding of participants' experiences.

Table C1.1: Qualitative Themes, Subcodes, and Examples.

Theme	Subcodes / Categories	Notes	Example Quote
Environmental health risks	Air quality concerns	Concerns about polluted air limiting outdoor activity	“When I lived abroad, I used to go jogging every morning. Here in Mongolia, I’ve stopped because the air quality is just too poor.”
Food selection criteria	Cost	Broader interpretations highlighting emotional, financial, and social aspects	“I’m saving for a car, so I try to cut back on food expenses as much as I can.”
Food-related memories	Family traditions	Foods connected to rituals, nostalgia, and cultural identity	“The smell of those dishes instantly takes me back to my years abroad.”
Lifespan dietary changes	Childhood vs. Adulthood diet	Long-term shifts across life stages	“I ate a lot of dairy as a child, but these days I hardly eat it at all.”
Eating as coping mechanism	Stress and eating habits	Role of food in managing stress	“Whenever work gets stressful, I find myself reaching for sweets. I eat them almost every day at the office, but hardly ever on my days off.”
Appetite loss	Stress and eating habits	Impact of stress on appetite and meal avoidance	“After my new manager started, I lost my appetite completely, not just at work but even at home on weekends.”

Concluding Note:

Appendix 1C highlights the interpretive value of qualitative data, providing context, depth, and a human perspective that complements quantitative analyses. The lightly edited quotes preserve the meaning intended by participants while improving readability.

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