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Eating preferences and behaviors of healthy aging, older immigrants in Oslo: A qualitative study

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Oslo, November 2023
Stephanie Maxson

Summary

Introduction: Norway´s population of older, first-generation immigrants is expected to grow from 7% of older adults today to more than 24% by 2060 due to decreased mortality and continued immigration. Studies indicate that older immigrants in Norway have a higher rate of non-communicable disease than older non-immigrants. Eating a health-supporting diet is important for maintaining health and independence in older adults. The purpose of this study was to increase understanding of the eating preferences and behaviors of healthy aging, older first-generation immigrants in Oslo, and to identify influences on their eating preferences and behaviors.

Methods: This qualitative study took a phenomenological approach to understand older immigrants´ shared experience of changing eating behaviors with aging. In-depth interviews were conducted in Norwegian with 14 healthy aging, older immigrants in Oslo. Interviews were recorded, transcribed, and analyzed according to reflexive thematic analysis.

Findings: Study findings indicate that healthy aging, older immigrants eat a bi-cultural diet and incorporate a variety of health-supporting eating habits. Participants are motivated to eat healthfully to avoid illness and disability with aging. The older immigrants interviewed seek out nutrition information, and are knowledgeable about the value of nutrition, exercise, and social connection for maintaining health with aging. Participants demonstrated personal characteristics, such as self-efficacy and resilience, which according to social cognitive theory are supportive of health behavior change.

Conclusion: Healthy aging, older immigrants in Oslo are motivated to eat healthfully due to their hopes for maintaining health and independence as long as possible so they may enjoy relationships and remain engaged in the world. Further research is needed to understand whether eating preferences and nutrition knowledge are different for older immigrants with low Norwegian language competency and few social connections.

Keywords: older adult, immigrant, healthy aging, eating behavior, acculturation

Sammendrag

Introduksjon: Norges befolkning av førstegenerasjonsinnvandrere er i dag 7% av den eldre befolkningen over 60 år. Det er beregnet at andelen førstegenerasjonsinnvandrere over 60 år vil i 2060 utgjøre 24%. Årsaken til dette er økt levealder og fortsatt innvandring. Studier tyder på at eldre innvandrere i Norge har høyere forekomst av ikke-smittsomme sykdommer enn eldre ikke-innvandrere. Et sunt kosthold er viktig for å opprettholde god helse og uavhengighet hos den eldre. Hensikten med denne studien var å øke forståelsen for eldre innvandrere i Oslo sine spisevaner og preferanser samt og identifiserer hva som påvirker deres matvalg.

Metode: Dette var en kvalitativ studie med en fenomenologisk tilnærming. Metoden ble valgt for å forstå eldre innvandreres felles erfaring med å endre spisevaner med aldring. Det ble gjennomført dybdeintervjuer på norsk med 14 eldre innvandrere i Oslo. Intervjuene ble tatt opp, transkribert og analysert i henhold til refleksiv tematisk analyse.

Resultater: Studieresultater indikerer at hjemmeboende, eldre innvandrere har et bikulturelt kostholdsmønster og har mange sunne spisevaner. Deltakerne er motivert for å spise sunt for å unngå sykdom og funksjonshemming med aldring. De eldre innvandrerne som ble intervjuet søker etter ernæringsinformasjon, og er kunnskapsrike om verdien av ernæring, trening og sosial tilknytning for å opprettholde helse med aldring. Deltakerne viste personlige egenskaper som mestring og motstandskraft, som knyttet til sosial kognitiv teori er støttende for endring av helseatferd.

Konklusjon: Hjemmeboende, eldre innvandrere i Oslo er motivert for å spise sunt på grunn av deres håp om å opprettholde god helse og uavhengighet så lenge som mulig. Mer forskning er nødvendig for å forstå om spisepreferanser og ernæringskunnskap er ulik for eldre innvandrere med lav norskkunnskap og få sosiale tilknytninger.

Nøkkelord: eldre, innvandrer, sunn aldring, spisevaner, akkulturasjon

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Abbreviations and Acronyms

NCD: non-communicable disease
RTA: reflexive thematic analysis
SCT: social cognitive theory
WHO: World Health Organization

Definitions

dietary acculturation:	The process by which immigrants adopt the food and eating preferences of their new country (Satia-Abouta et al., 2002).
first-generation immigrant:	A resident born abroad to two foreign-born parents and four foreign-born grandparents.
healthy aging:	"Developing and maintaining the functional ability that enables well-being in older age" (World Health Organization, 2015).
late adulthood:	The last stage of human development, the starting age of which varies between sources. For this thesis, late adulthood is 60 years and older.
non-communicable disease:	A non-contagious illness, including cardiovascular disease, type 2 diabetes, chronic respiratory disease, and cancer, caused by a combination of physiological, genetic, environmental and behavioral factors (World Health Organization, 2015).
nutrition & health literacy:	"The degree to which individuals obtain, process, and understand basic health [and nutrition] information and services to make informed health decisions" (Carbone & Zoellner, 2012).
older adult:	People aged 60 years and older, as defined by the World Health Organization (2002).

1 Introduction

People worldwide are living longer than ever, causing a shift in the population toward older ages (United Nations, 2020). This shift is primarily the result of decreased mortality among older adults (World Health Organization, 2015). When the health of older people deteriorates, both their quality of life and contributions to society are negatively impacted. There is strong interest to understand how we can increase the likelihood that older adults in Norway will enjoy more healthy and productive years. For older adults, eating a nutritionally adequate diet is important for maintaining health and independence (Norman et al., 2021). While the eating preferences of Norwegian-born older adults have been studied, there is a lack of information regarding the eating preferences and behaviors of older immigrants to Norway.

1.1 Norway´s Diverse and Aging Population

1.1.1 Immigrants in Norway

A first-generation immigrant is a resident of Norway who was born abroad with two parents and four grandparents who are not Norwegian citizens (Statistics Norway, 2022). There are currently 0.8 million first-generation immigrants in Norway, and this population is expected to increase 40% to approximately 1.3 million by 2060 (Syse et al., 2020). Immigrants to Norway represent 221 different countries (Statistics Norway, 2022). Of immigrants 60 years and older, 60% immigrated from Europe, 30% from Asia, 7% from Africa, and 3% from the Americas and Oceania (Statistics Norway, 2022). Seventy percent of immigrants 60 years and older have lived in Norway at least 20 years (Statistics Norway, 2022).

Immigration to Norway is characterized by four distinct phases (Sandnes, 2017). The first phase (late 1960´s to 1975) was the arrival of young, non-European work migrants, primarily from Pakistan and Turkey, who came to work in the service and oil sectors. Although work immigration was ended in 1975, family members of existing work migrants were allowed under family reunification in the second phase (1975 to mid 1980`s). In phase three (mid 1980´s to 2000), an increasing number of asylum seekers arrived from countries in conflict such as Iran, Viet Nam, Sri Lanka, and the former Yugoslavia. The fourth and current phase (2000 to today) is characterized by a significant increase in European work migrants, as well as non-Europeans seeking asylum from war and political persecution (Sandnes, 2017). Most

older immigrants in Norway today arrived as young adults in phases one and two, and as middle-aged adults in phase three.

1.1.2 Norway´s Aging Population

The number of older adults, defined as people aged 60 years and older (also known as late adulthood), worldwide is projected to more than double from 1 billion in 2020 to 2.1 billion by 2050 (United Nations, 2020). A similar trend is predicted for Norway, with the number of older adults projected to increase from 1.28 million to 2.1 million by 2060 (Statistics Norway, 2022). This represents an increase of older adults from 24% to 34% of the total population - evidence that Norway´s population is aging (Statistics Norway, 2022).

Seven percent of older adults in Norway (90,000) are also first-generation immigrants (Statistics Norway, 2022). Although this number is relatively small, the older immigrant population is expected to grow to more than 24% of older adults (nearly 1 in 4) by 2060 due to both continued immigration and the aging of phase three and four immigrants (Statistics Norway, 2022).

Twenty-two percent of all immigrants and 25% of older immigrants live in Oslo, making this municipality home to the highest proportion of immigrants and older immigrants in the country (Statistics Norway, 2022). In comparison, just 9% of the total older adult population lives in Oslo (Statistics Norway, 2022). It is projected that Oslo´s older immigrant population will increase as the immigrant population grows and ages (Statistics Norway, 2022).

1.2 Main Concepts

1.2.1 Older Immigrants

The definition of older adult varies depending on the source. Both the World Health Organization and the United Nations define older adults as 60 years and older (World Health Organization, 2002). Statistics Norway uses 67 years and older to define older Norwegians as this is the age when people typically retire and begin collecting a pension (Statistics Norway, 1999). However, in their recent report on older immigrants, Statistics Norway defines older immigrants as 60 years and older (Statistics Norway, 2022). Statistics Norway does not explain why they use 60 years instead of 67 years to define older immigrants; however, it is possible they have chosen 60 years to be consistent with the United Nations' definition.

1.2.2 Healthy Aging

In 2002, the World Health Organization (WHO) published their framework on active aging, the purpose of which was to improve the quality of life among older adults considering the aging global population. With the announcement of the United Nations' decade of healthy aging in 2020, "active aging" was replaced by "healthy aging" (United Nations, 2020). For this thesis, I will use the World Health Organization´s definition of healthy aging which is "developing and maintaining the functional ability that enables well-being in older age" (World Health Organization, 2015). This definition does not require a person be free of disease, but rather that they are able to care for themselves and enjoy some degree of life quality (United Nations, 2020).

The World Health Organization´s framework on healthy aging recommends that nations aim to optimize older adults´ intrinsic capacity so that they may continue to be and do that which they value (World Health Organization, 2015). "Intrinsic capacity" refers to an individual´s physical and mental capacities which determine whether a person is able to carry out the activities they value within the environment in which they live (World Health Organization, 2015). Considering that nutrition-related health challenges, such as non-communicable disease and nutrition deficiency, are risk factors for loss of physical and mental health in late adulthood, maintaining quality diet and nutrition is important for optimizing intrinsic capacity in older adults (Cesari et al., 2022).

1.3 Nutrition-related Health Challenges

1.3.1 Nutrition Challenges Unique to Older Adults

Older adults have a particular set of nutrition challenges, common across all cultures, which can effect nutrition status and health (Norman et al., 2021). Decreased appetite, changes in smell and taste, as well as difficulties with chewing and swallowing cause older adults to eat a smaller quantity and decreased variety of food (Norman et al., 2021). Nutrition risk is further compounded in older adults by reduced gastric acid secretion and impaired digestion and absorption which impede the body´s ability to utilize nutrients from food (Montgomery et al., 2014). Factors which negatively impact diet quality among older adults living at home, thus increasing nutrition risk, include poor physical mobility, loneliness, low socioeconomic status, and inadequate food knowledge (Donini, 2017). Ultimately, the physiological effects

of poor nutrition in older adults increases risk of malnutrition, disease, and mortality, thus threatening the older adult´s independence and quality of life (Norman et al., 2021).

1.3.2 Malnutrition

Malnutrition is a deficiency of required nutrients resulting from inadequate consumption and/or poor absorption of vitamins, minerals, and protein. Maintaining adequate nutritional status is important for health in all life stages, including older adults (Norman et al., 2021). Adequate nutrition supports older adults in maintaining physical function and activities of daily living which are crucial for independent living and optimal quality of life (Asamane et al., 2020). While energy needs are lower in late adulthood, the requirements for most nutrients are unchanged or increased, placing older adults at risk for malnutrition (Montgomery et al., 2014). Malnutrition and weight loss in older adults are associated with increased fall risk, disability, disease, loss of independence, and mortality (Norman et al., 2021).

1.3.3 Non-Communicable Disease

Non-communicable diseases (NCDs), including type 2 diabetes, heart disease, stroke, and chronic respiratory disease are the leading cause of morbidity, disability and mortality among older adults world-wide (World Health Organization, 2015). NCDs can be prevented or delayed with healthy lifestyle habits, including eating a nutritious diet and maintaining a healthy weight (World Health Organization, 2015). Healthy diet habits implemented early in life are most effective for NCD prevention, but diet changes made in late adulthood can also be beneficial for reducing incidence and severity of illness (World Health Organization, 2015).

1.3.3.1 Non-Communicable Disease Among Older Immigrants in Norway

Although the health of older immigrants in Norway is an acknowledged concern, there is limited health data available for immigrants over 60 years of age. The most recent report from the Norwegian Institute of Public Health regarding immigrant health presented data on adults only up to the age of 66 years (Kjøllesdal et al., 2019). According to this report, type 2 diabetes, cardiovascular disease, high blood pressure, and overweight are most prevalent among the oldest group studied - middle adulthood, defined by this report as 45-66 years of age - for both immigrants and non-immigrants (Kjøllesdal et al., 2019). Type 2 diabetes is

approximately three times as prevalent among immigrants in middle adulthood as compared to non-immigrants (Kjøllesdal et al., 2019). Cardiovascular disease is slightly more prevalent among immigrant men in middle adulthood as compared to non-immigrant men, and overweight is more prevalent among immigrant women in middle adulthood as compared to their non-immigrant peers (Kjøllesdal et al., 2019). The remainder of the data indicates little or no difference between middle adult immigrants and non-immigrants in the general population (Kjøllesdal et al., 2019).

A more recent study investigating the health disparities between first-generation immigrants and native Norwegians collected data on adults 45-79 years old (Qureshi et al., 2022). Results indicate that, among adults in this age range, immigrants have a higher incidence of NCDs (45.1%) and overweight (65.4%) than non-immigrants (41.5% and 57.6% respectively) (Qureshi et al., 2022). This study also revealed that, although immigrants have a higher incidence of NCDs and are twice as likely to report poor health than non-immigrants, immigrants are less likely to report visiting a doctor in the past year (74.2% versus 83.3% respectively) (Qureshi et al., 2022). This is consistent with the report from Statistics Norway (2022) which indicates older immigrants use healthcare services less often than the general Norwegian population.

1.4 Rationale for the Study

Lifestyle factors such as diet, exercise, and smoking are important modifiable NCD risk factors (World Health Organization, 2015). In order to develop successful programs aimed at improving the diets of older immigrants, we need to know what older immigrants eat, and what influences their eating preferences and behaviors. A few studies have assessed influences on the eating preferences and behaviors of immigrants in Norway (Madar et al., 2023; Wandel et al., 2008), as well as older non-immigrants (Grini, 2012; Grini et al., 2020; Kvalsvik et al., 2021; Ueland et al., 2022). However, there are no known studies assessing influences on the eating preferences and behaviors of older immigrants in Norway. The lack of population-specific data is a barrier to improving older immigrant health, as well as improving nutrition and health equity in Norway (World Health Organization, 2015). This master´s thesis aims to understand the eating preferences and behaviors of healthy aging, older immigrants in Oslo.

1.5 Study Objectives and Research Questions

The objectives of this study are (1) to increase understanding of the eating preferences and behaviors of healthy aging, older immigrants in Oslo; and (2) to identify factors which influence their eating preference and behaviors. The objectives were addressed by posing the following research questions:

- What do healthy aging, older immigrants eat?
- How do nutrition knowledge and personal characteristics influence the diets of healthy aging, older immigrants in Oslo?
- How do future hopes and worries influence the diets of healthy aging, older immigrants in Oslo?

2 Literature Review & Theoretical Framework

This chapter begins by defining key terms and summarizing existing knowledge of the influences on older adults´ eating preferences and behaviors. This is followed by a presentation of the two theories and one model which serve as a lens for understanding the eating preferences and behaviors of older immigrants as it relates to the study objectives. Basing this research on established theory connects the results of this study to those of previous related research.

2.1 Influences on Healthy Aging, Older Adults

Food is important for human physical, social, cultural, and psychological well-being, and therefore contributes significantly toward health and life satisfaction in older adults (Grunert et al., 2017). Preparing and eating meals provides the older adult with a sense of structure, independence, enjoyment, and security (Grunert et al., 2017). As such, food and nutrition are significant contributors toward healthy aging (Bernstein & Munoz, 2012).

Eating behaviors are complex, and are influenced by a variety of biological, psychological, social, environmental, and economic factors (Johnson-Askew et al., 2009; Osei-Kwasi et al., 2016; Sobal & Bisogni, 2009; Symmank et al., 2017). Eating preferences and behaviors tend to change throughout a person´s life as these influences change (Grini et al., 2020; Sobal & Bisogni, 2009). Some influences are unique to certain life stages, such as childbirth and retirement, while others may influence food preferences at any stage of life, for example income and food access (Sobal & Bisogni, 2009). Increasing understanding of what older immigrants eat and what influences those preferences is necessary for developing successful dietary interventions supporting improved health and quality of life (Farhat, 2023; Huang & Garcia, 2020).

Three recently published review articles explore the influences on the eating preferences and behaviors of community-dwelling older adults (Caso & Vecchio, 2022; Govindaraju et al., 2022; Poggiogalle et al., 2021). Nearly all the studies included in these review articles were conducted in western, high-income countries, and just three of the many articles addressed immigrants. Results of these review articles are similar, indicating that personal resources (ex. education, changes in finances, retirement, nutrition knowledge), psychosocial factors

(ex. motivation for health, desire for independence, loss of spouse, loneliness, relocation), and physical changes with aging (ex. health concerns, decreased mobility, changes in food tolerance and taste) are the most common influences on food choice among older adults (Caso & Vecchio, 2022; Govindaraju et al., 2022; Poggiogalle et al., 2021). While all these factors are important influences on older adults´ food decisions, the review by Govindaraju et al. (2022) found that past food memories and future health concerns are the two most significant influences on older adults´ eating preferences.

Past food memories have an influence on the eating behaviors of adults well into late adulthood (Govindaraju et al., 2022). For example, evidence indicates that people who eat fewer fruits and vegetables in childhood are likely to have poor diet quality in late adulthood (Govindaraju et al., 2022). Some older adults will refuse to comply with diet recommendations for health if they are inconsistent with dietary beliefs and attitudes acquired in the past (Govindaraju et al., 2022). Because food memories from long ago are strong influences on older adults, they are not typically concerned with eating perfectly, but instead practice moderation to balance eating for health and eating for pleasure (Govindaraju et al., 2022).

While a higher income is associated with greater consumption of vegetables and protein, older adults with a high income are also more likely to eat higher amounts of fat and sugar (Caso & Vecchio, 2022; Poggiogalle et al., 2021). A higher income enables older adults to compensate for challenges such as physical limitations with cooking and shopping (Caso & Vecchio, 2022). On the other hand, older adults with lower income are more likely to eat a lower quality diet with less variety (Poggiogalle et al., 2021). Although cost is a barrier for some when making healthy food choices, Govindaraju et al. (2022) found that older adults sometimes prioritize quality over cost for the sake of health.

Loss of a spouse can have a strong impact on the eating behaviors of older men and women. The surviving spouse may have difficulty shopping or preparing meals if the deceased partner was the primary driver or cook (Caso & Vecchio, 2022). Additionally, a widowed spouse may lose their motivation to prepare meals only for themself (Whitelock & Ensaff, 2018).

Loneliness has a negative influence on appetite and food choices in older adults (Poggiogalle et al., 2021). Poggiogalle et al. (2021) found that depressed older adults and those living

alone, such as widowers, consume less variety compared with those living with family, resulting in significantly lower intake of protein and essential micronutrients. Conversely, older adults with social relationships and those who participate in social meetings are more likely to have higher quality diet, and to eat more fruits and vegetables (Poggiogalle et al., 2021).

Physical limitations are another common influence on the eating preferences of older adults as physical limitations may impede their ability to grocery shop and cook (Govindaraju et al., 2022). Older adults with poor mobility may become dependent on family for help with shopping and cooking, resulting in dietary changes (Whitelock & Ensaff, 2018). They also tend to rely more on convenience foods which frequently contain more salt, fat and sugar (Whitelock & Ensaff, 2018).

Older adults who live alone or have decreased mobility or poor health tend to prefer cooking simple meals that are easy to prepare (Whitelock & Ensaff, 2018). However, when children and grandchildren come to visit, older adults enjoy preparing a feast (Govindaraju et al., 2022). Older adults who live alone are more likely to cook larger meals and freeze leftovers to save time and avoid food waste (Govindaraju et al., 2022). Older men with cooking skills eat more produce and enjoy better health than men with little or no cooking skills (Govindaraju et al., 2022).

Managing chronic illness and maintaining mobility and independence are strong motivators for older adults to choose healthy eating (Caso & Vecchio, 2022; Govindaraju et al., 2022). Older Europeans interviewed as part of the "Food in Later Life" study said they consider healthy eating an investment to ensure continued independence as they age (Lundkvist et al., 2010). Some older adults demonstrate dietary resilience by making healthier food choices, as well as practicing moderation as a way to balance eating for health versus taste (Castaneda-Gameros et al., 2018; Govindaraju et al., 2022).

2.2 Influences on Healthy Aging, Older Adults in Norway

The food preferences and behaviors of older native Norwegians have been studied and documented in several articles (Grini, 2012; Grini et al., 2013; Grini et al., 2020; Kvalsvik et al., 2021; Ueland et al., 2022). Much of what these studies found agrees with the results

discussed above for older adults in high income, western countries. For example, health is a major influence on older Norwegians' eating preferences (Grini et al., 2020). They limit salt, sugar and fat, and they are more interested in food quality than price (Grini et al., 2013). Foods that taste good are prioritized, as are foods connected to memories and childhood (Grini et al., 2013; Ueland et al., 2022). Older home-dwelling Norwegians generally follow nutrition advice for health but aim to balance healthy food choices with foods that taste good (Grini et al., 2020; Ueland et al., 2022).

Interestingly, these studies indicate some influences and eating preferences not identified in the review articles previously presented (Caso & Vecchio, 2022; Govindaraju et al., 2022; Poggiogalle et al., 2021). For example, older adults tend to eat more fish, seafood, vegetables, and fruit than other age groups in Norway (Ueland et al., 2022). Older Norwegians aim to maintain the traditional three meals per day, including a "proper" dinner of warm food, which connects them to their past (Grini, 2012). Regarding social connections, eating with others was found to be an important influence for increasing intake at meals (Ueland et al., 2022). Kvalsvik et al. (2021) found that family and senior center gatherings had a greater influence on eating behavior than friends.

2.3 Influences on Healthy Aging, Older Immigrants

Although there are no known relevant studies of older immigrants specific to Norway, two studies investigating influences on the eating behaviors of older, home-dwelling immigrants or ethnically diverse older adults in a high-income, European country may shed some light (Asamane et al., 2019; Castaneda-Gameros et al., 2018).

A mixed-methods study of 76 older immigrant women from 7 countries now living in the United Kingdom found the women were relatively knowledgeable about what makes a healthy diet (Castaneda-Gameros et al., 2018). Primary influences on the women´s food preferences were management and prevention of NCDs, weight loss, religious tradition, and changing role as the household shrinks. Migrant women living alone were more likely to skip meals, prepare simpler meals, and eat leftovers. A quantitative diet analysis found participants deficient in 7 micronutrients indicating their diets are inadequate in quantity and/or variety of foods (Castaneda-Gameros et al., 2018).

Healthy eating was also identified to be important for 81 older immigrants from South Asia, Africa and the Caribbean now living in the United Kingdom (Asamane et al., 2019). Foods which participants considered to be healthy include homecooked meals, fruit, foods low in fat and sugar, traditional foods, and foods consistent with religious dietary guidelines. Personal influences on participants´ eating behaviors include prevention and management of NCDs, maintaining independence, mobility, maintaining healthy body weight, and retirement. Eating with others, support with shopping and cooking, traditional foods, and ethnic community were also important influences (Asamane et al., 2019).

A newly published systematic review of older immigrants indicates that immigrants continue to prefer a bi-cultural diet many years after immigration as a means of maintaining their cultural identity (Lillekroken et al., 2023). As there are limited studies available for the older immigrant population, a systematic mapping review of the dietary influences on ethnic minorities in Europe may offer additional insights (Osei-Kwasi et al., 2016). Although this review is not limited to older adults, 11 of the 37 studies reviewed include older adults of immigrant background, and most of those investigated immigrants from Pakistan and Bangladesh living in Northern Europe. Many of the influences identified are specific to the immigrant experience, such as cultural and religious identity, acculturation, availability of traditional foods, food neophobia, length of stay in host country, and competency in host country language. Other influences identified in immigrants are similar to those found in native Europeans including: income, taste preferences, health maintenance, disease management, nutrition knowledge and social connections (Osei-Kwasi et al., 2016).

The research findings presented in this chapter demonstrate a wide variety of influences on the eating habits of older adults, and that these influences are significant for determining health and independence with aging. While much effort has been made to study the influences on the eating behaviors of the older native population in high-income countries, little is known about the influences on older immigrants in high-income countries, including Norway.

2.4 Theoretical Framework

Based on the existing literature, two theories and one model have been identified as particularly relevant for understanding influences on the eating behaviors of older

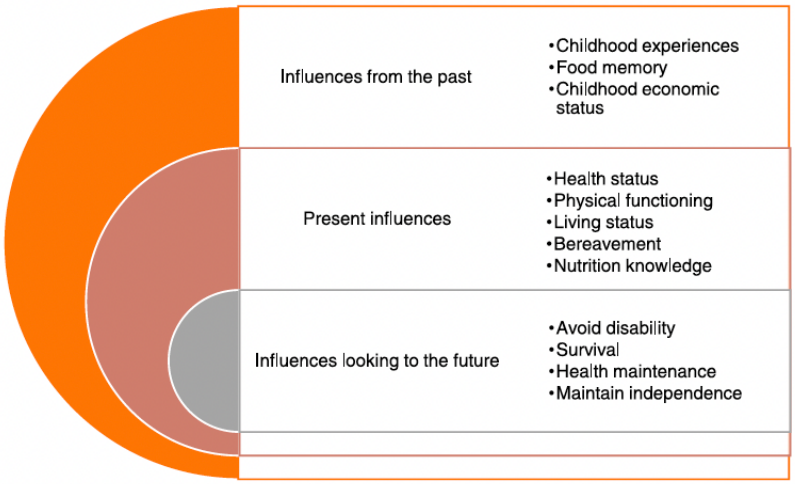
immigrants. A temporal model is useful for understanding how an older person´s food choices change over time as the person encounters transitions and turning points in life (Govindaraju et al., 2022). Dietary acculturation theory is useful for understanding what immigrants eat, and how past food experiences influence eating preferences (Satia-Abouta et al., 2002). Social cognitive theory is relevant for recognizing how an individual´s food choices are influenced by both the individual, and the environment in which the behavior occurs (Bandura, 2004). Because there are many influences on older immigrants´ eating behavior which vary across time and culture, theories addressing the temporal, cultural, cognitive, behavioral, and environmental influences may provide a more comprehensive understanding of the phenomenon.

2.4.1 Temporal Model for Older Adults

As described in the literature review (Chapter 2.1), the scoping review by Govindaraju et al. (2022) concluded that past food experiences and future concerns are the most important influences on the eating behavior of older adults. As a result, the authors created a model to explain the temporal influences on older adults´ eating behaviors (Figure 1)(Govindaraju et al., 2022). Their model includes past influences such as food memory, present influences such as physical function and nutrition knowledge, and future influences, such as maintenance of health and independence (Govindaraju et al., 2022).

Figure 1

Past, present, and future dietary influences on older adults (Govindaraju et al., 2022)



The review on which this model is founded has several strengths relevant to the current study (Govindaraju et al., 2022). The review includes older adults who are not necessarily free of disease but are well enough to live at home without assistance, and to make independent food choices. In this way, the authors intended to demonstrate the diversity among older, home-dwelling adults, both those living with manageable chronic conditions and those who are well. Only studies published after the year 2000 were included because the authors wanted the review to reflect the benefits and challenges of the modern world. The lack of migrant representation is the only weakness identified. Although the population in this review is representative of mostly high-income countries, the authors aim to identify influences relevant to the world´s growing migrant population. They emphasize the need for more research in order to identify influences unique to migrants such as poor access to familiar foods, nutrition knowledge in an adopted country, and shrinking family size (Govindaraju et al., 2022).

While it is likely that older immigrants experience many past and future influences on eating behaviors that are similar to older non-immigrants, there are also likely some differences. For example, it is anticipated that food memories unique to older immigrants will include food traditions from their country of origin prior to immigration, and dietary acculturation which begins on day one in their adopted country. Future influences unique to immigrants might include, for example, changes in family traditions concerning care of the elderly which could influence older immigrants to adopt health-supporting eating habits. This temporal model has been selected to shed light on the past and future influences relevant to older immigrants.

2.4.2 Dietary Acculturation Theory

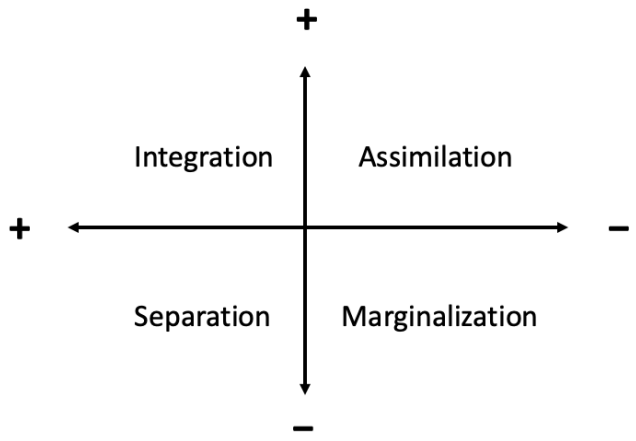
According to Berry (2001), acculturation is the process by which groups from two different cultures interact, resulting in cultural changes in both groups; however, the greatest change typically occurs in members of the non-dominant group. In studies of diet change following migration, dietary acculturation has been described as the degree to which immigrants integrate the food preferences of their new home country together with the traditional foods from their country of origin (Osei-Kwasi et al., 2017; Satia-Abouta et al., 2002; Terragni et al., 2014; Wändell, 2013). Length of residency in the adopted country, fluency in the adopted country´s language, education, income, and employment influence a person´s degree of

acculturation (Satia-Abouta et al., 2002). For this study, dietary acculturation is a lens through which understanding of older immigrants´ eating preferences can be enhanced.

According to acculturation theory (Berry, 1997), there are four potential outcomes for dietary acculturation (see Figure 2). The most common outcome is integration which combines dietary elements from both the culture of origin and the new culture (Satia-Abouta et al., 2002). This bi-cultural food pattern may exclude some traditional foods, include some new foods, and incorporate foods available in the new country when preparing traditional meals (Satia-Abouta et al., 2002). Assimilation occurs when a person completely adopts the food traditions of the new culture, ignoring all food traditions from their culture of origin (Satia et al., 2000). Separation is the opposite of assimilation, when an individual exclusively follows the food traditions of their culture of origin, ignoring the adopted culture´s traditions (Satia et al., 2000). The fourth outcome, marginalization, is when an individual develops their own unique eating pattern, different from both their culture of origin and adopted culture, and is typically only found early in the migration experience (Berry, 1997). As dietary acculturation is a complex and dynamic process, an immigrant´s acculturated eating pattern may change at any time in their immigration experience (Satia-Abouta et al., 2002).

Figure 2

Four dietary acculturation strategies, based on Berry´s acculturation theory (Berry, 1997)



Note. X-axis represents diet from the culture of origin. Y-axis represents diet from the adopted culture.

The acculturated eating pattern may be more or less health-supporting than the initial eating pattern (Satia-Abouta et al., 2002). A review exploring immigrant diets found that immigrants from South Asia eat more fat and calories, less fiber, and fewer micronutrients after immigrating to Europe (Holmboe-Ottesen & Wandel, 2012). These nutrition changes are a result of replacing whole grains with refined carbohydrates, eating more meat and dairy, while eating fewer legumes, vegetables and fruits (Holmboe-Ottesen & Wandel, 2012). Immigrants moving from low-income countries to high-income countries have the added challenge of experiencing a sudden nutrition transition, meaning they have easy access to ultra-processed foods, including fast food and sugar-sweetened beverages (Holmboe-Ottesen & Wandel, 2012). Ultra-processed foods are inexpensive, high in sugar, fat and calories, and are poor sources of essential nutrients (Holmboe-Ottesen & Wandel, 2012). New exposure to cheap, processed foods combined with low socio-economic status after migration contributes to increased consumption of processed foods by immigrants (Wändell, 2013).

Studies of dietary acculturation in Norway indicate that immigrants adopt an integrated food pattern which combines elements of both cultures´ food traditions to varying degrees (Garnweidner et al., 2012; Terragni et al., 2014). The limited published evidence examining diet quality of Norway´s immigrant population indicates a trend similar to that seen in other parts of Europe. For example, South Asian immigrants to Oslo consume more fat and fewer legumes compared with their diets before migration (Wandel et al., 2008). A recent study of immigrant women from Somalia found their barriers to maintaining healthy eating habits after migration include high food prices and pressure from their children to prepare western-style food (Madar et al., 2023).

2.4.3 Social Cognitive Theory

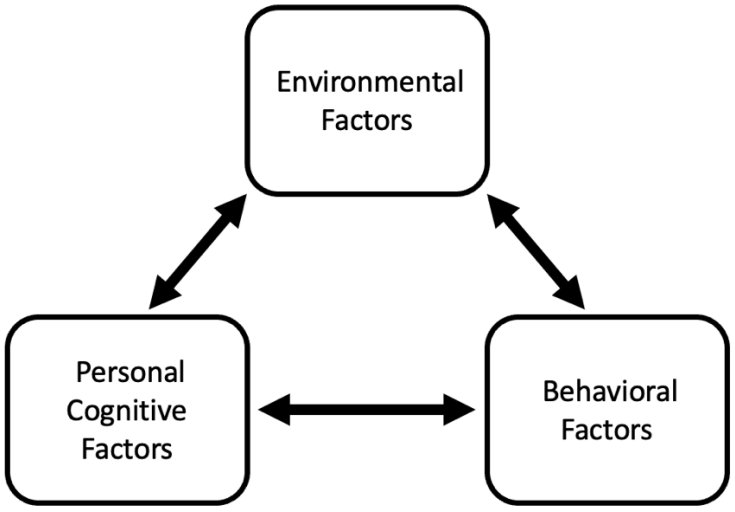
According to social cognitive theory (SCT) as developed by Albert Bandura in 1986, human behavior is influenced by both the individual and the individual´s environment (DiClemente et al., 2019). This theory is valid across all human cultures, including older immigrants (Bandura, 2002). While SCT applies to all kinds of human behavior, Bandura has refined his theory specifically for application to health behaviors (Bandura, 2004).

According to SCT, there are three groups of factors which influence health behaviors: personal, environmental, and behavioral factors (see Figure 3)(Kelder et al., 2015). Personal

factors are cognitive characteristics including knowledge, self-efficacy, resilience, expectations, and values. Environmental factors are influences in a person´s environment which encourage or discourage health behaviors such as social support, family, instruction, feedback, barriers, and opportunities (Kelder et al., 2015). Behavioral factors are an individual´s behaviors which have a direct effect on health, such as diet, exercise and smoking (Kelder et al., 2015). An important feature of this model is that the influence is reciprocal between the three factors (DiClemente et al., 2019).

Figure 3

Bandura´s social cognitive theory (DiClemente et al., 2019)



Another concept central to SCT is motivation. Motivation is what moves an individual to act, and is required for someone to change their behavior (Schunk & DiBenedetto, 2020). The difference between self-efficacy and motivation is subtle but significant. Self-efficacy is the belief one can succeed, while motivation is the desire to succeed (Schunk & DiBenedetto, 2020). According to SCT, motivation does not belong to one of the three factor groups, but rather motivation can be influenced both positively and negatively by personal, behavioral, and environmental factors (Schunk & DiBenedetto, 2020). Likewise, these three groups of factors can be influenced by motivation (Schunk & DiBenedetto, 2020).

SCT is often applied in research to increase understanding of the influences on health behaviors, and applied in practice to inform the design of health behavior change programs (Kelder et al., 2015). While there are no studies of older adult eating behaviors which apply SCT broadly, a recent systematic review investigated the influence of psychosocial factors on the eating behaviors of older adults (Walker-Clarke et al., 2022). This review identified a large variety of psychological and social influences significant for older adults including self-efficacy, resilience, social support, food independence, increased dietary awareness, and life satisfaction (Walker-Clarke et al., 2022).

A number of studies have made efforts to explain the ways in which psychosocial factors interact to influence eating behaviors in immigrants. For example, a study of older migrants in China found that participants who received more social support were likely to have greater self-efficacy for implementing healthy behaviors (Kong et al., 2021). Another demonstrated that health literacy, social support, and language acculturation have a positive influence on frailty in middle-aged and older Korean immigrants in the U.S. (Sagong & Yoon, 2021). In a study of Hispanics in the U.S., Spanish-language health literacy was found to strengthen the positive relationship between health behavior and self-efficacy (Guntzviller et al., 2017). Considering the number of attributes involved in SCT and the complexity of the relationships between them, these examples only begin to scratch the surface of possible interactions.

3 Methods

This chapter describes the methods used in conducting this research project, including study design, interview guide development, participant recruitment, data collection, and data analysis.

3.1 Research Design

3.1.1 The Choice of a Qualitative Research Design

A qualitative research design was chosen for this study because a qualitative design is useful for uncovering the meaning embedded in human experiences (Patton, 2015). Qualitative research questions are open, allowing participants to share their own perspectives and stories, resulting in deeper, more detailed information (Patton, 2015). Another important feature of qualitative research is the ongoing process of reflection on the collected data and the researcher´s own unique role, from the start of data collection through writing of the report (Brinkmann & Kvale, 2015). Collection of detailed information has some advantages including greater understanding of people´s perspectives and experiences, and the context in which they form (Patton, 2015). A qualitative research design was selected for this study to gain new knowledge and an in-depth understanding about the influences on the eating behaviors of a population which has not been formally investigated before now.

3.1.2 Phenomenology

Of the qualitative inquiry frameworks available, a phenomenological approach was selected to seek and describe the essence of the lived experience, also known as the phenomenon. The philosophy of phenomenology presumes there is no objective reality, but rather experiences and peoples´ interpretations of those experiences (Patton, 2015). The most effective way to understand the phenomenon is through direct experience (Patton, 2015). When it is not possible to observe the phenomenon of interest directly – for example the influences on a person´s past and current eating behaviors – in-depth interviews are used to elicit detailed descriptions from people who have lived the experience in order to understand how they perceive, remember, and make sense of the experience (Brinkmann & Kvale, 2015; Patton, 2015).

3.2 Data Collection Methods

An interview is a professional conversation in which knowledge is constructed between the interviewer and interviewee on a mutually interesting theme (Brinkmann & Kvale, 2015). More specifically in qualitative research, a phenomenological interview seeks to capture and understand the interviewee´s lived experience (Patton, 2015). Carefully worded questions, a skilled interviewer, and time for reflection are all critical for achieving reliable, high-quality results (Patton, 2015).

A qualitative interview consists of open-ended questions posed in such a way as to elicit greater depth of detail from the interviewee (Patton, 2015). A skilled interviewer is non-judgmental, listens actively, and responds in a way that the interviewee feels heard (Patton, 2015). Patton (2015) also emphasizes that the interviewer must allow time for reflection between interviews to consider what has been learned and whether the information is useful for answering the study question. When successful, a qualitative interview collects descriptions of the participant´s experiences around the topic of interest, thus increasing knowledge and understanding (Brinkmann & Kvale, 2015).

3.2.1 Interview Guide

A qualitative interview guide is a script of pre-planned, open-ended questions devised to elicit responses which will answer the research questions (Brinkmann & Kvale, 2015). Strong interview questions contribute to knowledge production and promote positive rapport between the interviewer and interviewee (Brinkmann & Kvale, 2015). The interview guide for this study consists primarily of semi-structured questions which are predetermined but flexible in their wording and order. The interview guide also includes a short list of structured questions which are predetermined in both wording and order. Structured questions were used to collect an oral food frequency questionnaire as part of a broader investigation of older immigrants´ nutritional health. The complete interview guide is available in Appendix 1.

The interview guide begins with a series of questions designed to capture the details of each participant´s life and immigration history. This is important for understanding the context around participants´ thoughts and experiences. Beginning each interview with life history questions also provided an opportunity to build rapport and earn the participants´ trust before asking the deeper, topical questions. The second section of the interview guide was designed

to collect typical dietary intake to increase understanding of dietary acculturation and reported diet changes for health. The third and final section of the interview guide was designed to understand participants´ experiences around eating preferences and behavior, exploring how each participant´s diet has changed as a result of acculturation, as well as their hopes and worries for the future.

3.2.2 Pilot

Prior to starting recruitment, I conducted two pilot interviews. The first pilot interview was with one of my supervisors who coached me on interview pacing, asking follow-up questions, and giving appropriate responses. She also advised me on navigating the ethics conversation prior to starting the interview, and technical details such as audio recording and managing interruptions. For the second pilot interview, I interviewed my mother-in-law, an immigrant to Norway over 60 years of age. This was a useful opportunity to practice qualitative interview skills before interviewing the first study participant. As a result of the two pilot interviews, I revised, deleted, and added questions for clarity, and to better elicit responses that fit the study objectives and themes.

3.3 Sampling and Recruitment

3.3.1 Inclusion Criteria and Sampling Strategy

All participants in this study are first-generation immigrants to Norway aged 60 years or older. There was no upper age limit. Participants were also required to meet the World Health Organization´s definition of "healthy aging" (United Nations, 2020; World Health Organization, 2015). Consistent with this definition, participants did not have to be free of disease, but rather live independently at home and have adequate physical health enabling them to participate in activities outside their home. Only people with conversational Norwegian language skills were included, for ease of communication without an interpreter. Exclusion criteria include people born in Norway, younger than 60 years of age, physically homebound or living in a nursing home, and lack of conversational Norwegian language skills.

Recruitment was done by purposeful random sampling (Patton, 2015), with the goal of recruiting older immigrants representing both genders, a variety of ages, and at least three different countries of origin. In this way, participants demonstrate diversity within the

inclusion criteria (Patton, 2015). Snowball sampling was used to a lesser extent, where current participants or connections within the immigrant community were asked to help recruit others (Patton, 2015).

Participants were recruited and interviewed until a point of saturation was reached, where further interviews provided little new knowledge regarding the experience of interest (Patton, 2015). I recognized that the fourteenth interview would be the last interview because the experiences described by this participant, although interesting and relevant, had been previously described by other participants.

3.3.2 Recruitment

An important characteristic of qualitative research is that the research is typically conducted in a setting which is natural to the study subjects (Creswell et al., 2018). Consistent with this feature, participants were recruited at social centers located in several Oslo neighborhoods with a sizeable and diverse immigrant population. By recruiting at social centers, it was also an easy way to identify people who are physically able to participate in activities outside their home. The social centers included senior and women´s centers operated by Oslo Municipality or non-profit organizations, where older immigrants are known to gather. This recruitment approach is consistent with the recommendations of Fagerli and Wändel (2000) that successful recruitment of immigrants is most often through friends, acquaintances, and public organizations.

I contacted a total of 19 community centers, operated either by the municipality or a volunteer organization, about recruiting study participants. Initial and follow-up contact was made via email, phone call, or in-person, depending on the center. Of these 19 centers, six centers agreed to help me recruit, four centers denied my request, and nine centers never replied. The four centers that denied my request gave the same reason, saying they frequently receive similar research requests and feel it is their priority to provide a safe meeting space for their members. Of the six centers that agreed to help, three centers offered to recruit on my behalf, and three allowed me access to their members to do the recruitment myself. The three centers that offered to recruit on my behalf recruited no participants. I recruited eleven study participants from the three centers that allowed me to speak directly with their members about recruitment. Three participants were recruited by snowball sampling. Two of these

were recruited by individual contacts who have connections within the immigrant community, and one was recruited by another participant I had previously interviewed.

I spent many days and hours between September 2022 and mid-February 2023 visiting the three senior and women´s centers that had welcomed me in. I conversed casually with group members over a cup of coffee in attempt to earn their trust, as well as to learn more about both the individuals and their communities. At one center, I provided a thirty-minute presentation on basic nutrition for health as a way to introduce myself to group members, and as a gesture of reciprocity to the center for allowing me access to their members. Initially I thought that, by spending time getting to know members and earning their trust, members would be more likely to agree to be interviewed for this study. However, after trying this approach at two centers, I found I recruited no additional participants after my initial recruitment pitch. Therefore, I changed my approach at the third center to spend less time recruiting at each individual center, allowing more time to visit more centers. However, I recruited enough participants at the third center to complete the study and was therefore not required to approach additional centers.

In the early months of recruitment, the study area was limited to just two Oslo districts with a high immigrant population. As recruitment turned out to be more difficult than expected, it was decided at the end of November to expand the study area to include all Oslo districts with a high immigrant population. The other change made at the end of November was to offer a grocery gift card with a value of 200 Norwegian crowns to each interview participant. The cost of grocery gift cards was financed by Nofima. Once I began offering a grocery gift card to prospective participants, the recruitment rate increased significantly. Although none of the participants said they were unable to afford adequate food, many shared that they have limited resources or minimum pension. So, the financial compensation turned out to be a positive motivator for recruitment. It was after the study area was expanded to include more districts that I found a senior center where a larger number of members were interested and motivated to volunteer to be interviewed. These two changes in recruitment strategy significantly sped up participant recruitment, helping me to reach my recruitment goal.

3.4 Interviews

Most participants were interviewed at the center where the participant was recruited, and a few were interviewed at a different location as agreed upon by the participant and me. This is consistent with recommendations to interview immigrants at the location where they are recruited (Fagerli & Wandel, 2000). Only two people were present at each interview – the participant and me. I introduced myself to each participant as a master's student in public health nutrition at OsloMet University. Before starting the interview, I explained to each participant their rights, including that participation is voluntary, and that they have the right to privacy, and to withdraw from the study at any time until the report is completed. Each participant received detailed information regarding the study and their rights in writing in the Norwegian language, according to the requirements of Sikt - Norwegian Agency for Shared Services in Education and Research (formerly NSD - Norwegian Center for Research Data) (see Appendix 2). I asked each participant if they had questions about the research study or their rights before asking them to sign the consent form. Once their rights were discussed and the consent form was signed, the interview could begin. Signed consent forms and protected participant data are stored in a password protected electronic file managed by Nofima. Only myself and my three supervisors have access to this protected data.

The interviews lasted between 30-75 minutes. Interviews were conducted in Norwegian, and audio recorded for later transcription and analysis. Of note, I also speak, read, and write Norwegian as a second language with academic (B2) competency. No field notes were made either during or after the interviews.

3.4.1 Audio Recording, Transcription & Translation

Interview conversations were audio recorded using an Olympus WS-853 digital voice recorder. The audio recorder was borrowed from my supervisors at Nofima. All audio-recorded interviews were first transcribed electronically using Microsoft Word. I then carefully reviewed all audio recordings and interview transcripts in full to ensure credibility of data was not compromised, making corrections to transcripts, removing identifying information, and adding interviewer observations. Interviews were transcribed into Norwegian, the same language in which interviews were conducted, using a denaturalized approach, correcting for grammatical errors so as not to distract from interview content (Oliver et al., 2005). An example of denaturalized transcription and English translation of an

interview quote is provided in Table 1. Participants were not invited to review or correct transcripts, nor were they invited to offer feedback on the findings. The analysis was conducted on Norwegian-language transcripts. Quotes selected for inclusion in this thesis were translated from Norwegian to English by me, with assistance from Google translate and my Norwegian husband.

Table 1.

Example of denaturalized transcription with English translation

Direct transcription (Norwegian language):
På grunn av Korona da ikke gå ut. Da sitter hjemme. Jeg strikke genser og da var jeg bare sitte. Spist mat, bare sitter. Jeg gått opp mange kilo. Nå jeg går ned igjen. De siste noen måneder, jeg gått ned 15 kilo.
Denaturalized transcription + English translation:
Because of Corona, I didn´t go out. I just sat at home, knitting sweaters, and eating. I went up [in weight] many kilos. Now [my weight] is going down. In the last several months I have lost 15 kilos.

3.5 Analysis

3.5.1 Reflexive Thematic Analysis

Reflexive thematic analysis (RTA) as described by Braun and Clark (2006 & 2021) is the analysis approach selected for this study. RTA was selected because it is an accessible, interpretive approach to qualitative analysis which supports the identification of patterns of meaning in order to develop a deeper understanding of the human experience (Braun & Clarke, 2023; Byrne, 2022). Although not exclusive to phenomenology, RTA is compatible with a phenomenological approach (Braun & Clarke, 2021). RTA is not neutral, but rather a reflection of the researcher´s interpretive analysis of the data as informed by theory and the researcher´s own experiences (Byrne, 2022). As such, RTA highlights the researcher´s role in knowledge production (Braun & Clarke, 2021).

This study uses both deductive and inductive analysis. Deductive analysis is driven by preselected theories which inform the interview guide (Patton, 2015). For this study, dietary

acculturation theory (Berry, 2001) and the temporal model for older adults (Govindaraju et al., 2022) were selected to guide the development of interview questions to ensure the study design was informed by previous related knowledge. Selecting a theoretical framework establishes a foundation to which new knowledge can be added (Brinkmann & Kvale, 2015). Inductive analysis is a data-driven analysis, free from preconceived ideas and theories, in which new concepts or explanations are generated from the data (Patton, 2015). By combining deductive and inductive analysis approaches in this way, it is possible to connect the results of this study to previous knowledge, while at the same time remaining open to learning about the experience from a unique group´s point of view (Patton, 2015).

3.5.2 Coding

Prior to coding, transcripts of the fourteen interviews, 239 pages in total, were imported into NVivo® 1.7.1 for Macintosh, a qualitative analysis program. This program was downloaded from the Oslo Metropolitan University website where licensing rights are provided to registered students.

Codes were generated through the researcher´s active and reflexive engagement with the data as interpreted through the lens of the theoretical framework and the researcher´s own experiences (Braun & Clarke, 2021). As I had conducted and transcribed all interviews myself, I was already familiar with the data. However, to ensure I had equal memory and familiarity with all interviews, I reread all transcripts before starting the coding process. On the next read-through, I coded each interview transcript, identifying data that was interesting, meaningful, and relevant to the research questions (Braun & Clarke, 2006). After completing the initial coding, two interviews were coded independently by my three supervisors and then discussed. Although consensus among coders is not an aim in RTA, reflecting with others can lead to new knowledge and understanding which may not happen when only one mind is involved (Braun & Clarke, 2006). The final list of codes and themes is found in Appendix 3.

Some examples of early codes include “motivated to protect health”, “overcoming health challenges”, “beliefs about food and health”, “seek out information on nutrition and aging”, “disease management”, “eat less fat”, “eat less sugar or carbs”, and “future and family”. Responses to the dietary recall were coded according to meal type, “who cooks”, and “who shops”.

When a meaningful concept was found which had not previously been seen in other transcripts, I created a new code to capture it. In some cases, I encountered data that provided additional detail to existing codes. For example, some participants were motivated to protect health for emotional reasons, such as time with their grandchildren. Other participants were motivated to protect health for practical reasons, simply because it is the right thing to do. In this case, I created subcodes to distinguish between emotional and practical motivators.

Other times, I found it meaningful to combine codes under a common umbrella code. For example, I eventually identified eight different diet changes participants made, such as eating less fat or less sugar. Initially, I coded these changes separately. Later, I created a parent code called "how diet has changed" under which I moved all codes regarding specific diet changes.

Some codes evolved as my understanding and interpretation of the data evolved. This is an example of how the analysis process moved back and forth between coding and thematizing. For example, it was early in the analysis process that I recognized a pattern of health success experiences among participants. Some had also shared stories which demonstrated self-efficacy and resilience, although not necessarily health or diet related. So, although I found these experiences very interesting and meaningful, I was uncertain whether they helped to answer the research questions. It was only after I recognized the relationship between self-efficacy, resilience, and social cognitive theory that a connection to the research questions was established. On my final coding read through the transcripts, I coded all stories of "resilience" and "self-efficacy" and moved "overcoming health challenges" to become a sub-code under "self-efficacy".

As familiarity with the data increased, new patterns of meaning were created. As a final coding step, I reviewed coding across all transcripts, adjusting and adding codes to ensure all interviews were coded consistently, and all meaningful data captured.

3.5.3 Generating Themes

A theme is a concept which demonstrates the relationship between two or more codes in a way that is relevant to the research questions (Byrne, 2022). The themes of "dietary

acculturation" and "future hopes and worries" were selected deductively to be consistent with the selected theory and model used for developing the interview guide. The remaining themes – "eating habits for health", "nutrition and health knowledge" and "personal characteristics" – were generated using inductive analysis. The final list of codes and themes is available in Appendix 3.

Theme development in RTA is a process in which themes are generated, reviewed, refined, and renamed (Braun & Clarke, 2006). Thematizing is finished when all themes together summarize the data in such a way that answers the research questions (Byrne, 2022). For example, early in the thematizing process I identified a theme called "self-efficacy" under which sat the codes for "resilience" and "motivation". After recognizing that self-efficacy and resilience are both personal factors according to SCT (Bandura, 2004), "self-efficacy" was demoted to a code under the new theme "personal characteristics". While writing this report, it became clear that participants are motivated by their future hopes and worries to eat healthfully. Therefore, "motivation" was renamed "future as motivation" and moved under the theme "future hopes and worries".

In another example, the theme "nutrition and health knowledge" was generated during an analysis brainstorming meeting with my supervisors. While I had recognized the considerable interest in nutrition and health information among participants, it had not occurred to me to identify this as a theme. This experience of collaboration taught me the value of creative reflection with others who have expertise in the field of study in order to understand the data in new ways (Braun & Clarke, 2006).

Throughout the process of thematizing, I created diagrams to aid my understanding of the relationships between the various codes and evolving themes. This visual process became instrumental in theme development and increased my confidence in understanding when the analysis was complete. The final thematic diagram is presented in the findings chapter (Figure 4).

The final step of RTA is preparing a report which presents the researchers knowledge construction through data highlights and final themes in context with existing literature.

3.6 Ethical Considerations

Ethics approval was sought from Sikt - Norwegian Agency for Shared Services in Education and Research (formerly NSD – Norwegian Center for Research Data), and approval was confirmed prior to beginning recruitment and data collection (Reference #671301, see Appendix 4). Interview participants were provided written information in Norwegian language regarding the study's purpose and their rights as participants, including their right to withdraw from the study. I also provided this information verbally to ensure understanding considering participants´ varying competencies in reading and the Norwegian language. Only after explaining their rights was written consent obtained.

Interview data has been de-identified and participant names replaced with pseudonyms to ensure participant confidentiality. Audio recordings were deleted after transcription was complete. Consent forms and personal data have been securely stored as specified by Sikt and are accessible to only myself and my three supervisors. All data collected will be used for the purpose of this study only.

It is important to note I did not seek ethics approval to ask study participants about illness or medical conditions, nor did I ask such questions. All information collected regarding medical conditions was provided voluntarily by participants without prompting.

4 Findings

Fourteen people meeting the inclusion criteria were recruited and interviewed in Oslo between November 1, 2022, and February 16, 2023. A summary of participant characteristics is presented in Table 2. The average age of participants is 68.2 years, and their average length of residency in Norway is 39.6 years. The majority immigrated to Norway before they were thirty years old. While participants represent five different countries of origin, the majority immigrated from Pakistan. This is to be expected considering that, of all immigrant groups in Norway, Pakistani immigrants have the largest percentage aged 60 years and older (63%) (Statistics Norway, 2022).

Table 2

Summary of participant characteristics (N=14)

Variable	n	Variable	n
Gender		**Country of Origin**	
Female	7	Afghanistan	1
Male	7	fmr. Yugoslavia	1
Age (yrs.)		India	2
60-64	5	Pakistan	9
65-69	3	Sri Lanka	1
70-74	2		
75-79	4	**Years in Norway**	
Immigration Age (yrs.)		10-19	1
19-29	10	20-29	2
30-39	3	30-39	2
40-50	1	40-49	7
Other		50-59	2
Univ. Degree	3		
Illiterate	3		

Although participants were not specifically asked about their education, three participants shared voluntarily that they had finished university. Several others mentioned school but did not say what level of education they had completed. For the three participants who are illiterate, this information was revealed upon signing the study consent form. Although level

of education was not captured for all participants, it is meaningful to share the information that was collected as it demonstrates diversity within the study group.

This chapter presents data in the form of participant quotes to demonstrate the study´s rich findings. Participants have been assigned pseudonyms for the purpose of protecting their identities while sharing their experiences. When presenting participant quotes, brackets are used to indicate words added to clarify a statement or to protect anonymity. Three dots are used to indicate where content which does not contribute to understanding has been removed. Participant pseudonyms and characteristics are listed in Table 3 for context.

Table 3

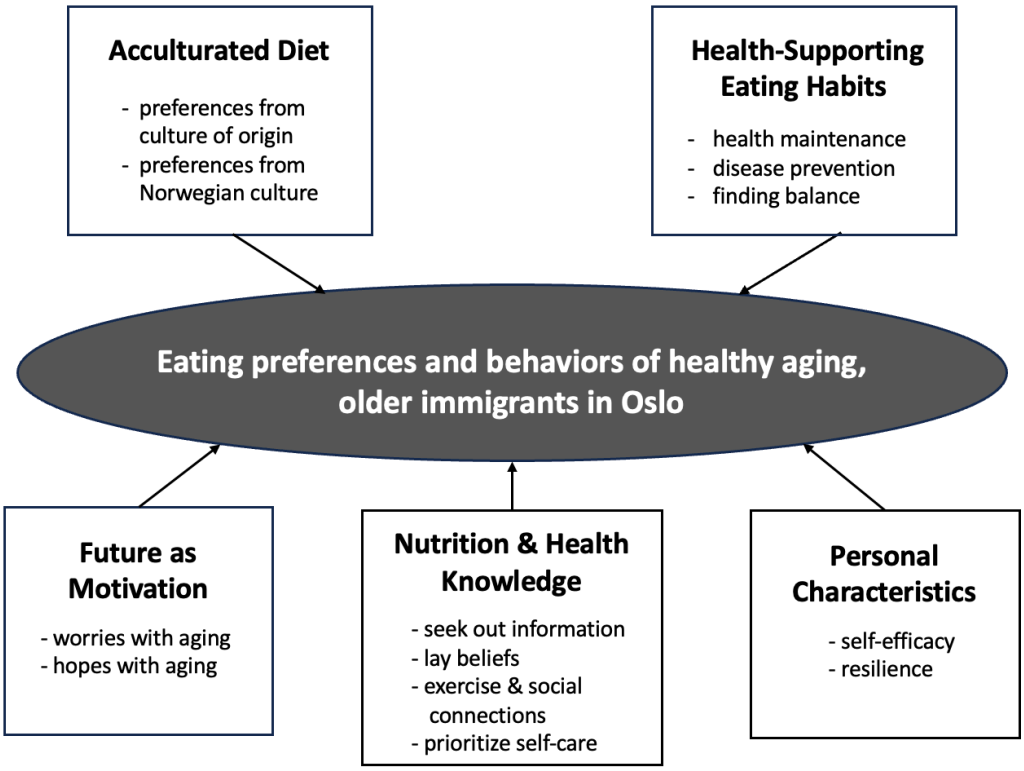
Interview participants

Participant Pseudonym	Gender	Age	Country of Origin	Years in Norway
Samina	F	60-64	Pakistan	40-49
Priya	F	60-64	India	30-39
Zainab	F	60-64	Pakistan	20-29
Jamila	F	60-64	Afghanistan	10-19
Ayesha	F	60-64	Pakistan	40-49
Gayan	M	65-69	Sri Lanka	30-39
Bilal	M	65-69	Pakistan	40-49
Marija	F	65-69	former Yugoslavia	20-29
Khalid	M	70-74	Pakistan	40-49
Yasir	M	70-74	Pakistan	40-49
Fatima	F	75-79	India	50-59
Yusuf	M	75-79	Pakistan	40-49
Hasan	M	75-79	Pakistan	50-59
Rashid	M	75-79	Pakistan	40-49

Deductive and inductive analysis of interview transcripts generated five major themes which influence eating preferences and behaviors of healthy aging, older, first-generation immigrants: acculturated diet, health-supporting eating habits, future as motivation, nutrition and health knowledge, and personal characteristics (Figure 4). The remainder of this chapter is dedicated to presenting the details of these findings.

Figure 4

Influences on the eating preferences and behaviors of healthy aging, older immigrants in Oslo



4.1 What Older Immigrants Eat

4.1.1 Acculturated Diet

All participants report changing their diet after immigration as a result of exposure to Norwegian food traditions, also known as dietary acculturation. Most have adopted an integrated diet pattern, a couple have adopted an assimilated diet pattern, while no

participants demonstrated separation or marginalization in their eating pattern. While some of the results reflect previous research on dietary acculturation in the early years after immigration, the participants in this study provided insights into how dietary acculturation evolves many years after immigration, and how eating habits are influenced by their Norwegian-born children and grandchildren.

Most participants exhibited an integrated diet pattern, meaning they eat foods traditional to both Norway and their culture of origin. Dinner is most often a traditional meal from their culture of origin, such as curry with chapati (Pakistani) or chicken lamprais (Sri Lankan). Breakfast and lunch are traditional Norwegian foods, for example oatmeal with fruit and nuts for breakfast, and open-faced sandwiches with herring in tomato sauce for lunch. Reasons for preferring Norwegian foods for breakfast and lunch include: "the foods are faster to prepare", "easier to eat at work", and "healthier". Lunch foods from the culture of origin require long preparation time or reheating, whereas Norwegian foods can be eaten cold.

Marija from former Yugoslavia and Zainab from Pakistan were the exceptions, exhibiting an assimilated diet pattern, meaning they reported adopting a near-exclusive Norwegian diet. Both participants feel their current diet is healthier than the traditional diet from their country of origin. Marija described how her diet initially changed when she came to Norway as a refugee, saying "I had contact only with Norwegians. We had access to fish because we could catch it ourselves. And it was too expensive for us to buy meat." She continued, "Norwegian women taught me an unbelievable amount about how to cook Norwegian food, and I am so grateful. Everything such as fish casserole, fishcakes, fish sticks, fish soup." Marija still prefers Norwegian food. Regardless of their new diet preferences, both women say they still enjoy traditional foods from their country of origin when celebrating holidays and feast days.

Participants eating an integrated diet provided insights into why they prefer foods from their culture of origin for dinner. Several participants expressed an opinion similar to Samina´s that "Norwegian food has no spices. That is why I like Pakistani food – because we use a lot of spices, so the food has a lot of flavor when you eat it…It´s not about tradition. We just like the flavor". Yusuf agreed, saying "I can eat Pakistani food for many, many days without tiring of it. But I cannot eat other food for many days". According to Khalid, he prefers the flavors because "first and foremost, I am used to [this food]…When I stopped drinking mother´s milk, I began eating Pakistani food".

When asked why they choose traditional Norwegian foods for some meals, health and easy access were the reasons offered. Bilal responded, “Because is it good for my body and gives us many vitamins, that is why I like to eat a lot of fish. We bake it in the oven”. Bilal also chooses oatmeal with nuts for breakfast because “it is filling and healthy”. Yasir also enjoys fish, saying “salmon, trout and cod…but with spices or sauce because I make it with Pakistani flavors”. He went on to say, “Now that we live in Norway, I prioritize Norwegian food, but to my own taste”. Norwegian foods frequently eaten by participants include salmon, other fish, fishcakes, mackerel in tomato sauce, shrimp salad, oatmeal, crispbread, cheese, and jam. Participants also eat tacos, pizza, lasagna, and spaghetti which they identified as Norwegian foods. While these foods are not traditionally Norwegian, they have become a regular part of the diet in Norway and much of the western world in recent years due to globalization. Participants eat these western foods most often when they eat with family, as Yusuf explained, “The entire family, kids, and grandkids, come and eat dinner with me every Saturday. I make pizza and also order pizza which the grandkids like better.”

The influence of children and grandchildren was mentioned by several participants. Their children tend to eat more Norwegian food but enjoy their parents´ traditional foods when they visit and for holidays. Priya´s adult son eats only Norwegian food. However, “my son visits every weekend, and then he prefers [to eat] Indian food”. Jamila´s daughter has learned to make Norwegian food, but “when it is her birthday, I make Afghani food”. Bilal´s family prepares Norwegian meals more often to accommodate the children´s preferences. According to Bilal, they eat Pakistani food for dinner just “two to three times per week, not more. Because the children were born in Norway, they don´t want to eat Pakistani food every day. Therefore, we follow them”. Participants´ grandchildren tend to prefer Norwegian food. As Yasir explained, “the grandchildren eat both [Norwegian and Pakistani food], but they like Norwegian food best”. Ayesha prepares Norwegian food when her grandchildren visit, as she explained, “the grandchildren are not able to eat spicy food or Pakistani food. My daughter-in-law is Norwegian – [her] children are not able to eat spicy food”.

Sometimes meals combine traditions from Norway and the culture of origin. For example, salmon made with spices traditional to Pakistan served with rice and traditional vegetables such as bhindi (okra). Zainab explained that she “uses Pakistani spices with Norwegian

recipes." Khalid also prefers Pakistani spices, saying "when my daughter-in-law cooks Norwegian food, I have extra spices on the side."

When participants were asked how their food and eating habits today compare with habits before immigration to Norway, many said it was difficult to remember because they immigrated so long ago and at a young age. Several participants noted they prepare foods more often now by roasting or grilling instead of frying, which was a more common cooking method in their culture of origin. Some believe their current diet is healthier, such as Yasir who shared "I think I eat a little healthier than before. We use little oil, and less sugar than before. We eat more vegetables and fewer dairy products."

Each participant was asked to describe what they eat in a typical day to better understand their food preferences. Table 4 demonstrates the typical daily intake for four participants. Three of these participants demonstrate an integrated eating pattern and one demonstrates an assimilated eating pattern.

Table 4

Participant diet examples, classified by the author according to Berry's theory of acculturation (Berry, 2001)

Participant	**P3 – Yusuf**	**P7 - Marija**
Acculturated Diet Pattern	Integrated	Assimilated
Breakfast	cereal with milk, dates & nuts	oatmeal with seeds, blueberries, lingonberries & cultured milk
Snack	none	none
Lunch	2 slices whole wheat bread with herring or sardines	whole wheat bread with cheese & mackerel
Snack	fruit or raw vegetables	fruit
Dinner	Pakistani most often: lentils or chicken, vegetables & rice Norwegian occasionally: salmon, potatoes & salad	Norwegian most often: fish soup & salad, OR chicken, vegetables, and sauteed apples Yugoslavian for family gatherings & celebrations
Snack	none	dark chocolate occasionally
Participant	**P4 - Samina**	**P11 - Khalid**
Acculturated Diet Pattern	Integrated	Integrated
Breakfast	boiled egg with bread OR pancakes with butter, & tea	2 slices bread with white or brown cheese, low-fat milk or juice, & coffee
Snack	none	banana & apple
Lunch	apple or orange & small handful nuts	salad, cooked vegetables with curry sauce, fried or boiled egg, & bread
Snack	none	none
Dinner	Pakistani most often: lentil soup with rice or bread OR lamb with spinach & wholewheat flatbread Norwegian occasionally: salmon with vegetables OR pizza	Pakistani most often: Curry with chicken or meatballs, vegetables & chapati Norwegian 1x per week: Fish, vegetables & potatoes
Snack	dried bread with milk	none

4.1.2 Health-supporting Eating Habits

Interviews revealed that all participants have changed their diet to include more health-supporting foods in order to improve or protect health as they age. Some made healthy diet changes in recent years as they entered late adulthood, while others changed their diet to include more health-supporting foods many years ago. Although none of the participants stated they are eating healthfully all the time, participants report a wide variety of healthy diet choices with the goal of preventing disease and protecting health into the future.

4.1.2.1 Health Maintenance and Disease Prevention

Most participants said they choose to eat healthfully to reduce risk of non-communicable diseases (NCDs) such as heart disease and diabetes, and to support best possible health and quality of life as they age. Reported diet changes for health are numerous and include eating more fiber, vegetables, and protein, and eating less fat, sugar, carbohydrates, and meat.

Eating less fat is the diet change most frequently reported by participants. Khalid and his family have changed the way they prepare food to reduce fat, saying "But now at my age, we eat mostly boiled food instead of fried food." Yusuf explained that "Pakistani food traditionally is made with a lot of butter and oil. That which I have changed…I use very little oil, and don´t use butter at all." Yusuf went on to say, "I use canola oil, and I use the smallest amount possible." Several participants reported using extra virgin olive oil and canola oil because they have learned these are better choices for health. A few participants, such as Samina, have purchased an air fryer to help reduce fat consumption. "Now when I want to fry something, for example French fries, I just use the air fryer." Jamila has learned to choose low fat dairy foods to reduce fat intake. "I have low-fat milk and low-fat butter. Everything I eat is low-fat." Ayesha shared the numerous changes she has made to reduce dietary fat, saying, "I can´t eat two egg yolks, so I take one out and only eat the white. I don´t eat mayonnaise – it has too much fat." In addition, Ayesha "buys very low-fat milk. I take the one with little fat."

Many participants report reducing sugar and simple carbohydrates to protect health with aging. "It isn´t good to eat a lot of sugar", explained Ayesha. "The doctor said my blood sugar is borderline, so I have to be careful…I have to eat less bread, less rice, and similar things." Yasir shared that when he was working, "I drank more soda and other sweets. But

since I stopped working, I have changed my habits." Yasir went on to explain that he and his wife "buy few sweet foods…And we are careful not to drink very much juice, soda, or other sweet beverages." Priya said she makes desserts for guests, "but otherwise we eat very little sugar at home. We buy one kilo sugar which lasts for many months."

Yusuf shared his efforts to eat more fiber. "Because I am over 70 years old, one has to be a little careful with food. I avoid soft bread. I use whole wheat bread. And when I make pizza, I make it with wholewheat flour." Samina is also motivated to use more wholegrains when she prepares food, for example "when we make flatbread, we use wholewheat [flour]…It is coarse and healthy, so I make bread with that at home." When Samina makes waffles, she replaces half of the flour with rolled oats because "when you make waffles with rolled oats, it is very healthy and fills you up". Similarly, Ayesha combines wholewheat flour with regular flour when baking bread. And when she buys bread, Ayesha said, "we buy multigrain bread…it is wholegrain bread. We have learned a lot." Priya shared that "here [in Norway] I eat more pasta, spaghetti, and such things. But when I make [pasta], I choose wholegrain." Hassan reads the nutrition information on food labels to select foods with higher fiber content. "Many years ago…my doctor said, "you are completely healthy…just eat food that has fiber."" He went on to say, "I eat only food with a lot of fiber…Crispbread, for example. There are many different types. But I buy the one that has a lot of fiber".

Several participants shared their strategies for increasing vegetables in their diet. Jamila started to eat more vegetables to support her weight loss goal and has continued eating a lot of vegetables to keep the weight off. Jamila explained, "I prepare vegetables every day. Many different vegetables…I eat a lot of cooked vegetables…and mixed vegetables". A few participants shared that they enjoy preparing and eating smoothies to increase vegetable consumption. For example, Marija explained, "we often make smoothies with [vegetables]. We always have blueberries and raspberries which I have picked myself… I have so much in the smoothie…such as kale and spinach, which I have in the freezer. Also, cucumber and banana. There is so much!". Priya shared a different strategy, saying, "two times a week I eat only salad for dinner. Then I drop all grain products."

More than half of participants said they eat smaller and/or less frequent meals for health. Gayan explained "I have to be careful. Although I eat four times a day, I don't eat much. I can't eat much." Samina learned in a nutrition class that, "it is good to eat less. One can eat

several times a day, but small amounts…One won´t get sick if you eat smaller portions every day". Yasir has also reduced his portion sizes as he´s aged, sharing that he eats "less food each time I eat, and I try not to eat so late in the evening". Hasan has developed a similar habit, saying, "If I eat too much, then I feel heavy. So, I don´t eat too much…just enough".

A few participants shared their efforts to eat less red meat, and a couple emphasized the need to eat other protein sources to ensure their protein needs are met. Marija and her husband eat a meatless dinner two days per week. When asked whether she eats much Yugoslavian food, Marija replied, "It is a lot of meat and a lot of fat, and a lot of…no". Hassan has intentionally reduced his meat consumption, explaining "If you look several years back, I was eating a lot of red meat, ground beef, and such things. But now very little. I eat very little red meat." Now Hasan eats eggs for breakfast "almost every day. Protein, protein!". Jamila is intentional about eating protein with every dinner, saying "it has my health. It has protein…After the [knee replacement] operation, my protein and…iron went down". Her protein sources include beans, chicken, and lamb.

I did not ask the participants questions about illnesses or diagnosed health conditions, consistent with the ethics approval from Sikt. However, some participants voluntarily offered information about their personal health conditions.[1] Out of range lab values (blood sugar, cholesterol, blood pressure) and diagnoses such as type 2 diabetes, high blood pressure, high cholesterol, osteoporosis, and acid reflux are illnesses the participants mentioned. All participants who shared information about existing illnesses also shared their interest and efforts to reduce the severity or impact of the illness through healthy diet choices. These diet habits include avoiding sweets, using less cooking oil, eating smaller meals, and limiting bread, rice, and red meat.

Most participants report taking nutritional supplements, and many take the supplements under doctor´s advice. Supplements taken by participants include fish oil, vitamin D, multivitamin, calcium, and iron. All participants stated that they need to take a Vitamin D supplement to prevent vitamin deficiency, and most said they have tried taking Tran, Norway´s traditional

[1] I contacted Sikt to ask if it is allowed to include information about diagnosed health conditions. The Sikt advisor said it is allowed to include relevant, unsolicited information so long as participants´ identities are protected. This data related to diagnosed health conditions is presented in aggregate as an additional measure to protect participants´ anonymity.

omega-3 cod liver oil supplement with vitamin D. However, several mentioned they had to discontinue taking Tran due to gastrointestinal distress, unpleasant body odor, or unpleasant taste. Most participants who discontinued Tran now take a Vitamin D tablet. Only one participant reported taking no supplements.

4.1.2.2 Finding Balance

Although the participants demonstrated determination to eat healthfully, many acknowledged they cannot eat perfectly all the time. Some participants described their efforts to balance eating for health and eating for pleasure. Priya shared, as others did, that there are some foods she continues to eat at celebrations. “But then there will be a bit more fried food. So that's why we keep it only for celebrations, not as an everyday food.” Jamila is a very social person and shared that, “sometimes when I go out, when I drink coffee or tea, then I use regular milk with fat. But at home I never have milk with fat”. Ayesha enjoys samosas but is aware they are deep fried and contain a lot of oil, so she eats them more seldom than she used to. “I never make them at home, and I never buy them…But occasionally when all my friends go out, they will order [samosas]. Then I have to keep them company”. Ayesha sums it up well, saying, “We are trying the best we can. We are human now and then. We can´t be careful all the time”.

4.2 Influences on Older Immigrants´ Eating Preferences and Behaviors

4.2.1 Nutrition and Health Knowledge

The participants in this study demonstrated a relatively high level of knowledge and interest around nutrition and lifestyle habits for health which influence their eating decisions.

4.2.1.1 Proactively Seek Out Information on Food and Nutrition

All participants reported actively seeking out information about how to protect their health through diet and lifestyle change. More than half said they actively seek out nutrition and health advice from media sources including the internet, television, radio, newspapers, magazines, books and brochures. Priya follows online sources, saying “there is always new research. I follow that closely.” Media sources from Norway, their country of origin, and other nations are of interest and regularly consulted. Yasir follows the internet, newspapers, and magazines. “Yes, there is a lot in the media. We get a lot of information about how

dietary fat affects the body. What is healthy and what is not healthy. This has an influence on me."

Doctors, nutritionists, and friends are the people mentioned most often as providing information which influences their food decisions. Samina explained, "I have been to the doctor. He says I shouldn't use a lot of oil. So that's the way I try to make it at home." According to Priya:

> ...we are three friends who spend a lot of time together. So, we eat pretty much the same food, and all three of us eat healthy.... I hadn´t thought about whether we support each other when it comes to eating habits, but we do.

Information from health care providers is received at clinic appointments, nutrition classes offered in hospitals and clinics, and at presentations organized by the municipality in public venues such as libraries and senior centers. Ayesha has attended classes offered by the municipality where she learned, "you need to eat five a day. Two fruits and three vegetables, or three fruits and two vegetables." Zainab found nutrition classes at the clinic to be "helpful":

> It was a nutrition department. I spent a few hours with them, and I learned how to eat with diabetes. Before I didn't know which flour I can use to bake my own bread. She taught me to make whole wheat bread from whole grain flour.

Some participants experience family members as strongly influential on eating habits. Jamila´s daughter tells her not to eat bananas or grapes. "[My daughter] is a nurse and she looks after me. She buys food for me with very little fat." Marija´s daughter "is very keen on eating healthy. She buys books for me about food." Marija and her husband have an agreement "that we will say to each other, when you are eating chocolate, you don´t need to eat so much."

A few participants identified doctors and family members from their countries of origin as influences on food behavior. Zainab consults regularly with a naturopath in Pakistan for assistance. "He is our family doctor, so I call and talk to him too. I learn a lot from him." Marija´s sister "works as a chef. So, I call her often to ask [advice]. It´s not easy to make vegetarian food and have it taste perfect, you know?".

4.2.1.2 Lay Beliefs about Food and Health

Most of the data demonstrates that the study participants are quite knowledgeable about how to eat for health. However, there are some exceptions. “Oatmeal is sugar.” “Flour is not good for the body.” “Almonds are good for the brain.” “Potatoes are dangerous.” “Ginger helps a lot when you are over 60 years old.” These quotes all came from participant interviews. These quotes exemplify lay beliefs which participants may have learned from personal experience or from sources such as the media or friends. Although these statements are not accurate, these beliefs are unlikely to compromise participants´ health. On the other hand, participants did reveal some inaccurate lay beliefs about food which could have health consequences if they go uncorrected. For example, Fatima´s doctor has told her to eat less salt because she has high blood pressure, but she uses “Himalaya salt on everything because it has no effect on blood pressure.” Fatima also said she avoids sugar due to diabetes but “eats raw sugar from sugar cane because it is natural.”

4.2.1.3 Importance of Exercise and Social Connections for Healthy Aging

When asked about other lifestyle habits important for healthy aging, all participants named both exercise and social connection. As Rashid explained, “You have to try after 60-65 years. You can´t just sit lazy at home eating and taking medicine. You need to go out, get fresh air, and do something." Some participants also mentioned that positive thinking as well as avoiding alcohol and tobacco are important for health.

All participants report having a regular exercise routine. Some are independently active, taking a long walk daily or working out at home. For example, Bilal walks ten kilometers every day year-round. Jamila walks for 2 hours each day but prefers to think of it as “staying active rather than exercise”. Some meet others for exercise at a gym or senior center, noting that this fulfills their need for both exercise and social connection. Yusuf likes to keep himself busy saying “I go for walks with the senior center and exercise a couple days a week at the gym.” Some are motivated to exercise to manage health issues, such as Ayesha who explained “I exercise almost every day on the stationary bike at the senior center because I have problems with my feet. Therefore, it is very important for me to bicycle.”

Social connection was also identified by all participants as being important for health with aging. The frequency of participation in social activities varied from one day to seven days

per week, and most reported participation in more than one group. In addition to senior centers, the participants socialize at women´s or men´s groups, religious centers, libraries, cafés, and in their homes. Many said they gather with their children and grandchildren for a meal at least once a month. Khalid is exemplary in that he exercises 5 days a week with a group of friends. In addition, he spends "one day at the senior center, two days [at a senior men´s group], and two days at the mosque."

When visiting social centers for recruitment, I encountered a number of the same people at different centers throughout Oslo. This includes three study participants who regularly visit social centers in different neighborhoods. They report advantages such as the opportunity to socialize several times per week, participate in a variety of activities, enjoy a meal, and the opportunity to meet a variety of people. Jamila enjoys preparing food for others and being social, saying "I go to this senior center, and to [a second] senior center. Now I have started at [a third] senior center." Information about other groups is often by word of mouth when they are invited by friends to meetings in other neighborhoods.

4.2.1.4 Prioritize Self-care

Several participants offered their thoughts about the importance of self-care as they age. Rashid shared that he sees his doctor for regular check-ups. "I take care of myself, and I go to the doctor for blood tests every six months. If I have problems, I discuss it with my doctor." Ayesha said, "I don´t think my health is especially good, but not poor either. No, it´s good enough. I have to take care of myself every day". Fatima has a well-rounded approach to self-care as she ages, explaining:

> It is best to take care of yourself. To take walks, exercise, and meet other people. If you just sit at home, it´s boring…I have to go out, not just sit at home. What am I going to do – stare at the walls? Not good. You have to be happy in life.

4.2.2 Personal Characteristics

Although this study was not designed to identify personal characteristics, participants shared experiences which provide insight into the influences on their eating preferences.

4.2.2.1 Self-efficacy

Past successes, also known as mastery experiences, help to strengthen one´s self-efficacy for overcoming future challenges (Bandura, 2004). Two participants reported significant weight loss and improvement in health-related lab values through diet and exercise change. Fatima gained unwanted weight during the pandemic because, as she explained, “I didn´t go out. I just sat at home, knitting sweaters, and eating...I went up [in weight] many kilos. Now [my weight] is going down. In the last several months I have lost 15 kilos”. Fatima described losing the weight through intentional diet change and exercise. Jamila’s weight had climbed due to chronic knee pain. After having surgery on both knees, the pain disappeared, and Jamila began taking long daily walks. She explained, “After my operation, I lost 30 kilos. I walked and walked and walked. I used to take tablets for my blood sugar. But after I lost weight, my blood sugar went down. And my blood pressure went down, too.”

Two participants shared their experiences with loneliness after immigration and explained how they succeeded in overcoming loneliness and depression. Fatima suffered abuse at the hands of her husband for some years before divorcing and raising a child on her own. “It is not easy [to live] 42 years alone with a child...He was a very difficult man [who] drank and hit. It was not easy.” As Fatima described it, “Many years ago I was very depressed...but now I am alive. I am alive and enjoying life”. Zainab shared a similar story of immigrating to Norway with a husband and small child, then divorcing and raising the child on her own. She often eats alone, explaining “due to depression, it is a little difficult to cook, so I eat the same food. It is boring, so I don´t really want to eat”. Zainab also shared the strategies she uses to improve her mood, including spending time with friends, meeting with others at senior centers, and traveling to visit friends in other parts of Norway. More recently, Zainab “began exercising at the training center…together with a friend. It is very important because if I have an appointment with someone, then I will go out and exercise. Otherwise, I won´t do it”.

4.2.2.2 Resilience

Resilience is a person´s ability to function positively in spite of adversity (Kern & Friedman, 2010). Several participants shared personal experiences which demonstrate the depth and strength of their resilience. For example, Ayesha lives with chronic pain in her feet, but she does not let this stop her.

> I have more pain in my feet, but I just tolerate it. There are some places I can´t go with my scooter, so I have to walk. If I just sit, my problems get worse. Either I tolerate pain in my feet, or my problems get worse. Better that I tolerate the pain – I have to try.

Yusuf had never prepared his own food until his wife of over 40 years became critically ill.

> The culture is such that women don´t want men to cook…that is our culture. I began [to cook] after she became ill and needed help…And I learned a little bit. After [my wife] died, I began coming to the [Oslo neighborhood] senior center, and they had a course for learning to cook Pakistani food.

Not only has Yusuf embraced his new cooking skills, but he has developed a system for batch cooking and freezing meals, saving him time.

> I thought that if I can freeze [meals], why can´t I create a system for it? And such that there is no food waste, and I don´t need to cook every day…I cook not more than twice a month, and I always have 8 or 9 different dishes [in the freezer].

Marija´s resilience story comes from her experience during the Balkan war when she taught herself to prepare complete and delicious meals for her family from limited ingredients.

> If I have milk, beans, and flour, I can make a celebration...I learned that during the war. I wrote my recipes in a book, and when I see now all the recipes for cake without eggs, without butter. What kind of cake is that? But it is cake, isn´t it?

At one point, the family took refuge on a farm. Marija said, “I had never milked a cow, but I learned. And then I learned to make my own cheese and sour cream”, which she continues to make to this day.

Jamila shared her complicated immigration journey through three different countries. Jamila and her children first sought refuge in Iran but left after one month due to discrimination. “No, [Iran] was not good to us…You go and buy bread…they have a line. When others come, you are removed [from the line]. “You go – Afghani go!”. The family moved next to Pakistan where they lived more than a decade before immigrating to Norway. In Pakistan, Jamila worked seven days a week cooking and cleaning for a family so she could pay tuition for her children´s schooling. “I worked so much. I worked hard. I worked for someone washing clothes, cooking food – many jobs around the house….I was washing and I fell.”

Jamila showed me a long, deep scar on her arm where she suffered a cut from broken glass while cleaning. Despite the many challenging experiences in years past, Jamila proclaims today that she is “delightfully happy”.

4.2.3 Future as Motivation

When discussing their motivation to eat healthfully, most participants talked about their desire to protect health for the future. Marija, Zainab, and Jamila expressed an understanding that poor diet habits increase the risk of illness and early death, which they wish to avoid. “Because it is not easy to live with illnesses and other problems. I don´t want to die so fast – I want to live a long time,” said Zainab. Ayesha was direct in saying that she does not wish to be old and sick. “Perhaps it is better to die before that. I want to be healthy and old.”

Priya is motivated by the deeply personal loss of her brothers at a young age. “They have left a mark on my life. They ate very unhealthily, got diabetes, and they had more and more complications. That is something I am very afraid of – that I don´t go down the same road.” Samina also expressed motivation to have better health in old age than her mother who was bedridden for the last years of her life. “She was not able to stand or walk, so she just laid in bed. And she had high blood pressure and diabetes. That is why I eat healthy food.”

Some said they became motivated as they approached old age, or after the experience of a new diagnosis. For example, Khalid acknowledged his interest in eating healthfully started when he became older. “When I retired, that´s when I began to think more about my health.” Other participants shared a life-long motivation for healthy diet. Several participants responded as Rashid, “I have been watching what I eat almost my entire life”.

Fewer participants demonstrated a practical outlook on protecting health as they age. For instance, Hasan´s perspective is “If we own an expensive car, we are careful with it – checking the oil, water, and breaks. So why don´t we take care of ourselves?” While Gayan acknowledged that maintaining health is important to him, he shared his primary motivation when making decisions about healthy food and exercise is “enjoying life”.

4.2.3.1 Future Worries with Aging

When asked about what worries them as they age, a few participants expressed their concern for maintaining independence and being able to remain in their homes to the end of their lives. Yusuf was very clear in his opinion, saying, “I mean it so long as I live. I do not want to be dependent on others. I have been independent my whole life, and I would like to be independent when I die.” Khalid also spoke directly about his desire to remain independent, explaining “Health is very important for life…I want to be healthy as long as I am alive. I don´t want to be dependent [on others]...I don´t want to live in a nursing home”. Marija feels strongly that she does not want to rely on the help of others as she grows older:

> … you are influenced by all the talk, and you hear a lot about illness. This is dangerous, that is dangerous. Yes, one wants to live as long as possible, but that you are healthy enough that you never need help from others. And we hope that we don´t get [help]. We don´t want to be a burden to our children.

A couple of participants expressed concern for maintaining their identity as they grow older. Specifically, they worry that nursing homes may not offer halal food, supporting their cultural and religious tradition. As Yasir explained, “It worries me that I don´t know what will happen if I become sick and can´t go out. What will life be like after that? I am not prepared for that yet”. He continued, “If I have to live in a nursing home, do you have one that is consistent with my traditions?”. Ayesha shares similar worries for the future:

> I may live in a nursing home…no one knows when. I am worried we won´t get halal food [in the nursing home]. [There are] many Muslims [in Norway]. We need a system. For example, not everyone likes sausages, not everyone likes fish, not everyone likes Norwegian food…Not only me – I am thinking about others, too. Many I know – they don´t like Norwegian food. I can eat fish…But if the chicken is not halal, then I can´t eat it. These things are very worrisome.

4.2.3.2 Future Hopes with Aging

When asked what they look forward to as they age, participants expressed their hopes for the future. Travel was mentioned by several participants. Yasir would like to see more of the world, while Gayan enjoys traveling to Denmark. Khalid travels once or twice a year, exploring different parts of Norway with family and friends. “Travel. Not abroad, but around

Norway. I have traveled around Norway with the guys. Now we are old. But we began in 2019 to drive every summer [on holiday].”

Ayesha´s hopes center around family, as she shared “I look forward to when my grandchildren are very big. I hope they will come to me so we can spend time together. I hope so. They are my life”. The following wise and thoughtful words from Yasir regarding his future hopes feel like a meaningful point on which to conclude the presentation of results:

> As long as I am healthy, I want to have a dignified life in my old age. What do I mean by a dignified life? I mean a dignified way of life. Where, for example, it is free. You can eat whatever you want. And if [I am] in a nursing home, then you have one arranged according to my tradition. That is what I define as a dignified life.

5 Discussion

This chapter presents first a discussion of the study findings, followed by a discussion of the strengths and limitations of the research methods.

5.1 Discussion of Findings

The objectives of this study were to increase understanding of the eating preferences and behaviors of healthy aging, older immigrants in Oslo; and to identify factors which influence their eating preference and behaviors, especially as it relates to older immigrants´ hopes and worries for the future. Findings indicate that older immigrants eat an acculturated diet pattern, and that they incorporate many health-supporting eating habits. Future hopes and worries motivate older immigrants to eat more healthfully in order to maintain health and independence as long as possible. Other influences on eating preferences identified in this study include knowledge about nutrition and health, and personal characteristics such as self-efficacy and resilience. The remainder of this section is dedicated to a critical discussion of the study findings.

5.1.1 Eating Preferences and Behaviors of Older Immigrants

5.1.1.1 Acculturated Diet

Study findings indicate that participants are eating an acculturated diet 20-59 years after immigrating to Norway. Most are eating an integrated, bi-cultural diet as identified in other studies conducted with immigrants to Norway (Garnweidner et al., 2012; Terragni et al., 2014). This integrated diet typically includes Norwegian foods for breakfast and lunch, and traditional foods from their culture of origin for dinner and celebrations. As described in two review articles on immigrants´ food habits, participants said they began eating Norwegian foods for breakfast and lunch when they were working because these foods are faster to prepare and do not require reheating (Lillekroken et al., 2023; Osei-Kwasi et al., 2016). All participants eating an integrated diet said they choose traditional foods for dinner because they prefer the stronger spices they were raised on. Unlike other studies, participants indicated there was no other reason for their preference of foods from their culture of origin other than flavor (Garnweidner et al., 2012; Lillekroken et al., 2023).

A couple of participants have adopted an assimilated diet pattern, eating Norwegian foods almost exclusively except for holidays and celebrations. As described by Berggreen-Clausen et al. (2022) and Lillekroken et al. (2023), these participants prefer Norwegian foods because they perceive Norwegian foods to be healthier than their traditional foods.

All participants, regardless of acculturated diet pattern, demonstrate an interest and willingness to change ingredients and cooking methods of traditional recipes in order to support health in late adulthood (Berggreen-Clausen et al., 2022; Lillekroken et al., 2023). Reducing oil, replacing saturated fat with unsaturated fat, replacing white flour with wholegrain flour, and baking instead of frying are examples of the changes participants have made when preparing foods from their culture of origin for the sake of health. Participants understand that in this way, they may continue to enjoy traditional foods while reducing risk of illness.

As described in other studies, children and grandchildren of participants most often prefer mild-spiced, Norwegian, and western foods (Berggreen-Clausen et al., 2022; Madar et al., 2023; Osei-Kwasi et al., 2016). However, several participants mentioned their adult children look forward to eating traditional foods prepared by their mothers when the extended family gathers for a meal or celebration. Although participants described sometimes eating more Norwegian foods when eating dinner with their children and grandchildren, most older immigrants still preferred authentic traditional foods, fully spiced, and prepared with traditional vegetables, such as lady finger, which are available in Oslo international food shops.

5.1.1.2 Health-supporting Diet

All participants report making a variety of diet changes to reduce risk of illness, and to protect health and quality of life with aging. Some have adopted healthier eating habits due to aging, while a few described making dietary changes for health many years ago. Similar to the findings of Asamane et al. (2019), participants report eating less fat, sugar, and simple carbohydrates, as well as eating smaller quantities of food less often. Other diet changes for health reported by participants include eating less meat, and more vegetables, fiber, and protein. This is consistent with the findings for older immigrants in the United Kingdom, as

well as for older native Norwegians, who also strive to follow advice for a healthy diet (Castaneda-Gameros et al., 2018; Grini et al., 2020).

While they aim to eat healthfully most of the time, participants understand the concept of balancing eating for health and eating for pleasure. Similar to the findings from studies of older adults in Quebec and Norway, participants prioritize a health-supporting diet most of the time to meet their goals, while allowing themselves a treat on special occasions as a means to enjoy life (Grini et al., 2020; Vesnaver et al., 2012).

Although participants report following a health-supporting diet, the dietary data collected for this study is inadequate to assess how health-supporting their diets really are. Nor is this study able to determine whether their eating habits have direct benefit to their health. However, a recent review found that older adults who are physically active and in relatively good health tend to eat a healthier diet including more fresh fruits and vegetables (Caso & Vecchio, 2022).

5.1.2 Influences on Older Immigrants´ Eating Preferences and Behaviors

5.1.2.1 Nutrition Knowledge

Knowledge is a personal factor as described by social cognitive theory (SCT) (Kelder et al., 2015). According to Bandura (2004), knowledge of health benefits and risks is required for people to change harmful behaviors. Knowledge about health and nutrition may also be called health and nutrition literacy which is defined as "the degree to which individuals obtain, process, and understand basic health [and nutrition] information and services to make informed health decisions" (Carbone & Zoellner, 2012). According to research, health literacy is a better predictor of health than income, age, education, and race (Carbone & Zoellner, 2012).

Interview findings indicate participants proactively seek out information about nutrition from a variety of sources such as healthcare providers, friends, family, television, and the internet. They then apply that knowledge when making decisions about which foods to buy, how to prepare them, and how often to eat them. This is consistent with the findings of a systematic review that older adults with good nutrition knowledge make healthier eating decisions and have more control over what they eat (Caso & Vecchio, 2022). In addition, all participants

exhibited knowledge about the value of regular exercise and social connections for health with aging, and all have a regular exercise routine and meet with friends outside their home at least one time per week. Evidence indicates knowledge about the health benefits of exercise and social connections is important for motivating older adults to incorporate these health-supporting lifestyle habits (Schutzer & Graves, 2004; Townsend et al., 2021), as is the case with a health-supporting diet.

Because assessing the healthfulness of food is complex and requires information that is not always readily available, people sometimes depend on their lay beliefs to determine whether or not a food is healthy (Chan & Zhang, 2022). Lay beliefs about food are often inaccurate, as demonstrated by a number of participants. According to a recent review by Chan & Zhang (2022), individual experiences and environmental factors influence lay beliefs, which means they are likely to vary between cultures as well.

Aside from the inclusion criteria, the older immigrants interviewed for this study share two significant attributes. The first is they frequently meet socially with others where they exchange information about nutrition for health and encourage one another to adopt healthier lifestyle habits. A recent review found that social networks are vital for healthier food choices and higher health literacy among older adults (Gele et al., 2016; Govindaraju et al., 2022). The second common attribute is they speak conversational Norwegian. Studies of language acculturation among first-generation immigrants indicate that immigrants who learn the language of their adopted homeland have higher health literacy and better health outcomes than immigrants with low language proficiency (Mantwill & Schulz, 2017; Sagong & Yoon, 2021).

This study is unable to determine whether participants´ relatively moderate to high nutrition literacy has a positive impact on their health outcomes. However, the results of previous research of older adults may shed some light. High nutrition literacy has been associated with lower body mass index and higher physical activity, while low nutrition literacy has been associated with poor health and higher mortality rates (Berkman et al., 2011; Jeruszka-Bielak et al., 2018). Participants in a mixed methods study of older immigrants in the United Kingdom demonstrated good knowledge of a healthy diet, and their median intake of sodium, total fat, and trans unsaturated fat, met recommendations for reducing risk of non-communicable disease (NCD) (Castaneda-Gameros et al., 2018). However, the median intake

of seven essential nutrients for the same participants was significantly below recommendations (Castaneda-Gameros et al., 2018). In summary, while moderate to strong health literacy may be beneficial for reducing NCD risk, it may not be protective against nutrition deficiency in older adults.

5.1.2.2 Personal Characteristics

According to SCT, self-efficacy and resilience are personal cognitive factors which increase a person´s ability to make successful health behavior change (Bandura, 2004). This study did not set out to identify social-cognitive influences on older immigrants´ eating behaviors. It speaks to the effectiveness of semi-structured interviews and inductive analysis that, after repeated reading and contemplation of the interview transcripts, multiple examples of personal factors were illuminated.

5.1.2.2.1 Self-efficacy

Self-efficacy is the belief in one´s ability to succeed (Bandura, 2004). According to Bandura (2004), people with high self-efficacy are more likely to change behaviors to protect health, and likely to set higher goals. On the other hand, people with low self-efficacy are less likely to change health behaviors, and if they do attempt to change, they are more likely to give up when they encounter a challenge (Bandura, 2004).

Past successes, so-called mastery experiences, help to increase self-efficacy (Bandura, 2004). Participants shared examples of mastery experiences such as successful weight loss, improving NCD-related lab values, and overcoming loneliness. A study of older adults in the U.S. found those who experienced success in previous health behavior change efforts had increased self-efficacy for new health behavior changes (Bardach et al., 2016). The fact these participants were successful in changing their diet and exercise habits in support of their goals indicates that they likely had relatively high self-efficacy at the start. Following Bandura´s (2004) explanation of mastery experiences and the findings of Bardach et al. (2016), it is also likely these participants have increased self-efficacy as a result of their successes.

Several studies offer insights into the influence of self-efficacy on older adults and immigrants. Although self-efficacy to eat a healthy diet appears to decrease with age, it is still

positively associated with a healthy diet in older adults (Walker-Clarke et al., 2022). The same review reveals that self-efficacy mediates the relationship between diet quality and socioeconomic status (Walker-Clarke et al., 2022). This may be important for older immigrants in Oslo who have on average a lower socioeconomic status than the native population (Statistics Norway, 2022). The strong association between self-efficacy and nutrition knowledge for influencing health behaviors increases understanding of the dietary success of participants in the current study (Guntzviller et al., 2017; Kreausukon et al., 2012).

5.1.2.2.2 Resilience

Resilience is the ability to function positively in spite of adversity (Kern & Friedman, 2010). Some people, but not all, have the extraordinary ability to thrive in the face of challenges. A person´s past, present, culture, and genetics all influence resilience (Kern & Friedman, 2010).

Resilience has been linked to the motivation to eat healthfully, and the commitment to self-care with aging (Walker-Clarke et al., 2022). The same review found older adults who successfully adapted to challenging situations were motivated to eat for health, and they consumed a wider variety of foods (Walker-Clarke et al., 2022). This brings to mind Marija who prepared healthy meals for her family in spite of limited resources during war, and Jamila´s embrace of self-care following a difficult migration experience. A study of older adults who had experienced challenges to eating well found those who demonstrate dietary resilience recognize the link between diet and health, are committed to eating for health and pleasure, and successfully develop strategies for overcoming challenges (Vesnaver et al., 2012). This describes Yusuf, who´s commitment to health and nutrition motivated him to learn to cook after his wife of 47 years passed away. Not all people would function positively if placed in these situations. Resilience sets these individuals apart.

Research shows resilience is beneficial for older adults´ health, too. Higher resilience is positively associated with health-supporting diet and exercise, reducing risk of NCDs in older ethnic women (Springfield et al., 2020). Older adults with medium or high resiliency have less need for healthcare services and better quality of life than older adults with low resilience (Musich et al., 2022). Considering that increased longevity is likely to bring more adverse health conditions, strong resilience is an advantage for older immigrants (Cosco et al., 2017).

5.1.2.3 Future as Motivation

Motivation is the desire to succeed, and it is necessary to initiate and maintain behavior change (Bandura, 2004). Most participants said that avoiding illness and disability in their later years is a primary motivator for implementing health-supporting diet change. A study of older adult health behaviors in the U.S. found that not all older adults are motivated by growing old to improve their diet (Bardach et al., 2016). However, older adults who did feel motivated by aging recognized their susceptibility to illness, and were motivated to accept responsibility for their health (Bardach et al., 2016). In this case, motivation is influenced by personal factors of SCT, such as the expectation that one will enjoy health and life in their later years (Schunk & DiBenedetto, 2020). A few participants who expressed motivation to protect health with aging were motivated by witnessing family members who became very ill and died relatively young. This influence from social models is considered an environmental factor in SCT (Schunk & DiBenedetto, 2020). A few other participants described eating a healthy diet as "the right thing to do", demonstrating motivation influenced by their personal values for self-care.

As seen with the participants who successfully lost weight and improved lab values after implementing diet change, previous health benefit from diet change increases motivation to maintain those diet changes, and for making additional changes in the future (Bardach et al., 2016). Both participants expressed their motivation to continue walking and eating healthier to maintain weight loss. In this way, according to SCT, their success provided positive feedback which strengthened their self-efficacy, which in turn strengthened their motivation (Schunk & DiBenedetto, 2020).

5.1.2.3.1 Future Hopes & Worries

Consistent with two recent review articles on the eating behaviors of older adults (Govindaraju et al., 2022; Walker-Clarke et al., 2022), participants expressed a strong sense of motivation to eat healthfully to increase the chance their future hopes will be realized. The older immigrants interviewed wish to remain healthy and independent as long as possible so they may enjoy relationships and be actively engaged in the world, such as through volunteer work and travel. Participants´ priorities for the future are similar to priorities identified in studies of older adults in western countries, both immigrant (Castaneda-Gameros et al., 2018;

Conkova & Lindenberg, 2020) and non-immigrant (Caso & Vecchio, 2022; Govindaraju et al., 2022; Host et al., 2016; Lundkvist et al., 2010).

Uncertainties about the quality of care they will receive if they are eventually unable to live independently is a priority concern older adults have in common (Conkova & Lindenberg, 2020; Govindaraju et al., 2022). Some concerns expressed by participants are unique to the immigrant population, such as whether they will be supported in maintaining their cultural and religious identity should they require nursing home care in the future. Needs and preferences specific to older adults from a variety of cultural and religious traditions, such as spicy foods and halal meals, are important not only to ensure nutritional needs are met in nursing homes, but also to ensure their cultural and religious identities are respected and cared for, protecting dignity at the end of life (Lillekroken et al., 2023). There is currently no known data on nursing home meals and immigrants for Norway. A study of nursing home menus and first-generation immigrant residents in Quebec found that immigrant residents had trouble adapting to unfamiliar foods and meal schedules, thus necessitating delivery of familiar meals by family members (Girard & El Mabchour, 2019).

5.1.3 Theoretical Integration and the Findings

Acculturation theory, social cognitive theory (SCT), and the temporal model for older adults were employed in the data analysis to increase understanding of the eating preferences and behaviors of older immigrants. This strategy, known as theoretical integration, increases study credibility by examining the human experience in greater depth and breadth than is possible using one theory or model alone (Yardley et al., 2013). SCT is relevant across all human populations for understanding how an individual´s eating behaviors are influenced by the individual and their environment (Bandura, 2004). However, SCT is limited in its ability to address population-specific influences that are significant to older immigrants. Conversely, dietary acculturation theory and the temporal model for older adults are useful for investigating experiences specific to immigrants and older adults respectively, but are not useful for identifying socio-cognitive influences which are important factors in eating behaviors for health (Bandura, 2004). By integrating SCT with dietary acculturation theory and the temporal model for older adults, this analysis was able to identify temporal and cultural influences specific to older immigrants, as well as socio-cognitive influences.

Consider for example the theme “future as motivation”. The theme of “motivation” could have been explored using only SCT in the analysis, or “future hopes and worries” using only the temporal model for older adults. By using both SCT and the temporal model for older adults as a combined lens in this analysis, I was able to generate the theme of “future as motivation”. Similarly, some changes in older immigrants´ food preferences could be interpreted simply as a result of acculturation. However, by including the temporal model for older adults, we understand older immigrants´ preference for some Norwegian foods may be an effort to adopt healthier eating habits as an investment for the future. Although the themes “acculturated diet” and “personal characteristics” were generated using just one theory, these two themes could not have been generated within the same study if the theoretical framework consisted only of dietary acculturation or SCT. As a result of theoretical integration, themes identified by this analysis represent the older immigrants´ eating preferences and behaviors in greater depth and detail than is possible if just one theory or model had been used.

5.2 Discussion of Methods

While quality is undeniably important when conducting research (Patton, 2015), experts have yet to agree on the terminology used for assessing qualitative studies (Mays & Pope, 2020). Terms used to assess quantitative studies, such as validity and reliability, are not as useful for assessing research of a topic which cannot be measured or counted (Braun & Clarke, 2023). The methods and analysis of this study will be discussed according to the recommendations of Braun and Clark (2021 & 2023) and Lincoln and Guba (Cope, 2014).

5.2.1 Credibility, Dependability and Confirmability of the Study

Credibility refers to whether we can have confidence in the ´truth´ of the findings (Cope, 2014). Qualitative research is thought to be credible if the reported data and findings reflect participants´ actual perspectives (Cope, 2014). Reflecting on the choice to adopt a phenomenological approach (Patton, 2015) can be relevant in this regard. This study took an interest in understanding how older immigrants´ experience of eating preferences and behaviors change as they age. For example, why do older immigrants eat what they eat, what influences them to change what they eat, and what do these changes mean to them? Because it is not possible to experience the influences on older immigrants eating behaviors first-hand, in-depth interviews were the next best option for coming closer to understanding their experiences. This study has explored and described the common meanings for older

immigrants in their shared experience of changing eating behaviors with aging (Patton, 2015). This phenomenological approach is also compatible with reflexive thematic analysis (RTA) (Braun & Clarke, 2023).

It is important to consider that interviewing people from a culture different from my own increases the opportunity for misinterpretations in both verbal and non-verbal communication (Patton, 2015). Additionally, conducting interviews in a language which is not the mother tongue to either interviewer or interviewee creates opportunity for misunderstandings. A few participants spoke fluent Norwegian, while most did not. If limited Norwegian language competency interfered with their ability to express themselves fully, their responses to interview questions may have been incomplete. However, as I provided time for answers and rephrased my questions when they were not understood, misunderstandings were probably less likely. I made every effort to be open, empathetic, and nonjudgmental when interviewing participants; however, it is still possible that participants´ responses were affected by their perceptions of me and my culture.

As the interviewer, I speak, read, and comprehend Norwegian language at a B2 level, which is considered academic competency but not fluent. On a few occasions while transcribing interviews, I identified participant responses which were appropriate for a follow-up question, but I had failed to ask. This was due in part to my inexperience conducting qualitative research interviews. Sometimes, due to my limited Norwegian language skills, I had not completely understood a participant´s response until I had transcribed the interview. Most often this was because the participant spoke Norwegian with a foreign accent which was difficult for me to understand. On a few occasions, the participant had used a word or phrase which I was previously unfamiliar with. In a few but not all these cases, I would have liked to have asked follow-up questions to explore a deeper understanding of their experience.

It is a strength of this study that interviews were transcribed by the interviewer, leaving less room for interpretation or error. I paid careful attention to detail when transcribing interviews, then reviewed completed transcripts thoroughly while listening to the recording one last time to ensure the quality and credibility of the data were not compromised.

The application of multiple theories (acculturation theory, social cognitive theory, and the temporal model for older adults), known as theoretical integration, increases study credibility as it contributed to a richer and deeper understanding of older immigrants´ eating behaviors than would have been possible using just one theory (Yardley et al., 2013).

Dependability refers to whether the findings are consistent and can be repeated (Cope, 2014). Collaboration with other researchers, and transparency in data collection, analysis and reporting, can increase dependability of a study (Cope, 2014).

All participants were recruited on a volunteer basis. It is possible that the older immigrants who volunteered to be interviewed had stronger interest in nutrition and health than those at the recruitment sites who did not volunteer. If this is true, results may over-emphasize the interest and motivation healthy aging, older immigrants have for health-supporting eating habits. Because interviewees were offered a grocery gift card in exchange for their participation, it is possible that older immigrants of low socio-economic status are over-represented among study participants.

Recruiting participants with different cultural backgrounds than myself was sometimes challenging. For example, when I attempted to greet or talk with older immigrants in the recruitment centers, some people clearly indicated their disinterest by folding their arms, turning their backs, or refusing to make eye contact. It is possible this limited my ability to recruit immigrants from a wider variety of countries.

In hindsight, I regret not asking participants about their highest level of education completed when collecting their life history. Although general literacy and health literacy are not the same, there is a relationship between them (Nutbeam, 2009). Knowledge of the general literacy level of all participants would have potentially offered additional insight into the results.

During the analysis process, I discussed the analysis with my three supervisors on several occasions as a means of peer debriefing. While my supervisors have avoided directing me to toward any specific analysis direction, their guidance based on extensive experience with the research topic lends dependability to the results.

It is a strength of this study that the checklist of consolidated criteria for reporting qualitative research (COREQ) was applied and reported in this thesis (Tong et al., 2007). By addressing checklist criteria, the implementation, reporting, and transparency of this study are improved (Tong et al., 2007).

Confirmability refers to the extent to which study findings are shaped by the respondents as opposed to the researcher´s motives (Cope, 2014). According to Braun and Clarke (2019), RTA underscores "the researcher´s role in knowledge production" (Braun & Clarke, 2019). To maintain confirmability, it is important that the researcher engage reflexively and thoughtfully with the analytic process, and explain her coding choices (Braun & Clarke, 2019). Detailed explanations of the choices made during coding and thematizing are documented in the methods chapter.

5.2.2 Researcher Reflexivity

The RTA process is subjective by design as the researcher is unable to set aside her experiences and preconceptions (Braun & Clarke, 2023). For this reason, it is important to acknowledge the skills, experiences, and viewpoints I brought to this study, and to consider their potential influence on data collection and analysis.

In my twelve years´ experience as a clinical dietitian, I educated people on diet change for disease prevention and longevity, and frequently used motivational interviewing to help people explore their motivations for diet change. As a result, I am experienced conducting deductive interviews, as well as inductive interviews employing open-ended questions and reflective listening. So, although this was my first experience conducting qualitative research interviews, posing semi-structured interview and follow-up questions was not a new experience for me. On the other hand, motivational interviewing is designed to explore a person´s capacity for change. It is possible that my interview style emphasized participants´ motivations to eat healthfully, and that I was drawn to those motivations in the analysis process due to past clinical experience exploring people´s motivation for diet change.

Like the study participants, I too am an immigrant to Norway. As an immigrant, I have first-hand knowledge of the challenges immigrants face learning the language and adapting to the culture while maintaining connection to their culture of origin and a sense of self. This

knowledge guided me in asking questions to explore their experiences beyond diet. It is also possible that my immigration experience heightened my interest in participants´ character strengths during the coding process. This perspective helps to balance studies which tend to "other" immigrants and identify only differences and challenges in the immigration experience (Holmboe-Ottesen & Wandel, 2012; Koochek et al., 2008). On the other hand, because I immigrated to Norway from another high-income country, I have less in common with participants than if I had immigrated from a low-income country. So, although we do share some common experiences, there are also many differences.

5.2.3 Transferability

Transferability asks whether the study findings apply to other populations or contexts (Cope, 2014). By capturing thick, detailed descriptions from interview participants and documenting these descriptions together with information about the participants and the research context, it is possible for readers of this thesis to determine whether their population or setting of interest resembles this study (Cope, 2014). Transferability is additionally strengthened by the publication of similar findings for healthy aging, older immigrants in Europe (Asamane et al., 2019; Castaneda-Gameros et al., 2018; Osei-Kwasi et al., 2016).

Because immigrants are not a homogenous group, it is important to consider the sampling limitations. Participant recruitment was limited to first-generation immigrants with moderate to strong Norwegian language competency as translation services were not available. In addition, all participants are socially well-connected, meeting at least weekly with others. It is understood that not all older immigrants speak conversational Norwegian nor are all socially connected. Study participants represent just 5 of the 221 countries from which immigrants to Norway originate. While study findings provide valuable insights into the eating preferences and behaviors of healthy aging, older immigrants, it is likely that older immigrants not represented due to sampling limitations have other valuable insights to offer which this study does not capture.

6 Conclusion

6.1 Research Summary

This thesis has investigated the eating preferences and behaviors of healthy aging, first-generation, older immigrants in Oslo, and identified factors which influence their eating preference and behaviors.

This study has shown that older immigrants in Oslo eat an acculturated diet, and that they incorporate a variety of health-supporting eating habits to reduce their risk of illness with aging. Findings indicate that older immigrants are motivated to eat healthfully due to their hopes for maintaining health and independence as long as possible so they may enjoy relationships and remain engaged in the world. Concerns for losing independence and religious identity if they become ill and require nursing home care also motivate older immigrants to make diet changes for health. Study participants demonstrated knowledge about the value of nutrition, exercise, and social connections for protecting health with aging. Older immigrants seek out nutrition and health knowledge from healthcare providers, friends, family, and publicly available resources. Participants also demonstrated personal characteristics, including self-efficacy and resilience, which according to social cognitive theory are supportive of successful health behavior change.

6.2 Practical Applications

While this study does not attempt to identify all possible influences on the eating preferences and behaviors of healthy aging, older immigrants, it has increased understanding of the factors which influence their eating decisions for health with aging. These results can be useful for designing programs which support older immigrants with improving eating habits for health maintenance and disease prevention. Nutrition programs for older immigrants should address foods traditional to both Norway and the immigrants´ countries of origin. Municipalities should consider recruiting healthy aging, older immigrants, such as those interviewed for this study, as peer mentors because older immigrants may be more open to hearing nutrition and health information provided by members of their cultural community. In consultations with older immigrants, healthcare professionals should avoid making assumptions, but instead inquire about the older immigrant´s cultural food preferences and nutrition knowledge before offering advice. Motivational interviewing may be a useful

technique for helping older immigrants with unhealthy eating habits to recognize their self-efficacy and motivations for future health, creating dissonance between their motivations and eating habits which can lead to successful health-supporting diet change.

6.3 Recommendations for Future Research

It is recommended to repeat this study with homebound, older, first-generation immigrants who have low Norwegian language competency and few social connections to understand whether eating behavior, health literacy and personal characteristics vary from the healthy aging older immigrants interviewed for this study who speak conversational Norwegian and are socially well-connected.

This study focused primarily on personal influences for diet change. Future research should aim to increase understanding of how the communities in which older immigrants live influence their diet choices.

Considering the concerns voiced by study participants and the lack of data for Norway´s nursing home meals, it is recommended to conduct a study investigating whether nursing home meals meet the cultural and religious needs of Norway´s diverse older adult population.

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8 Appendices

8.1 Appendix 1: Interview Guide

Introduksjon:

Dette forskningsprosjektet er godkjent av OsloMet og Norsk Senter for Forskningsdata. Før vi setter i gang med intervjuet, er det viktig at du forstår dine rettigheter:

- det er frivillig å delta i denne studien
- intervjuet vil bli tatt opp for å fange alle svarene dine best mulig
- lydopptakket skal slettes med en gang etter at det er skrevet ned
- kun jeg og mine tre veiledere har tilgang til dataene dine
- du vil ikke kunne identifiseres i forskningen når den publiseres
- du har rett til å trekke deg fra studien når som helst uten at du trenger å si hvorfor

Litt mer om studien: hensikten er å forstå hva som påvirker matvalg blant eldre, førstegenerasjons innvandrere til Norge slik at vi bedre kan støtte sunne matvaner og livskvalitet med aldring. Vi vet at det er mange faktorer som kan påvirke matvalg, og disse faktorene varierer avhengig av en persons livserfaringer. Gjennom samtalen vår i dag ser jeg frem til å lære om dine livserfaringer, og hvordan disse påvirker matvalgene dine.
Intervjuet tar ca. 30-40 minutter til å gjennomføre. Har du noen spørsmål før vi begynner?

Tema: Liv og Immigrasjonshistorie

Først vil jeg stille noen spørsmål for å bli kjent med deg og din livshistorie.

Intervjuspørsmål	Oppfølging/Eksempler
Hvor gammel er du? Hvor lenge har du bodd i Norge? I hvilket land ble du født?	
Har du bodd i andre land?	- Hvilket land? - Hvor lenge?
Hvem bor du sammen med?	- familie - venner
Har du familie i Norge, bortsett fra de du bor sammen med?	
Har du jobbet?	- Hva slags jobb hadde du? - I hvilket land? - Når sluttet du å jobbe?
Bruker du regelmessig tid sammen med andre?	- Hvem? - Hva gjør dere?

Intervjuspørsmål	Oppfølging/Eksempler
Hva slags aktiviteter eller grupper deltar du i utenfor hjemmet ditt?	- Tur eller treningsgruppe - Sy eller strikkegruppe - Språk kaffe, osv.

<u>Tema: Hva og hvordan eldre innvandrere spiser</u>

Nå vil jeg gjerne høre litt om maten du spiser.

Intervjuspørsmål	Oppfølging/Eksempler
Kan du fortelle meg hva du spiser og drikker på en vanlig dag? - Begynne med det du spiser etter at du først blir våken	- Frokost - Lunsj - Middag - kveldsmat - mellom-måltider/ snacks
Hvilke matlagingsmetoder bruker du? - fra (*opprinnelseslandet*)? - som du har lært i Norge?	- steking, koking, fritert, mikrobølgeovn, osv.
Hvem lager maten du spiser?	
Hvem handler maten du spiser? - Hvor handler du/de mat?	
Hvem spiser du sammen med?	- Familie - Venner
Hvor spiser du?	- hjemme - hos andre - seniorsenter
Spiser du på restaurant? - Hvor ofte spiser du på restaurant? - Hva slags restaurant/spisested liker du?	
Forskjellige mat inneholder ulike næringsstoffer som er viktige for oss. Nå vil jeg spørre om hvor mange ganger per uke du spiser noen utvalgte matvarer for å få et inntrykk av hvor ofte du spiser noen viktige næringstoffer.	

Intervjuspørsmål	Oppfølging/Eksempler
- Kjøtt (biff, lam, geit, hjort) - Kylling - Svin - Lever - Hvit fisk (torsk, flyndre, osv) - Rød fisk (laks, makrell, sild, sardiner) - Skalldyr (reker, krabbe, kamskjell, blåskjell, østers) - Egg - Melk (ku, plante) - Ost - Bønner, erter, linser - Tofu, soyabønner, soyamelk - Nøtter (hasel, valnøt, mandel, cashew) og frøer (sesam, solsikke, linfrø, gresskar) o Peanøtter - Havregryn - Tørket frukt - Banan - Spiser du noen av disse grønnsakene: brokkkoli, rosenkål, hodekål, grønnkål, spinat Tar du tran? Tar du andre kosttilskud?	- Vitaminer? - Multivitamin?

<u>Tema: Matpreferanser og atferd i sammenheng med immigrasjon og aldring</u>

For de siste spørsmålene er jeg interessert i å lære mer om hva som påvirker deg når du velger matvarene dine og om dine matvaner har forandret seg med årene du har bodd i Norge.

Intervjuspørsmål	Oppfølging/Eksempler

Du sa at du opprinnelig kom fra (*landet*).
Hvilken mat fra (*landet*) spiser du fortsatt?
- Hvorfor spiser du disse?
  o Situasjoner når du spiser mat fra (*landet*)?
  o Hvorfor er det viktig for deg?
  ▪ Hva er betydning for deg?
 	
Hvilken mat eller mattradisjoner fra (*landet*) har betydning for deg, særlig ettersom du har blitt eldre?
	- Eks.tradisjon
	- smak
	- pris
	- helse

Intervjuspørsmål	Oppfølging/Eksempler
Hvordan har dine matvaner forandret seg siden du har bodd i Norge? - Hvilken typisk norsk mat spiser du? - Hvorfor har du fordandret dine matvaner? - I hvilken situasjoner spiser du norsk mat? Hva tenker du om dine matvaner nå sammenlignet med matvanene du hadde før du flyttet til Norge?	- mat typer? - måltider? - betydningen eller verdien? - pris - lettere å få takk i - innflytelse fra andre
Nå vil jeg høre litt mer om deg som eldre person. Hvordan har dine matvaner forandret seg etter som du har blitt eldre? - Hvorfor har du forandret matvanene dine? - Har noen påvirket deg til å forandre matvanene dine?	- noen matvarer du spiser mer eller mindre av enn før? - Foretrekker du forskjellige mat nå? - Lager enklere mat? - Smaker noen matvarer annerledes? - Mindre lyst til å lage mat? - Innflytelse av familie eller venner?
Hvordan ser du på deg selv som eldre person? - Når følte du deg som «gammel»? Hva er dine forventninger til livet når du blir eldre? - Hva ser du frem til? - Hva bekymrer deg? Hvor viktig er det for deg å ivareta helsen din ettersom du blir eldre? - Hvorfor er det viktig for deg å ivareta helsen din?	

Intervjuspørsmål	Oppfølging/Eksempler
Hvordan påvirkes matvalgene dine av ditt ønske om å holde deg sunn?	- Spiser mindre fett/kjøtt/sukker? - Spiser mer grønnsaker/frukt/fisk?
Hvor får du informasjonen om mat og helse/sunnaldring? - Hva/Hvem påvirker deg og maten du spiser?	- Innflytelse fra opprinelseslandet? - Innflytelse fra Norge?
Hvilken andre livsstilsvaner påvirker helsen din ettersom du blir eldre?	- Aktivitet - Alkohol - Sosialisering - Hjernespill, osv.
Finnes det andre faktorer som påvirker dine spise- og matpreferanser enn de vi har snakket om? - Hvordan har du forandret dine matvaner på grunn av disse faktorene?	- familie? - venner? - nettet? - kostnad/inntekt?

Avslutningsdiskusjon:
Det var mitt siste spørsmål. Har du noen spørsmål til meg? Tusen takk for din deltagelse, og for en fin samtale om mat og måltider.

8.2 Appendix 2: Information Letter and Consent Form to Interview Participants

Vil du delta i forskningsprosjektet ”Mat- og spisepreferanser hos eldre innvandrere i Norge”?

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å lære om matpreferansene og matrelaterte forhold hos eldre førstegenerasjonsinnvandrere i Norge, og å forstå hva som påvirker deres matpreferanser og spiseatferd. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Formål
Forskningsformålet er (1) å undersøke matpreferansene og matrelaterte forhold hos eldre innvandrere i Norge som bor hjemme, og (2) å identifisere faktorer som påvirker eldre innvandreres matvalg og spiseatferd. Antall eldre (60 år og eldre) i Norge vokser og forventes å dobles innen 2060. I tillegg forventes antallet innvandrere til Norge å fortsette å øke. Kunnskap om matpreferansene og spiseatferden til eldre innvandrere er viktig for å støtte alle eldre i Norge med å opprettholde helse og livskvalitet ettersom de eldes.

Hvem er ansvarlig for forskningsprosjektet?
Stephanie Maxson, masters student i samfunnsernæring, OsloMet
Laura Terragni, Førsteamanuensis, OsloMet
Ida Synnøve Grini, Seniorrådgiver, Nofima
Øydis Ueland, Seniorforsker, Nofima

Hvorfor får du spørsmål om å delta?
Målgruppen er førstegenerasjonsinnvandrere i alderen 60 år og eldre bosatt i Oslo. Deltakerne må bo hjemme og ha en viss grad av aktivitet utenfor hjemmet. Det rekrutteres deltakere fra frivillige aktivitetssentraler i bydeler i Oslo med en stor og mangfoldig innvandrerbefolkning. Noen deltakere kan også rekrutteres av deltakere som allerede er påmeldt. Omtrent 15-20 deltakere vil bli rekruttert for å representere variasjon i kjønn, alder og minst tre forskjellige opprinnelsesland.

Hva innebærer det for deg å delta?
Om du velger å delta i denne studien, vil du bli intervjuet av forskeren i ca. 1 time på stedet du velger. Intervjuet vil dekke følgende temaer: hva spiser du på en vanlig dag, hvordan påvirker mattradisjonene i opprinnelseslandet dine matvaner, hvordan påvirker norske mattradisjoner dine matvaner, og hvordan har matpreferanser og spiseatferd endret seg ettersom du har blitt eldre? Intervjuet vil bli tatt opp på egen lydopptaker og senere transkribert av intervjueren.

Det er frivillig å delta
Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle dine personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger
Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

- Studentintervjueren og de tre veilederne vil være de eneste som har tilgang til dataene.
- Dataene vil bli transkribert for å beskytte din anonymitet. Navnet ditt vil bli erstattet med en kode. Listen over navn, kontaktinformasjon og respektive koder vil bli lagret separat fra resten av de innsamlede dataene i en kryptert fil. Lydopptaket av intervjuet vil bli lagret i en kryptert mappe på forskerens PC. Lydopptaket vil bli slettet ved slutten av prosjektet.
- Du vil ikke kunne identifiseres i forskningen når den publiseres. Informasjon om kjønn, alder og opprinnelsesland vil bli presentert i større kategorier (for eksempel: 5 deltakere var menn og 10 kvinner), eller presentert på en generisk måte slik at din identitet er ugjenkjennelig.

Hva skjer med personopplysningene dine når forskningsprosjektet avsluttes?
Prosjektet vil etter planen avsluttes 30.11.2023. Lydopptaket og kontaktinformasjonen din vil bli slettet innen den datoen. De anonymiserte utskriftene av intervjuet vil bli oppbevart av hoved forskeren som er ansvarlig for studien (Stephanie Maxson).

Hva gir oss rett til å behandle personopplysninger om deg?
Vi behandler opplysninger om deg basert på ditt samtykke. På oppdrag fra OsloMet og Nofima har NSD vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Dine rettigheter
Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke opplysninger vi behandler om deg, og å få utlevert en kopi av opplysningene
- å få rettet opplysninger om deg som er feil eller misvisende
- å få slettet personopplysninger om deg
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger

Hvis du har spørsmål til studien, eller ønsker å vite mer om eller benytte deg av dine rettigheter, ta kontakt med:

- OsloMet Storbyuniversitet, Laura Terragni, tlf: 90 78 94 79
- OsloMet personvernombud: Ingrid S. Jacobsen, tlf: 67 23 55 34, email: personvernombud@oslomet.no
- Nofima, Seniorrådgiver: Ida Synnøve Grini, email: ida.synnove.grini@nofima.no, tlf: 90 09 84 75
- Nofima personvernombud: Mia Bencze Rørå, email: mia.rora@nofima.no

Hvis du har spørsmål knyttet til Personverntjenester sin vurdering av prosjektet, kan du ta kontakt med:
Personverntjenester på epost (personverntjenester@sikt.no) eller på telefon: 53 21 15 00.

Med vennlig hilsen,
Stephanie Maxson
Prosjektleder, masterstudent, OsloMet

Dato:

Samtykkeerklæring
Jeg har mottatt og forstått informasjon om prosjektet **"Mat- og spisepreferanser hos eldre innvandrere i Norge"**, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- ☐ å delta i et intervju
- ☐ at mine opplysninger kan benyttes frem til prosjektet er avsluttet, senest 30.11.2023

Signert av prosjektdeltaker Dato

8.3 Appendix 3: Analysis Themes and Codes

THEMES & codes	Description	Files	References
ACCULTURATED DIET	THEME	14	142
homeland food preferences & meaning		14	51
norwegian food preferences & meaning		14	74
FUTURE AS MOTIVATION	THEME	13	69
future as motivation		12	29
emotional motivators		6	8
practical motivators		6	19
hopes with aging		7	17
worries with aging		5	13
HEALTH-SUPPORTING EATING HABITS	THEME	14	164
finding balance		8	13
health maintenance & disease prevention		14	151
disease management		7	17
healthy aging		4	5
how diet has changed		13	90
eat less, smaller meals, eat less often		8	15
less fat or healthy fat		10	27
less meat		3	5
less spice		1	1
less sugar or carbs		10	21
more fiber		5	12
more protein		2	2
more vegetables		5	7
nutrition supplements		14	25
weight management		4	4
NUTRITION & HEALTH KNOWLEDGE	THEME	14	196
importance of exercise and social connections		14	89
exercise		14	34
social connections		14	51
avoid loneliness		3	3
lay beliefs about food and health		9	17
prioritize self-care		11	26
seek out info on food and nutrition		14	64
desires more info on food and health		1	1

THEMES & codes	Description	Files	References
family influences		5	12
influences from homeland		3	4
media sources of info on health and aging		8	13
people who influence food and lifestyle choices		13	33
PERSONAL CHARACTERISTICS	THEME	7	39
resilience		6	26
self-efficacy		3	12
overcame health challenges		2	5
overcame loneliness		3	7
XLIFE HISTORY	Life history details	14	31
XMEALS	Typical 24-hour intake	14	113
breakfast		14	23
dinner		14	21
lunch		13	17
snacks		11	17
who cooks		14	24
who grocery shops		9	11

8.4 Appendix 4: Ethics Approval

Sikt

Notification form / Food habits among elderly immigrants / Assessment

Assessment of processing of personal data

Reference number
671301

Assessment type
Standard

Date
24.08.2022

Title
Food habits among elderly immigrants

Institution responsible for the project
OsloMet – storbyuniversitetet / Fakultet for helsevitenskap / Institutt for sykepleie og helsefremmende arbeid

Joint data controllers
Nofima AS

Project leader
Laura Terragni

Student
Stephanie Maxson

Project period
01.08.2022 - 31.12.2023

Categories of personal data
General
Special

Legal basis
Consent (General Data Protection Regulation art. 6 nr. 1 a)
Explicit consent (General Data Protection Regulation art. 9 nr. 2 a)

The processing of personal data is lawful, so long as it is carried out as stated in the notification form. The legal basis is valid until 31.12.2023.

Notification Form

Comment
OM VURDERINGEN
Personverntjenester har en avtale med institusjonen du forsker eller studerer ved. Denne avtalen innebærer at vi skal gi deg råd slik at behandlingen av personopplysninger i prosjektet ditt er lovlig etter personvernregelverket.

Personverntjenester har nå vurdert den planlagte behandlingen av personopplysninger. Vår vurdering er at behandlingen er lovlig, hvis den gjennomføres slik den er beskrevet i meldeskjemaet med dialog og vedlegg.

VIKTIG INFORMASJON TIL DEG
Du må lagre, sende og sikre dataene i tråd med retningslinjene til din institusjon. Dette betyr at du må bruke leverandører for spørreskjema, skylagring, videosamtale o.l. som institusjonen din har avtale med. Vi gir generelle råd rundt dette, men det er institusjonens egne retningslinjer for informasjonssikkerhet som gjelder.

TYPE OPPLYSNINGER OG VARIGHET
Prosjektet vil behandle alminnelige personopplysninger og særlige kategorier av personopplysninger om etnisitet frem til 31.12.2023.

LOVLIG GRUNNLAG
Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 nr. 11 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse, som kan dokumenteres, og som den registrerte kan trekke tilbake.

For alminnelige personopplysninger vil lovlig grunnlag for behandlingen være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 a.

Behandlingen av særlige kategorier av personopplysninger er basert på uttrykkelig samtykke fra den registrerte, jf.

personvernforordningen art. 6 nr. 1 a og art. 9 nr. 2 a.

PERSONVERNPRINSIPPER
Personverntjenester vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen:

om lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen

formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke viderebehandles til nye uforenlige formål

dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet

lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet.

DE REGISTRERTES RETTIGHETER
Vi vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18) og dataportabilitet (art. 20).

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER
Personverntjenester legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

Nofima AS er felles behandlingsansvarlig institusjon. Vi legger til grunn at behandlingen oppfyller kravene til felles behandlingsansvar, jf. personvernforordningen art. 26.

Ved bruk av databehandler (spørreskjemaleverandør, skylagring, videosamtale o.l.) må behandlingen oppfylle kravene til bruk av databehandler, jf. art 28 og 29. Bruk leverandører som din institusjon har avtale med.

For å forsikre dere om at kravene oppfylles, må prosjektansvarlig følge interne retningslinjer/rådføre dere med behandlingsansvarlig institusjon.

MELD VESENTLIGE ENDRINGER
Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til oss ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilken type endringer det er nødvendig å melde:

https://www.nsd.no/personverntjenester/fylle-ut-meldeskjema-for-personopplysninger/melde-endringer-i-meldeskjema

Du må vente på svar fra oss før endringen gjennomføres.

OPPFØLGING AV PROSJEKTET
Vi vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Kontaktperson hos oss: Lisa Lie Bjordal

Lykke til med prosjektet!