The role of family income and other factors in understanding the food and eating practices of young people in the UK: A mixed methods approach

A thesis submitted for the degree of

Doctor of Philosophy (PhD)

Laura K Hamilton

UCL Institute of Education

October 2020

I, Laura Hamilton, confirm that the work presented in this thesis is my own as a doctoral researcher on the ERC Families and Food in Hard Times (FFHT) study. This thesis presents secondary analyses of data from the National Diet and Nutrition Survey obtained from the UK Data Archive and qualitative data generated in collaboration with and by members of the FFHT study research team. I conducted new research with higher income families and contributed to the data collection with lower income families as a doctoral researcher on the FFHT study. Analyses of these data for the purpose of this doctoral study were carried out by myself. Explicit attribution is made throughout where the data generated is not my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Word Count (exclusive of appendices and bibliography): 85,587

Abstract

In the UK there are well recognised socio-economic inequalities in diet and health. However, research about dietary inequalities rarely focuses on young people. Whilst some qualitative research has studied how low-income families manage food and eating, less has examined or compared young people's food practices in more affluent families. This study takes a mixed methods approach to examine the role of family income and other factors in understanding the food and eating practices of young people (aged 11 – 16 years) in higher-income and lower-income families at home and school. To examine the relationship with young people's diet quality, secondary analyses of the National Diet and Nutrition Survey (NDNS; 2008/09 - 2013/14) was carried out. To explore the ways in which young people's diets and food practices are shaped by different contexts, the study employed a case approach using a range of qualitative methods with young people in six higher and 30 lower-income families from one inner London borough. Quantitative analyses of the NDNS show that as household income increases young people's diet quality also increases. Other factors also appeared to be important: family food purchasing, the young person's sex, takeaway consumption and mothers' employment. The qualitative analyses of cases found that lower family income generally constrained the household food budget, limiting young people's access to quality fresh food. In contrast, higher family income meant families spent more on food and young people had greater access to more nutritious foods. Mothers' working hours and family food practices related to parental ethnicity were also important. Whilst challenges of bringing together the different data and analyses are noted, it is argued that, in combination, they provide a fuller and more nuanced picture of the ways in which income and other factors influence the diets and food practices of young people.

Impact Statement

Research Methods

This doctoral study contributes to the process of using mixed methods and visual methods in food research with young people. It highlights how quantitative analyses of robust dietary data and qualitative analyses of the social processes, meanings and diet quality can be 'meshed' to examine and understand young people's food and eating practices in different contexts. The use of visual methods in food research is not novel. However, this study illustrates the usefulness of visual methods for gaining insight into the young people's typical routines and the contexts of their lives.

Public Health

This doctoral study highlights the importance of family income (among other factors) for young people's and their families' diets. It contributes to the growing research illustrating the socio-economic inequalities in diets in the UK and the need for a more comprehensive and holistic approach to health generally. Social inequalities, and income in particular, should be considered when implementing public health policy.

National and Local Policy

This doctoral study also illustrates some of the inadequacies of the national free school meal (FSM) system which has implications for national policy. Firstly, the findings suggest that the current eligibility criteria does not adequately 'capture' all young people in low-income families who would benefit from a FSM. For instance, young people in low-income families who are not eligible for FSM experience hunger during the school day and their families experience financial hardship due to the burdensome costs of school meals. National FSM policy should aim to ensure that all children and young people in low-income families are eligible for FSM by reassessing the existing eligibility criteria. Secondly, the findings suggest that the current FSM allowance available for young people to spend during the school day is not adequate enough to purchase a full meal. Schools should take into account the FSM allowance of their students when tendering for catering contracts to ensure that items on the menu will be affordable for young people eligible for FSM.

Future research

This doctoral study has also highlighted gaps within the existing literature regarding young people's dietary intake. There has been no robust analyses of the contribution that school meals make to overall dietary intake. Given the significant changes that have occurred to school food standards (in England) this is particularly important to understanding their effectiveness in improving children and young people's overall dietary intake. Given the inadequacies of national

FSM provision as stated earlier, a review of the policy and consultation with young people who are currently eligible for FSM is needed to determine what works, what doesn't and what requires improvement. The importance of customary cuisines and family food practices related to parental ethnicity for young people's food and eating practices is particularly poignant, given the lack of existing research in this area with young people. However, these findings were based on a small number of qualitative cases and this study was not designed to examine the influence of ethnicity. Future studies should examine this relationship further.

Acknowledgments

This feat would not have been possible without the unfettered understanding and support of my supervisors, who have provided me with the intellectual guidance, encouragement and patience needed to complete my thesis and develop as a researcher. Thank you to Dr Rebecca O'Connell, Professor Julia Brannen and Antonia Simon. Your support has been immeasurable throughout and I will always be grateful.

A special thank you is extended to all the families and young people who took the time from their busy lives to participate in this doctoral study and the Families and Food in Hard Times (FFHT) study. Thank you for welcoming me so warmly into your homes to share your experiences. Without you, this thesis would not have been possible.

Thank you to my friends, Lauren Barry, Zoe Robson and Dr Julia Muehleck for their encouragement and support. And to my fellow FFHT study colleagues Dr Abigail Knight and Charlie Owen for their time and guidance. I would also like to thank the European Research Council for funding this doctoral study.

A very special thank you to Dr Kayleigh Chester, a close friend and colleague, who has shared the doctoral journey with me from the start, beginning with our undergraduate studies. Being able to discuss this process with a close friend who 'gets it' has helped me muster the optimism to keep going in times of difficulty. Your support, advice and understanding is something I will always remember and value.

Finally, I am especially grateful to my husband for his encouragement, support and for keeping me fed with delicious food. To my dog Koda who, unbeknownst to him, is the most attentive listener. And to my parents who have always maintained I can achieve whatever I put my mind to and for giving me the opportunities to do so. I am especially thankful to my mother who has always been my biggest supporter.

Contents

List of Figures

List of Tables

Acronyms

AHC	After Housing Costs
BHC	Before Housing Costs
BMA	British Medical Association
BMI	Body Mass Index
CAPI	Computer Assisted Personal Interviews
CPAG	Child Poverty Action Group
DASH	Determinants of Adolescent Social Well-being and Health study
Defra	Department of Environment, Food and Rural Affairs
DfE	Department for Education
DfEE	Department for Education and Employment
DQI	Diet Quality Index
DWP	Department for Work and Pensions
EHQ	Eating Habits Questionnaire
EIMD	English Index of Multiple Deprivation
FAS	Family Affluence Scale
FFHT	Families and Food in Hard Times study
FFQ	Food Frequency Questionnaire
FMQ	Family Meals Questionnaire
FSM	Free School Meal
HBAI	Households Below Average Income
HBSC	Health Behaviour in School-aged Children
HEI	Healthy Eating Index
HSE	Health Survey for England
HRP	Household Reference Person
JRF	Joseph Rowntree Foundation

KWP	Kantar World Panel
LCFS	Living Costs and Food Survey
LFS	Labour Force Survey
LIDNS	Low Income Diet and Nutrition Survey
MCS	Millennium Cohort Study
MFP	Main Food Provider
NDNS	National Diet and Nutrition Survey
NHS	National Health Service
NMES	Non-Milk Extrinsic Sugars
NRPF	No Recourse to Public Funds
NS-SEC	National Statistics Socio-economic Classifications
OECD	Organisation for Economic Co-operation and Development
Ofsted	Office for Standards in Education, Children's Services and Skills
ONS	Office for National Statistics
PEI	Photo-Elicitation Interview
PHE	Public Health England
RNI	Reference Nutrient Intake
SACN	Scientific Advisory Committee on Nutrition
SES	Socioeconomic Status
SFP	School Food Plan
SIMD	Scottish Index of Multiple Deprivation
SSB	Sugar-Sweetened Beverages
UC	Universal Credit
UFSM	Universal Free School Meals
WHO	World Health Organisation
WTC	Working Tax Credit

Chapter One: Introduction

1.1 Background and UK Context

In the UK, socio-economic inequalities in diet, health and socially related outcomes are well recognised (Fabian Society, 2015; Pickett & Wilkinson, 2015; Roberts, Cavill, Hancock, & Rutter, 2013; Tait, 2015; The Marmot Review, 2010). Whilst life expectancy (typically an indicator of overall national health) in the UK has generally improved over the last century, the health inequality gap has persisted (Dorling, 2015; Graham, 2009)[1]. In 2010, the Marmot Review (2010) stated that the health inequalities that exist across England are a consequence of 'social and economic inequalities in society' (p. 37). The Health Foundation states that 'low income is the most salient disadvantage, and a clear associate of poor health' (Hagell et al., 2018, p. 12).

Health is often closely linked to the conditions within which people live, including their housing, employment, education and access to food (The Marmot Review, 2010). The health of a nation is not only a measure of how efficient or functional a country's health service is, but 'health is [also] a good measure of social and economic progress' (Marmot, Allen, Boyce, Goldblatt, & Morrison, 2020, p. 5). The economic and social costs of health inequality can be substantial for society as a whole (J. P. Mackenbach, Meerding, & Kunst, 2010). Legal duties about health inequalities were introduced in the Health and Social Care Act 2012, stipulating that health bodies, such as NHS England and local authorities, are required to have due regard to reducing health inequalities in England. A good quality diet is just one component that contributes to overall health, but not everyone has access to the nutritious food required to achieve a good quality diet (C. Scott, Sutherland, & Taylor, 2018). If we are to reduce health inequalities in the UK, it is therefore essential to understand the factors that contribute to overall diet quality.

In particular, the health inequalities experienced during childhood and adolescence can have a detrimental impact throughout the life-course (Marteau et al., 2018). Adolescence is a period defined by significant transition physically, psychologically and socially. During this period, young people's health is particularly vulnerable to the effects of wider social determinants, such as family income (Hagell et al., 2018; Viner et al., 2012). The Joseph Rowntree Foundation suggest that whilst there is an interaction of multiple mechanisms linked to health inequalities, parental income is particularly important for children's health and has long-term consequences for their future health in adulthood (Benzeval et al., 2014). The diets of children and young people are of particular importance, since '[a] healthy diet provides the necessary nutrients to help maintain mental and physical wellbeing and provides a protective effect against a range of chronic diseases' (BMA, 2015, p. 11). But, young people are consistently shown to have worse dietary intake in comparison to younger children and adults (PHE, 2016).

[1] However, there is some evidence that life expectancy has been reversing since 2014 (Hiam, Harrison, McKee, & Dorling, 2018).

It is thought that one of the reasons young people have poorer dietary intake in comparison to other age groups, is their susceptibility to the targeted food advertisements that are prevalent in the UK's consumerised food system (Montgomery & Chester, 2009; Sadeghirad, Duhaney, Motaghipisheh, Campbell, & Johnston, 2016). Children and young people are highly conscious of the judgements attached to the consumer choices they make, including the food they purchase and eat (Stead, McDermott, MacKintosh, & Adamson, 2011; Wills, 2005). Not only is food a way for young people to 'fit in' with their peers (Kapetanaki, Wills, Danesi, & Spencer, 2019; Roper & La Niece, 2009), but it is also a way for young people to signify their social status through the consumption of 'approved versus stigmatised brands' (Stead et al., 2011, p. 1135).

Furthermore, poverty is strongly associated with poorer dietary intake among young people and healthier nutritious foods tend to be significantly more expensive than less nutritious food (Jones, Conklin, Suhrcke, & Monsivais, 2014; Nelson, Erens, Bates, Church, & Boshier, 2007; PHE, 2019). Poverty rates amongst children and young people are much higher than for other demographic groups in the UK (e.g. non-parents and pensioners; Bourquin, Cribb, Waters, & Xu, 2019). However, the Fabian Society (Tait, 2015) argue that recent UK research on food and low income families has become too narrow by focusing on charitable food provision.

Whilst the social gradient in health and diet quality has been known for some time, relatively little research has focussed on the diets and food practices of young people by family income. The research that does exist on dietary inequalities has tended to be quantitative and focus narrowly on variables related to the intake of particular food types/groups. This type of research can tell us little about the social processes and range of factors that shape young people's food practices in the different contexts of their lives. Meanwhile, whilst some qualitative research has studied how families are managing at the bottom of the income spectrum in the context of austerity, less research has studied 'up' to examine or compare how young people in more affluent families eat and why. Research has also largely ignored adolescent-aged young people, despite that their experiences are vital to their current and future wellbeing.

This thesis aims to examine the influence of family income (and other factors) on young people's (aged 11 – 16 years) food and eating practices using a mixed methods approach. By comparing the food and eating practices of young people from higher and lower-income families the thesis contributes to research that seeks to understand dietary and social inequalities and suggest possible avenues for implementing effective policy and practice to improve the diets of young people across the income spectrum.

1.2 A Linked Doctoral Study

This doctoral study is linked to a mixed methods study called 'Families and Food in Hard Times' (FFHT), funded by the European Research Council.[2] Rebecca O'Connell, the principal investigator on FFHT, and two other team members, Julia Brannen (advisor and senior researcher) and Antonia Simon (quantitative researcher), have jointly supervised this doctoral study. The aim of FFHT is to explore young people's and their families' experiences of food poverty as situated in their communities and to compare their experiences within the context of the respective welfare states and social policies across three European countries with varying degrees of austerity: the UK, Portugal and Norway.

FFHT uses a mixed methods approach. Firstly, secondary analysis was conducted of four large scale datasets; two international datasets (the Heath Behaviour in School-aged Children survey and the European Union Statistics on Income and Living Conditions) and two UK national datasets (the Poverty and Social Exclusion survey and the Living Costs and Food Survey). The purpose of the secondary analysis was to examine and compare the levels of food poverty and to investigate the types of families who are at risk of food poverty in each country. Secondly, the qualitative methodology consisted of in-depth semi-structured interviews with young people and a parent or guardian to explore their experiences of food poverty. Young people and their families who participated in the study are lower-income and experiencing varying degrees of food poverty. In the UK, the qualitative methods were carried out in two locations in the South East of England; an inner London borough and a coastal town. In total, there were thirty families living in or close to the inner London borough and fifteen living in the coastal town. In addition, a sub-sample of nine families living in the London borough and four living in the coastal town also participated in the visual methods phase (phase two), including photo-elicitation interviews with young people and a kitchen tour with a parent (described in chapter 3, section 3.4).

This doctoral study was developed in collaboration with FFHT colleagues and designed to complement the FFHT study and I have contributed to FFHT data collection. Therefore some aspects of the methodological approach have remained consistent, as detailed in chapter three (Concepts, Methodology and Research Design).

1.3 Overview and Structure of this Thesis

This thesis is comprised of seven chapters. **Chapter two** presents a review of the diverse and multidisciplinary literature concerned with young people's food and eating practices. The review outlines the main datasets currently available in the UK for assessing young people's dietary intake and what primary and secondary research tell us about the state of young people's diets in the UK today. This is followed by a review of the current literature pertaining to the influence of

[2] FFHT was hosted at University College London, Institute of Education and funded by the European Research Council from 2014 to 2019 (ERC grant agreement n° 337977).

income on young people's diets and the importance of income for achieving government dietary recommendations and guidelines. The chapter then discusses what other factors influence young people's food and eating practices, illustrating the limits of parental and family influences during adolescence, including young people's desire to 'fit in' with their peers and to achieve greater autonomy, including at school.

Chapter three outlines the thesis' conceptual and methodological approach and the study's research questions. This doctoral study employed a mixed methods approach including, secondary quantitative analyses of the National Diet and Nutrition Survey (NDNS) waves 1 – 6 (2008/09 – 2013/14) and qualitative analyses of in-depth interviews with 42 young people and one of their parents from 36 families. Six young people were from higher-income families and 36 young people were from lower-income families. The qualitative methods also included visual methods with six higher-income families and 9 lower-income families such as photo-elicitation interviews with the young person and a kitchen tour with the parent.

Chapter four describes the secondary quantitative analyses of the NDNS waves 1 – 6 (2008/09 – 2013/14) that addresses the first research question, that is concerned with the relationship between the diets of young people aged 11 – 16 years, income and other factors. Young people's diets are measured using two derived variables. The first is the average number of daily fruit and vegetable portions consumed in accordance with the UK's national '5-a-day' recommendations (NHS, 2019). The second is a Diet Quality Index (DQI) percentage score of overall diet quality to assess young people's consumption of nutrients in-line with recommended intakes.[3] The analyses show that whilst young people in higher income deciles have better quality diets and dietary intake than young people in lower income deciles, other explanatory factors are also significant.

Chapter five reports qualitative analyses of 42 in-depth cases (6 higher-income and 36 lower-income) to address the first and second research questions that are concerned with understanding how and why young people (aged 11 – 16 years) eat as they do at home and how this relates to family income. Young people's diet quality is categorised as 'good', 'mixed' or 'poor' and then examined in relation to family income groups (higher and lower). Five in-depth cases of young people are then analysed and compared. Whilst young people from higher-income families tended to have 'good' quality diets and low family income was a salient factor for young people's food and eating practices at home, customary cuisines and food practices related to parents' ethnicity were also identified as important.

Since schools are another important context of young people's lives and identified in policy as potential sites for shaping their diets, **chapter six** examines school meals from the perspectives of young people in different types of schools and families. It begins by providing a brief overview of English school food standards and the English school food regulatory system, including the national free school meals (FSM) policy. The chapter addresses the third research question

[3] Percentage of energy from non-milk extrinsic sugars (NMES); percentage of energy from saturated fat; dietary fibre; vitamin C; folate; calcium; and iron

through case analysis of 37 qualitative cases (5 higher-income and 27 lower-income young people) to compare what young people said about their school meals. It then focuses on a detailed comparison of four young people who attend two schools with contrasting food environments. Two young people attend a school with non-compulsory school meals and two attend a school with compulsory 'family meal service'. The influence of school food policies and practices and family income on young people's food and eating practices at school and home are examined. The chapter demonstrates how school food policies, access to money from parents and eligibility for FSM influence young people's experience of eating at school by restricting what young people can choose to eat and who with.

Lastly, **chapter seven** discusses the overall findings of this thesis, brings together the findings from the quantitative and qualitative research and outlines the contributions of this doctoral study to the existing literature and our understanding of young people's food and eating practices in relation to family income. This is followed by methodological reflections, focusing on the strengths and limitations of this doctoral study. Finally, I suggest some implications of the study's findings for policy, practice and directions for future research.

Chapter Two: Literature Review

Food and eating are multidimensional. The reasons we eat the food we do is due to a complex interaction between social, environmental, economic and material factors. We do not just consume nutrients. Food is embodied with social, moral, cultural and political meanings. Food research is explored across varying research disciplines such as nutrition, public health, sociology, psychology, education and geography. Therefore, the following chapter reviews a diverse literature from multiple disciplinary perspectives to examine what is known about what young people eat and some of the main influences of their diets are.

The chapter begins by outlining the main datasets that address young people's dietary intake in the UK and describes what they tell us about what young people eat. It then examines data on dietary inequalities in the UK, the importance of income for young people's diets and the difficulties faced by low-income families in affording a nutritious diet. This is followed by a discussion of research that sheds light on how young people's diets are influenced by other factors, focusing on the role of family and young people's agency and identity. The review then moves to influences on young people's food at school, and how their school peer groups influence what and how young people eat at lunchtime.

2.1 Young People's Diets and the Influence of Income in the UK

Poor diet can have lasting consequences, particularly for children, and is a major contributor to the increased risk of illness and disease in adulthood (Hill, Prokosch, DelPriore, Griskevicius, & Kramer, 2016; Lawlor & Pearce, 2013; Mack, 2018; O'Connell & Hamilton, 2018). Evidence shows that children and young people who do not meet government nutrient recommendations or do not eat breakfast are more likely to experience poorer mental health, lower self-esteem and lower academic attainment (Hoyland, Dye, & Lawton, 2009; Weichselbaum & Buttriss, 2011, 2014; Zahra, Ford, & Jodrell, 2014). Adolescence is a significant period of transition, including physical, emotional and social changes. During this period, young people's health is particularly vulnerable to the effects of wider social determinants, such as family income (Hagell et al., 2018; Viner et al., 2012).

This section describes the main sources of young people's dietary data and summarises what we currently know about young people's diets in the UK from reports and secondary analyses of these datasets. It then outlines why family income is an important factor for young people's diets in the UK, including the difficulties faced by low-income families to affording a nutritious diet.

Table 2.1 Summary of the main sources of dietary intake data in the UK for young people aged 11 – 16 years.

	Data Level	Frequency of Data Collection	Periods of Data Collection	Where Data is Collected	Age Groups	Dietary Data Collection Methods	Income Data Available[1]	Other Relevant Available Variables[2]
National Diet and Nutrition Survey (NDNS)	Individual	Annual	2008/09 - ongoing	UK	From 18 months	4-day food diaries; nutrient intake and fruit and vegetable portion.	Equivalised annual household income	Family structure, education, occupation, NS-SEC, housing, ethnicity, cooking and storage facilities and food purchasing practices.
Low Income Diet and Nutrition Survey (LIDNS)	Individual	Once	2003 – 2005	UK	From 18 months	Four 24-hour recalls; nutrient intake and fruit and vegetable portion.	Equivalised weekly household income	Family structure, education, occupation, NS-SEC, housing, ethnicity, cooking and storage facilities, food purchasing practices and food security.
Living Costs and Food Survey (LCFS)	Household[3]	Annual	2008 – ongoing	UK	From 7 years	2-week diary of self-report food expenditure; food groups including fruit and vegetables	Equivalised annual household income	Family structure, education, occupation, NS-SEC, housing, ethnicity, cooking and storage facilities and food purchasing practices.
Health Survey for England (HSE)	Individual	Annual	1995 – ongoing	England[4]	From 5 years	24-hour recall; food groups including fruit and vegetables.	Banded equivalised annual household income	Family structure, education, occupation, NS-SEC, housing and ethnicity.
Health Behaviour in School-aged Children (HBSC)	Individual	Every 4 years	2002 – ongoing	England[4]	11, 13 and 15 years	Food frequency questionnaire; food groups including fruit and vegetables	None: Family Affluence Scale (FAS) available	Family structure, ethnicity, breakfast consumption and consuming meals with family.

[1] When equivalised, household income is recalculated using household composition including the number of people and ages of those living in the household (see chapter 3, section 3.6).
[2] Based on variables available within the dataset and not a reflection of the robustness of analysis using these variables.
[3] Although individual level data is available, the ONS advise that the dataset is designed for household level analysis.
[4] Separate data is available for Scotland and Wales.

Main Sources of Young People's Dietary Data

Several large scale nationally representative datasets of households' and individuals' food purchases or dietary intake include data about young people's diets. These datasets are often presented in national reports, and in most cases are also available for secondary analysis. Table 2.1 summarises the main sources of dietary intake data available in the UK and details what age groups, dietary, income and other related data are collected in each dataset.

The National Diet and Nutrition Survey and the Low Income Diet and Nutrition Survey

The main source and most robust dataset in the UK for assessing the dietary intake of the general population is the National Diet and Nutrition Survey (NDNS). The NDNS is designed to assess the food and nutrient intake of the general population at the individual level from the age of 18 months using a combination of biological tests (e.g. blood and urine tests), questionnaires and a four-day food diary. A new wave of data is collected each year, with data collection starting in 2008/09 (wave 1) and the most recent in 2016/17 (waves 9). The survey also collects data about equivalised household income.

In order to reduce overall sugar consumption in the UK, the Scientific Advisory Committee on Nutrition (SACN, 2015) have made recommendations stating that non-milk extrinsic sugars (NMES[4]; also known as free sugars) contribute no more than 5 per cent of daily total energy intake to people's diets. A reduction in children's and young people's sugar intake is a part of Public Health England's (PHE) wider childhood obesity reduction programme and is therefore a key nutrient when examining young people's diets. The most recent analysis of young people's dietary intake by PHE (2018) for waves 7 – 8 (2014/15 – 2015/16) indicates that the consumption of NMES is highest amongst 11 – 18 year olds, in comparison to younger children and adults. Only five per cent of young people in this age group meet the government recommendation of no more than 5 per cent daily total energy intake from NMES. However, raw data tables appended to the report show that NMES consumption has decreased from 15.9 per cent of total energy intake in survey waves 1 - 2 (2008/09 – 2009/10) to 14.1 per cent in waves 7 – 8 (2014/15 – 2015/16).

However, this analysis of waves 7 – 8 does not include young people's fruit and vegetable consumption. Previous NDNS analysis (PHE, 2016) of fruit and vegetable consumption from waves 5 – 6 (2012/13 – 2013/14) show that only 8 per cent of young people aged 11 – 18 years were meeting the government's recommendations of consuming at least five portions of fruit and vegetables per day (NHS, 2019). On average this age group consumed only 2.8 portions per day. In comparison, 27 per cent of adults aged 19 – 64 years met the government's recommendations.[5] In addition, a higher proportion of young people aged 11 – 18 years reported intakes below

[4] Non-milk extrinsic sugars or 'free sugars' as defined by SACN (2015); 'all monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and unsweetened fruit juices. Lactose when naturally present in milk and milk products is excluded' (p. 4).
[5] The '5-a-day' recommendations are not applicable for children under the age of 11 years.

recommended levels for most vitamins and minerals in comparison to all other age groups. There was also a substantial difference in the proportion of girls' and boys' iron intakes below the recommended levels (48% and 9% respectively).

There was no further analysis of income trends in this report for waves 5 – 6 (2012/13 - 2013/14; PHE, 2016). However, analysis of waves 1 – 4 (2008/09 - 2011/12; PHE, 2014b) indicates that the mean consumption of fruit and vegetable portions in income quintile 1 (lowest) was significantly lower for young people aged 11 – 18 years in comparison to those in income quintile 5 (highest). More recently, a PHE report (2019) focuses on income trends for survey waves 5 – 9 (the period 2012/13 – 2016/17). Although the report does not provide detailed analysis for each age group, the findings indicate that fruit and vegetable portion consumption increases as income increases across all age groups.

To fill the gap in the NDNS dataset in which lower-income households are underrepresented, the Low Income Diet and Nutrition Survey (LIDNS; Nelson et al., 2007) was carried out between 2003 and 2005. Similar to the NDNS, the LIDNS assesses the nutritional intake of a nationally representative sample of materially deprived households in the UK and is considered 'a valuable supplement to the NDNS' (Nelson et al., 2007, p. 6). Its methodology differs from the NDNS. Firstly, dietary data are collected via 24 hour recall on four separate days within a 10 day period. Secondly, respondents are asked about household food security in a series of additional questions that are not included in the NDNS. Findings from the LIDNS (2003 - 2005; Nelson et al., 2007) indicate that no fruit was consumed by 32 per cent of boys and 18 per cent of girls aged 2 – 18 years. Both boys and girls who were older (aged 11 – 18 years) were less likely to consume fruit and vegetables compared to younger children and adults. The average number of daily portions of fruit and vegetables consumed by boys and girls was 1.6 and 2 portions respectively. This is lower than for the general population from the NDNS, suggesting that lower-income children and young people are less likely to consume a nutritious diet.

Health Survey for England

The Health Survey for England (HSE, 2019a) is an annual survey of households in England concerning the health outcomes and behaviours of the general population. One of the main priorities of this survey is to assess the consumption of fruit and vegetable portions on the basis of the '5-a-day' government recommendation. This is measured using 24-hour recall. The latest survey (HSE, 2019a) indicates that in 2018, 18 per cent of children and young people aged 5 – 15 years ate five or more portions of fruit and vegetables per day and consumed on average three portions per day. The appended raw data tables (HSE, 2019b) show that young people aged 11 – 12 years and 13 – 15 years consumed on average 3.1 and 2.8 portions per day, respectively. However young people aged 13 – 15 years were less likely to consume at least five portions per day (18%) than young people aged 11 – 12 years (21%). The equivalent survey in Scotland (The Scottish Government, 2019) suggests that in 2017 only 15 per cent of Scottish children aged 2 –

15 years consumed five portions per day and the mean number of portions consumed per day was 2.8. This is lower than for England.

However, there are methodological limitations of the HSE dietary data. For instance, young people report how many portions they consume, but it is unlikely that most young people are aware of what a portion is or looks like. Craig and Shelton's (2008) analysis of HSE 2007 data revealed that although 63 per cent of boys and 73 per cent of girls aged 11 – 15 years were aware of the '5-a-day' recommendations for fruit and vegetables, only 22 per cent of boys and 21 per cent of girls were able to accurately identify what a portion of fruit and vegetables was. It is therefore unlikely that the methods employed by HSE will be as accurate as surveys such as the NDNS, which is based on four-day food diaries with detailed data regarding nutrient intake.

Health Behaviour in School-aged Children

The Health Behaviour in School-aged Children (HBSC) survey is a cross-national survey about the social well-being and health behaviours of young people aged 11, 13 and 15 years. The survey is conducted every four years in secondary schools across England, with separate surveys conducted in Scotland and Wales. The surveys include some diet related questions. Similar to HSE, the findings do not report on detailed nutritional intake. Young people are asked how often they consume items from specific food and drink categories in a self-report survey, including fruit and vegetables. Income data are not collected, but affluence is measured using the Family Affluence Scale (FAS; low, moderate, high). The latest findings from HBSC England's analysis of the 2018 dataset (Brooks, Klemera, Chester, Magnusson, & Spencer, 2020) indicate that 10 per cent of young people in England reported consuming a sugary drink at least once per day. Forty-four per cent of young people reported that they consume at least five portions of fruit and vegetables per day. This is an increase from previous reports (Brooks et al., 2015) stating that only 38 per cent of young people reported that they consume at least five portions of fruit and vegetables per day.

In comparison, findings from HBSC Wales 2014 data (Ipsos MORI, 2015) indicate that 25 per cent of young people in Wales consume sweets and 21 per cent consume sugary drinks on a daily basis. Daily consumption of sugary drinks was significantly more likely for young people of low FAS in comparison to high FAS (28% and 18% respectively). Fewer young people reported consuming fruit and vegetables at least once per day (31% and 32% respectively) in comparison to young people in England. Daily consumption of fruit and vegetables was significantly less likely for young people of low FAS in comparison to high FAS (fruit: 26% and 33% respectively; vegetables: 23% and 36% respectively). Findings from analysis of HBSC Scotland 2018 data (Inchley, Mokogwu, Mabelis, & Currie, 2020) show that more young people in Scotland consume sugary drinks on a daily basis (17%) in comparison to England, but not Wales. In addition, more young people in Scotland are consuming fruit and vegetables on a daily basis (35% and 36% respectively) in comparison to Wales. The proportion of young people consuming fruit and vegetables at least once per day was highest for higher FAS groups. There is no available

analysis of FAS for the English data. However, secondary analysis of the English dataset have examined young people's consumption of selected food groups in relation to FAS, as discussed later in this section.

Similar to the methodological limitations for HSE, there are issues regarding how young people report their dietary intake in the HBSC survey. Food consumption is measured on the basis of food groups, rather than detailed nutrient intake. In addition, it requires young people to estimate their 'usual' frequency of consumption per week, rather than how many portions per week or day.[6] This may mean that some young people report that they consume fruit, for example, on five occasions per week. Even if they are consuming more than one portion during each of those five occasions, those portions may not be accounted for because it is the number of occasions, not the number of portions that are reported.

The Living Costs and Food Survey

Other surveys conducted in the UK concerned with the health of the UK population, including diet, do not measure or report on overall dietary intake of individuals or households in the same detail as the previously discussed surveys. For instance, the Living Costs and Food Survey (LCFS; ONS, 2019c) is an annual survey of household expenditure, including food expenditure. Although it is possible to distinguish between adult and child purchases, the ONS advises that the LCFS was designed for analysis at the household level. The dataset is used by Defra for their annual 'Family Food' report (see Defra, 2019 for the most recent report) of household food expenditure, purchases and dietary trends. Defra uses the LCFS food and drink purchase data as a proxy to estimate the nutrient intake of UK households. However, purchases do not necessarily equate to consumption and nor do they tell us who, within the household, has consumed food or drink. In addition the 'Family Food' report does not distinguish between households with and without children. It is not possible to report specifically on the dietary intake of young people in the UK with the use of this dataset.

Summary

There are differing approaches and methodologies when examining young people's dietary intake in the UK and none of the datasets mentioned are without some methodological limitations. However, the most robust dataset available is the NDNS, despite the underrepresentation of low-income households. The existing analyses suggests that young people are not consuming a diet that meets the government recommendation for nutrient intake or five portions of fruit and vegetables per day. Young people have poorer diets in comparison to younger children and adults. There is also some variation in dietary intake across the countries within the UK. Generally, fruit and vegetable consumption increases as household income increases. Low-income young

[6] Frequency categories: never; less than once a week; once a week; 2 – 4 days a week; 5 – 6 days a week; once a day, every day; every day, more than once.

people in particular consume fewer portions of fruit and vegetables in comparison to the general population.

The Relationship between Income and Diet

Although there is little analyses of young people's diets in relation to income in the main reports discussed, secondary analyses of these datasets and other research specifically examines the relationship between household income and young people's diets in the UK. These studies are largely national and quantitative focusing on households, adults or the cost of differing diet qualities. Qualitative studies of food in relation to income tend to focus on food poverty, typically from the perspective of the parent rather than the young person. To my knowledge there are no qualitative studies that examine the differences between young people's experiences and diets from low income and high income families in the UK.

Young People's Dietary Intake and Income: Secondary Analyses

Secondary analyses have been carried out of the national quantitative datasets discussed earlier to examine the association between young people's diets and income (or socioeconomic status (SES)). Most secondary analyses of the NDNS and LIDNS datasets have focused on the diets of adults or younger children, rather than adolescent-aged children. Of those that have analysed the dietary intake of young people, most have not compared young people's diets by income (for example see: Albani, Butler, Traill, & Kennedy, 2017; Coulthard, Palla, & Pot, 2017; Gibson, Francis, Newens, & Livingstone, 2016; Lai, Hutchinson, & Evans, 2019). To my knowledge, there are only two existing secondary analyses of young people's diets and income. Taher and colleagues (2019) analysed the NDNS waves 1 – 6 (years 2008/09 – 2013/14) to examine the association between young people's (aged 11 – 18 years) frequency of takeaway consumption and diet quality. They found that young people in lower-income quintiles were more likely to consume takeaways once or twice per week compared to young people in the highest-income quintile. Frequent consumption of takeaways was also associated with lower diet quality overall. However, they did not analyse the association between overall diet quality and income.

Ntouva and colleagues (2013) conducted secondary analysis of both the LIDNS (years 2003 – 2005) and the NDNS (years 2008 – 2010) to examine young people's consumption of NMES. They compared low-income young people's (11 – 18 years) consumption from the LIDNS to that of young people in the general population from the NDNS. They found that a higher proportion of low-income young people exceeded the recommended intake in comparison to the general population (17.2% and 16.3% of total energy consumed respectively). However, further analysis was not conducted for this age group. One issue with this analysis is the period of time between the LIDNS fieldwork (2003 – 2005) and the NDNS fieldwork (2008 – 2010). This period of time is marked by several changes that may have had an influence on the diets of young people. For example new school food standards were introduced in 2006 by the Department for Education

and Employment (DfEE, 2007, 2008; The Scottish Executive, 2002; The Scottish Government, 2007). A recession also occurred in 2008, which was followed by food price increases and a decrease in household NMES intake according to Defra (2010). The differences in NMES intake between the low-income sample of the LIDNS and the general population may not be due to income, but a consequence of the nationwide changes that occurred during this period of time. However, it is not possible to know one way or the other. In addition, there are differences in the methods used to collect dietary intake data of the LIDNS and NDNS, as mentioned earlier.

HBSC dietary data has also been secondary analysed. Simon and colleagues' (2017) secondary analysis of HBSC England data (2005 – 2014) shows that there has been little change in the period 2005 to 2014 in the proportion of young people consuming vegetables 5 – 6 times per week. However, the proportion consuming fruit 5 – 6 times per week has fallen over the same time period. Their analysis also suggests that there is a closing gap in the food behaviours of children with higher and lower FAS over time, particularly for eating breakfast, but that children with higher FAS continue to exhibit healthier behaviours for all items (fruit and vegetable intake, consumption of sugary drinks, eating breakfast).

Similar to Simon and colleagues (2017), secondary analysis of the Scottish HBSC dataset (2002 – 2010) by Levin and colleagues (2012) found differences in young people's (aged 11 – 15 years) food consumption and FAS. Fruit and vegetable consumption was more frequent and consumption of crisps and chips was less frequent amongst young people with higher FAS. There was no difference in the consumption of sweets. Moore and Littlecott (2015) secondary analysed the Welsh HBSC 2010 dataset to examine the association between health behaviours, including daily fruit and vegetable consumption and SES. SES was measured by a combination of FAS and the proportion of free school meal (FSM) eligibility at the secondary school young people attended. Their findings show that fruit and vegetable consumption was highest for young people of high FAS regardless of whether their school had low, medium or high levels of FSM eligibility. The relationship between consumption and SES was strongest for young people of high FAS.

Although findings from the HBSC reports and secondary analyses are insightful, there are methodological issues when examining SES in the HBSC dataset. Although FAS is a validated measure (Currie et al., 2008; Hartley, Levin, & Currie, 2016), the methodology used in the scale means that it measures patterns of consumption, rather than SES. For instance, the questions included in FAS refer to 'common material assets or activities' such as: how many cars or computers your family own; how many bathrooms are in your home; if you have your own bedroom or your home has a dishwasher; and how many times your family have travelled abroad in the last year (WHO, 2016, p. 17). It is also not as robust as other measures of SES or household income. Despite the limitations of FAS, young people are unlikely to know the information required (e.g. parental education and occupation) for more robust measures of SES or income, given that it is a self-report survey conducted in schools.

Young People's Dietary Intake and Income: Primary Research

Other studies, not derived from secondary analyses of the main datasets discussed earlier, have also examined the relationship between young people's dietary intake and income or SES. Noonan (2018) examined the association between poverty and young people's dietary intake by analysing the Millennium Cohort Study (MCS) including 10,736 young people with a mean age of 14.3 years. Parental equivalised household income was used to determine whether young people were living in poverty or not, defined as those with an income 60% below the median. Dietary intake was measured using three dichotomous variables: daily (or not) consumption of fruit and vegetables; and daily or weekly consumption of both sugar-sweetened beverages (SSB) and 'fast food'. Young people living in poverty were significantly more likely to report consuming SSB and fast food more frequently than those not living in poverty. They also consumed fruit and vegetables less frequently. This difference was also greater for girls than for boys.

McNeill and colleagues (2017) used a more robust methodology to measure dietary intake. They carried out two large scale surveys of children and young people (aged 3 – 17 years) in Scotland at two time points, 2006 and 2010 (n=1,700 and n=1,906 respectively).[7] Food consumption was based on 24 hour recall using a food frequency questionnaire (FFQ). The questions in the FFQ consisted of specific measurements for each food group, for example, 'one teaspoon' or 'one piece of fruit'. The NDNS nutrient databank was then used in combination with the FFQ to estimate the intake of energy, NMES, total fat and total saturated fat consumed. Children and young people were then separated into quintile on the basis of postcode data and the Scottish Index of Multiple Deprivation (SIMD) from most deprived (quintile 1) to least deprived (quintile 5).[8] Their analysis focused on nutrient intake and seven food groups: confectionary; biscuits, cakes and pastries; crisps and savoury snacks; SSB; fruit juice and smoothies; fruit; and vegetables.

Their findings suggest that whilst the diets of children and young people improved from 2006 to 2010, socio-economic gradients persisted (McNeill et al., 2017). Consumption of confectionary, crisps and SSB significantly reduced and consumption of vegetables significantly increased for all children. There were significant decreases in energy intake and energy from NMES in all SIMD quintiles. But energy intake and energy from NMES was higher for those living in the most deprived areas in both 2006 and 2010. There was no significant improvement in the socioeconomic gradients of children and young people's nutrient intake between 2006 and 2010.

Understanding Why Low-Income Young People have Poorer Diets: The Cost of a Nutritious Diet

It is clear from these analyses that there is a relationship between income and young people's dietary intake. In particular, low-income young people consume a poorer diet quality overall, such

[7] See Masson et al. (2012) for the main report and Craig et al. (2010) for separate analysis of the 2006 data.
[8] The SIMD is the official measure of relative deprivation within 'data zones' in Scotland. It ranks each of the zones from 1 (most deprived) to 6,976 (least deprived) on the basis of seven domains: Income; employment; education' skills and training; health and disability; access to services; crime; and access to housing.

as consuming takeaways, crisps and SSBs more frequently and less portions of fruit and vegetables. Although research does indicate that over time there have been improvements in young people's diets overall, the socioeconomic gap still exists and has not reduced. But it is not clear from these analyses why that is the case. The analyses already discussed cannot tell us why low-income is associated with a poorer diet.

Food is an immediate way for low-income households to reduce overall expenditure when living costs increase. Food budgeting strategies can include buying cheaper brands, food of lesser nutritional quality, reducing food waste, skipping meals or buying less food altogether (Dowler, 2014; Dowler, Kneafsey, Lambie, Inman, & Collier, 2011; Lambie-Mumford, Crossley, Jensen, Verbeke, & Dowler, 2014). However, these strategies mean compromises in food choice (O'Connell, Knight, & Brannen, 2019), have consequences for overall diet quality and are usually achieved 'at considerable cost to their present and future health and social well-being' (Dowler, 2014, p. 165).

Qualitative studies show how managing on low incomes can lead to compromises in the food families can buy, cook and eat. For example, research from the Joseph Rowntree Foundation (JRF; Hossain et al., 2011) show how low income can impact the quality and quantity of the food families purchase. They explored people's experience of everyday life on low incomes during the economic downturn using focus groups and semi-structured interviews. They found that some families were using vegetables as a source of 'bulking out meals' (p. 24) or reducing food waste as a way to reduce their food budget and save money. Others bought more frozen food or poorer quality food. In some cases, mothers spoke of the poorer quality food affecting their children's health negatively. The JRF report concludes that low incomes and increasing costs of living have led to families 'eating less nutritious food, by substituting cheaper fast, junk or frozen food; eating less than they would prefer to; and shopping around more for bargains, with implications for time and effort, particularly for women.' (p. 35). However, in a small number of positive cases, people were growing their own fruit and vegetables, with the result that they were eating better than previously.

Quantitative research also finds that healthier nutritious foods tend to be significantly more expensive than less nutritious food in the UK (Jones et al., 2014); they tend to be beyond the reach of low-income families. A recent report from The Food Foundation (C. Scott et al., 2018) found that just below half (48%) of UK households with children are not spending enough of their disposable incomes on food each week to meet the UK government's Eatwell nutritional guidelines. Households in the lowest half of income deciles need to spend 30 per cent of their disposable income to achieve these nutritional guidelines; in comparison households in the top half of income deciles need to spend just 12 per cent on average. They state that their findings are a 'stark indication of the challenges low-income households face in affording the government's recommendations for a healthy diet' (C. Scott et al., 2018, p. 9).

Pechey, Monsivais and colleagues (2013; 2015) analysed the Kantar World Panel (KWP) UK survey to explore the food expenditure, socioeconomic inequalities, shopping behaviour and

healthfulness of food choices of approximately 25,000 UK households in 2010. As part of the KWP, participants are required to report their expenditure, including food and beverages, brought home. Pechey, Monsivais and colleagues (2013; 2015) found that low-income households have to spend a greater proportion of their income on fruit and vegetables to fulfil UK recommended dietary guidelines. In comparison to affluent households, poorer households are more likely to purchase food considered to be less healthy.

Pechey and Monsivais (2016) conducted further analysis of the same dataset (KWP) to examine whether the pathway between SES and the purchasing of healthy food is mediated by food expenditure (cost (£) per 2000 calories). Their analysis indicates that higher SES households have significantly higher food expenditure and make slightly healthier food purchases. The purchasing of healthier food and drink also has a small but positive association with food expenditure overall, regardless of SES. Pechey and Monsivais (2016) conclude that, rather than preference, income could be the mediating factor when considering healthy food choices. They argue that 'prioritising price may constrain healthiness of choice, while prioritising health may necessitate higher expenditure.' (Pechey & Monsivais, 2016, p. 208). This is particularly poignant given the dominant neoliberal narrative of individual choice and competencies that are typically cited as the solution to the existence of nutritional inequalities across income groups (Dowler & O'Connor, 2012; Guthman & DuPuis, 2006).

To examine the relationship between SES, dietary costs and the quality of dietary intake, Mackenbach and colleagues (2015) analysed a population-based cohort of 9,911 adults living in Cambridge (UK) as part of The Fenland Study. Data were collected between 2005 and 2013. SES was measured using a combination of education and annual household income. A self-report FFQ, designed to measure dietary intake, was used to assess participants' diets. Dietary costs were derived by estimating the retail cost of food reported in the FFQ at five supermarkets.[9] A daily cost was then calculated for each participant's diet (£/day). Their analysis suggests that higher dietary costs are associated with higher fruit and vegetable intake as well as a healthier diet overall. This association was stronger for those of lower SES than of higher SES. 'The strong association between dietary costs and diet quality underscores the importance of economic resources as an important determinant of adherence to a healthy diet' (J. D. Mackenbach et al., 2015, p. 1469).

However, Mackenbach and colleagues' (2015) analysis should be noted with caution. Food expenditure data were not derived directly from households' reported expenditure, as is the case in the KWP data analysed by Pechey and Monsivais (2015, 2016). Expenditure was calculated using the lowest non-promotional price across five supermarkets. However, their findings are still insightful and provide a general illustration of dietary costs and the contribution of economic resources to diet quality.

[9] Prices derived using mysupermarket.com and adjusted for wastage to calculate price per edible 100g.

Young People's Experiences of Food and Eating on a Low Income

According to social researchers (Harvey, 2016; Laverty, 2019), there is limited recent qualitative research on young people's experiences of living in a low-income family in relation to food and eating practices.[10] This is despite poverty rates amongst children being much higher than for other demographic groups in the UK (e.g. non-parents and pensioners; Bourquin et al., 2019) and the exponential increase in the number of charitable food parcels provided to families with children (Lambie-Mumford & Green, 2015).

To my knowledge, the only recent qualitative study exploring young people's experience of food and eating on a low income in the UK was conducted by O'Connell and colleagues (2019; see also Knight, O'Connell, & Brannen, 2018). Using in-depth case studies, from the perspective of 51 young people (aged 11 – 15 years) living on a low income in an inner London Borough and a coastal town, they demonstrate 'the ways in which food poverty is deeply embedded in the various contexts of [young people's] lives' (Knight, O'Connell, et al., 2018, p. 191). For instance, their analysis (to which my own study is linked) shows the ways in which food poverty and hunger do not just detrimentally influence what young people eat, but also affect them socially and emotionally. Alongside interviews, young people also completed a FFQ. Just over half of young people reported consuming vegetables and only a third reported consuming fruit 5 – 6 times per week. The young people were also conscious of their families' financial constraints, changes in family income and a lack of food available at home. O'Connell and colleagues (2019) state that although parents were aware of the recommendations for fruit and vegetable consumption and wanted to improve the quality and quantity of their own and their children's diets, this was difficult due to the high cost of fruit and vegetables and their low incomes.

Summary

There is limited available analyses of the influence of income on young people's dietary intake. However, the existing analyses presented in this section overall suggests that having a lower income has detrimental consequences for people's diets, particularly for families with children. Food poverty has negative consequences not just for the nutritional quality of food consumed but also for the social and emotional aspects of food and eating that can lead to social exclusion for young people and parents. However, more qualitative research that includes the perspectives of young people is needed, in particular comparing the food and eating practices of young people from higher and lower-income families. The next section discusses influences of young people's food and eating practices, other than income.

[10] See Harvey (2016) for analysis of younger children's (aged 5 – 11 years) experiences of food poverty.

2.2 Other Influences of Young People's Food and Eating Practices

Although the focus of this doctoral study is on family income, there are also other factors associated with young people's food and eating practices. In this section I outline some of these factors. First, I describe the differences in young people's dietary intake in relation to ethnicity. This is followed by a discussion of parental or family influences on young people's food and eating practices, including family meals, mothers' employment and social class. Last, I discuss the limits of these influences on young people who are in a period of emerging agency, new identities and conformity with peers.

Young People's Ethnicity

There is a lack of representative data about the dietary intake of young people from different minority ethnic groups in the UK. Existing literature typically relates to adults or specific health conditions, such as diabetes and obesity rather than dietary intake. Furthermore, nationally representative datasets are largely based on a crude white and non-white ethnic distinction. For example, there is little, if any, analysis of nutritional intake of young people from white non-British or white European ethnic backgrounds living in the UK.

One example of existing analysis of young people's dietary intake in relation to ethnicity is HSE 2004 The Health of Minority Ethnic Groups (Fuller, 2006). Additional analysis of the 2004 HSE data was carried out to examine the health of ethnic minority children and young people (aged 5 – 15 years) in the UK including: black Caribbean; black African; Indian; Pakistani; Bangladeshi; Chinese; and Irish. However, the analysis is limited to fruit and vegetable portion consumption rather than nutrient intake. Findings suggest that a larger proportion of ethnic minority children (girls and boys) consume five or more portions of fruit and vegetables per day in comparison to the proportion of children in the general population. For girls, the proportion ranged from 12 per cent of Irish to 24 per cent of Chinese in comparison to 12 per cent of girls in the general population. For boys, the proportion ranged from 15 per cent of Chinese to 22 per cent of Indian and Bangladeshi boys in comparison to 11 per cent from the general population. In addition, all ethnic minority children on average consume more portions of fruit and vegetables per day than the general population. For girls, the average number of portions consumed ranged from 2.9 for Irish to 3.6 for black Caribbean girls in comparison to 2.6 for the general proportion. For boys, the average number of portions consumed ranged from 2.8 for Irish to 3.4 for Indian boys in comparison to 2.5 for the general proportion. The HSE analysis does not include comparisons with white British children and young people, so it is not possible to say whether white British children consume more or less fruit and vegetable portions than ethnic minorities in the UK.

Another example is the Determinants of Adolescent Social Well-being and Health study (DASH; Harding, Whitrow, Maynard, & Teyhan, 2007).[11] The DASH study (Harding et al., 2007) is a longitudinal study examining the health and well-being of young people living in London. Fieldwork was first conducted in 2003 with 6,643 young people aged 11 – 13 years and a follow-up was conducted in 2005-06 with 4,779 young people aged 14 – 16 years.[12] The cohort includes young people from the following ethnic groups: white British; black Caribbean; black African; Indian; Pakistani/Bangladeshi; and mixed. Young people were asked how many portions of fruit and vegetables they consumed per day. Huang and colleagues' (2019) analysis suggests that at age 11 – 13 years, Indian girls and boys were more likely to consume at least five portions of fruit and vegetables per day (36.1% and 38.8% respectively) than girls or boys from any other ethnic groups. Black African and black Caribbean girls were the most likely to consume less than one portion per day (28.7% and 27.4% respectively). At age 14 – 16 years, white British girls and Indian girls were more likely to consume at least five portions per day (39.4% and 37.8%) than girls or boys from other ethnic groups. Black African and black Caribbean girls were still the most likely to consume less than one portion per day (38.3% and 36.2% respectively). Indian girls are more likely to have a healthier dietary intake. In comparison black African and black Caribbean girls are the least likely for both age groups.

Summary

There is little comprehensive or detailed analysis of young people's diets in relation to ethnicity. Neither study presented here include detailed information about young people's overall nutrient intake, as opposed to fruit and vegetable portion consumption. Although the HSE is representative of the UK population, the analysis consists of a wide age range, 2 – 15 years, and no comparisons were made between the diets of white British children and ethnic minorities in the HSE analysis. The DASH study's cohort is of a particular sample of the UK, young people living in London, and therefore may not be reflective of young people living in other cities, towns or in rural settings. Both analyses show that Indian children and young people generally consume better diets than other ethnic minority groups. However, neither study explains why the differences in young people's diets in relation to ethnicity exist.

Parental Influences on Young People's Food and Eating Practices

Young people's diets and eating behaviours are influenced by and embedded in their family practices (Backett-Milburn, Wills, Roberts, & Lawton, 2010). O'Conner and Scott (2007) state that, in many ways, parenting is regarded as a public health issue due to the results from existing social research that links the behavioural, social and health-related outcomes of children to the quality

[11] The Child Heart and Health Study in England (CHASE; Donin et al., 2010) also include analysis of dietary intake and ethnicity, however the age of children included in this study is 9 – 10 years. See Leung and Stanner (2011) for a review of the literature in relation to ethnic minority adult's and children's health.
[12] A second follow-up was conducted in 2014/15 when aged 21 – 23 years. Analysis has yet to be published.

of child-parent relationships (a review of the literature is presented by O'Conner and Scott, 2007). This often reinforces the idea in public discourse of 'good' and 'bad' parents and personal responsibility for fostering success and good health.

Family Meals

One family practice that has drawn a lot of research attention in terms of its influence on children's diet is that of the 'family meal'. Eating together, or 'commensality' (Fischler, 1988, 2011), is often portrayed as the panacea of a 'good family', 'good eating' and 'good parenting' (Dermott & Pomati, 2016). The idea of 'good' or 'bad' parenting is typically reduced to the frequency of or time spent eating together as a family, which is thought to be an important influence in children's and young people's dietary intake and wider health (Skeer & Ballard, 2013). But, Wilk (2010) argues that family meals enact and enforce hierarchies of power and authority and can often cause anxiety for parents. With the competing time pressures of modern family life, family meals are often a goal of parents that is not always realised (Brannen, O'Connell, & Mooney, 2013).

The alleged decline in family meals is often pinpointed as the culprit for children and young people's declining dietary quality (Jackson, 2009; Sweeting & West, 2005). Some studies suggest that a higher frequency of family meals is associated with positive outcomes for young people including: psychological and social well-being, fruit and vegetable consumption, obesity and 'risk behaviours' such as smoking, substance use and violence (Dwyer, Oh, Patrick, & Hennessy, 2015; Neumark-Sztainer, Hannan, Story, Croll, & Perry, 2003; Skeer & Ballard, 2013). However, these claims are inconclusive and the casual pathways have yet to be established, rather family meal frequency is likely a proxy measure for other social factors related to young people's health and diet (Lindsay et al., 2019; Valdés, Rodríguez-Artalejo, Aguilar, Jaén-Casquero, & Royo-Bordonada, 2013). In addition, Meier and Musick's (2014) analysis of 12,446 American adolescents aged 12 – 18 years from the National Longitudinal Study of Adolescent Health found that the association between frequency of family meals and young people's well-being (depression and delinquency) was dependent on the quality of the relationship the child had with their parent(s) and other family members.

Furthermore, it is not always clear what is meant by 'family' or 'meal'. Using an online survey completed by 625 Australian young people (aged 15 years), Gallegos and colleagues (2011) found that young people have different definitions of what a 'family meal' means. For example, most young people described family meals as everyone eating together at a table at the same time. However, 39 per cent of young people in this survey stated that family meals did not necessarily have to be eaten with other family members at the same time, instead family members eating the same meal but at different times.

The literature also suggests that family mealtimes can often be an unwelcome or a negative experience for some young people. When asked 'is having family meals important to you?' just over half (55%) of the young people in Gallegos' and colleagues' (2011) study stated that having a family meal is important. There were no differences relating to SES, but young people from

single-parent households were less likely to say that family meals were important to them. Young people were also asked ‘why’ or ‘why not’ as an open-ended question. Those who were positive about the importance of family meals valued the opportunity for togetherness that family meals provided. In comparison those who reported that family meals were not important associated them with conflict and arguments stating: ‘I dislike my sister’ and ‘I need some space which is at dinner time’ (p. 253). A quarter said that they did not care about family meals.

Similarly, Prior and Limbert (2012) conducted a focus group with seven young people and analysed a family meals questionnaire (FMQ) of 79 young people in South Wales (all aged 13 – 14 years) and found that less than half of females (48%) and males (46%) who completed the FMQ stated that family meals were important to them. Young people reported that parents’ busy work schedules and family members’ tastes for different foods were the main barriers to consuming family meals. However, ‘family meals’ are often idealised and therefore young people may report them as important because that is the more socially acceptable response.

Mother’s Employment and Children’s Diets

Linked to the provision of family meals, some research also suggests there is a relationship between mothers’ paid employment and the quality of children and young people’s diets, hypothesising that mothers are responsible for food work and their labour is substituted by pre-prepared and less healthy food. ‘The provision and preparation of food and meals are highly gendered activities which are invested with practical and symbolic importance in our everyday social lives’ (Stapleton & Keenan, 2009, p. 35). Judgements in public discourse are therefore often gendered and working mothers in particular are open to intense moral scrutiny for their choices and parenting styles in a ‘society that disseminates an ideology urging mothers to give unselfishly of their time, money and love on behalf of sacred children’ (Hays, 1996, p. 97). For example, with the current increase in childhood obesity in the Western world, there is explicit focus on blaming mothers for failures to care for and/or take responsibility for their child’s weight and/or food consumption in both the media and by experts (Friedman, 2015; Maher, Fraser, & Lindsay, 2010).

In the UK, popular newspapers have reported headlines such as ‘Working mothers ‘have FATTER children’: Rise in obesity is blamed on ‘women going out to work’ (Macrae, 2016); and ‘Scientists blame working mothers for Britain’s childhood obesity epidemic after study of 20,000 families’ (Powell, 2019). ‘These fears [about childhood obesity] are then framed in concerns about embodied maternal responsibility, social norms of care and uncertainty about the legitimacy of mothers’ decisions about employment’ (Maher, Fraser, & Wright, 2010, p. 234). Childhood obesity and children’s eating habits are also framed in terms of morality, social responsibility and individual choice.

Mothers’ employment may be important for children’s and young people’s diets and food practices, but the mechanisms are complex and the evidence inconsistent. The social scientific literature has focused on maternal employment as a signifier of available maternal time for feeding

children well, but the analyses have failed to make distinctions between mother's working hours and what children and young people may be eating outside the home. It also largely ignores that maternal employment increases family income and given the association between young people's diets and income as set out earlier in this chapter this could have a positive effect on young people's diets.

In addition, existing studies predominantly focus on the influence of maternal employment on younger children's diets. Even among studies that cover adolescence, they primarily focus on BMI as opposed to dietary intake or food practices. For example, a recent analysis of the MCS (Fitzsimons & Pongiglione, 2019) examined whether mother's employment (part-time and full-time[13]) was associated with BMI or 'healthy eating behaviours' of children. The MCS is a longitudinal survey and therefore analysis was conducted for children at ages 3, 5, 7, 11 and 14 years. Firstly, mother's full-time paid employment was positively associated with children's BMI, even when controlling for household income. Children with full-time working mothers had a higher BMI on average. However, the impact of employment was marginal. Secondly, both part-time and full-time mother's employment was negatively associated with children's 'healthy eating behaviours'. However, 'healthy eating behaviours' were defined as whether the child eats breakfast every weekday or not, rather than dietary intake.

Li and colleagues (2012) conducted analysis of a longitudinal Australian cohort study (Raine) of children born in 1989 and 1991. The study followed approximately 2,900 mothers from 18 weeks gestation until their children were 22 years old. The aim of their analysis was to examine the influence of parental employment on the diet quality of children from ages 1 to 14 years, longitudinally.[14] Diet quality was assessed using a FFQ of 212 food and drink items in reference to the previous 12 month period and completed by the primary caregiver, alongside the adolescent-aged child. Nutritional intake was then calculated. After controlling for socioeconomic and demographic variables, there was a statistically significant association between mothers' working hours and their child's diet quality at age one year, and subsequently at age 14 years. Young people whose mothers worked less than 35 hours per week or not at all when they were aged one year had higher average diet quality scores at age 14 years than those with mothers who worked 35 or more hours per week when the child was aged one year. Despite this, there was no significant overall association between maternal working hours and child diet quality at ages 8 or 14 years. Fathers' working hours or status had no significant association with a child's diet quality at any age.

Further analysis was conducted by Li and colleagues (2017) of the same cohort study (Raine) on two age groups, 2 – 5 years and 8 – 14 years, to understand how the relationship between

[13] Full-time was defined as working 35 hours or more per week. Part-time was defined as working 1 to 34 hours per week.
[14] Mothers working hours were coded into five categories: not employed, 1 – 15 hours, 16 – 24 hours. 25 – 34 hours, and 35 hours or more per week. Fathers working hours were categorised as: not employed, 1 – 34 hours, 35 – 44 hours, 45 – 54 hours, and 55 or more hours per week. For ages 1, 2 and 3 years only mothers working hours were recorded. For these age groups, families were categorised as: neither parent working, mother working and father not working, mother and father working, and mother not working but father working.

maternal working hours and child BMI might vary throughout childhood.[15] Children were categorised as either 'normal' weight or 'overweight' on the basis of their BMI. Their findings showed a non-linear relationship between mothers' working hours and children's weight status. This relationship was also dependent on the child's age group. For children aged 2 – 5 years mothers working 35 hours or more per week increased the likelihood of the child being overweight. Whereas for children aged 8 – 14 years, 35 – 40 hours per week was the 'beneficial threshold' (Li et al., 2017, p. 58). Young people whose mothers had working hours outside of the beneficial threshold (below 35 or above 40 hours) had a greater likelihood of being overweight. This suggests that the effect of maternal working hours does not remain the same throughout childhood.

In addition, when comparing the household incomes of 8 – 14 year olds, this association was more pronounced but only for low-income, not high-income families. Li and colleagues (2017) suggest that the additional income from maternal employment is beneficial to children, but after 40 hours maternal employment becomes detrimental, possibly due to the decreased amount of time available at home. In addition, for low-income families of children aged 8 – 14 years, when fathers' working hours were 45 hours or more per week, the existing relationship between weight status and maternal employment strengthened. Fathers' employment, of any hours, made no difference for high-income families. This suggests that in low-income dual-parent households, it is not just maternal working hours alone that are important, but also how this corresponds and interacts with the fathers' working hours.

Sweeting and West's (2005) analysis of survey data from 11 year olds and their parents living in the West of Scotland concluded that whilst 'unhealthy snacking' was not associated with maternal employment, 'less healthy eating' was. Unhealthy snacking was defined as those who consumed snacks on five or more occasions the previous day and less healthy eating was defined as those with a higher or equal 'fat score' in comparison to 'fibre score'.[16] Young people with mothers in paid employment (full or part-time) were less likely to eat unhealthily. 'Less healthy eating' was more likely to occur if the child lived in a deprived area and had a mother with lower or no qualifications. Lastly, neither 'unhealthy snacking' nor 'less healthy eating' were associated with family structure or frequency of family meals. These findings suggest that other socioeconomic factors are important for young people's diets, rather than as a direct effect of maternal employment.

Maternal employment status is likely to fluctuate throughout a child's life from birth to adolescence. In particular, mothers of adolescent-aged children are more likely to be in employment and work longer hours than mothers with younger children (ONS, 2018). During the

[15] Mothers working hours were coded into four categories for those aged 2 – 5 years; not employed, 1 – 24 hours, 25 – 34 hours and 35 hours or more per week. Working hours were coded into five categorise for those aged 8 – 14 years; not employed, 1 – 24 hours, 25 – 34 hours, 35 – 40 hours and 41 hours or more per week.

[16] Unhealthy snacks include: sweets or chocolate, biscuits or cakes, crisps or fizzy drinks. From a 'healthy eating index', fat scores calculated using the following: typical type of milk consumed and consumption frequency of cheese, chips and processed meat. Fibre score calculated using the following: type of bread consumed and consumption frequency of cereals, fruits and vegetables.

same period, young people also gain more autonomy and the school food environment changes with transition from primary to secondary school (Wills, 2005). However, the analysis by Li and colleagues (2017) does not necessarily address these changes in young people's lives. Given that maternal employment and young people's autonomy generally change over the same period of time, it is therefore difficult to examine whether the association between maternal employment and young people's diet is due to other factors that also change throughout a child's life, rather than being a direct consequence of maternal working hours.

Young People's Social Class of Origin

Socioeconomic inequalities in young people's diets in the UK are well recognised. Poverty and low family income are strongly associated with poorer dietary intake among young people as illustrated earlier in this chapter. Social class (or SES) is also associated with food and eating practices (W. Atkinson & Deeming, 2015; Warde, Whillans, & Paddock, 2019). However, there are very few qualitative studies that have explored the influence of social class on food and eating practices from the perspective of young people in the UK or more widely.

The most extensive piece of work from the UK is that of Wills and colleagues (Backett-Milburn et al., 2010; Wills, Backett-Milburn, Roberts, & Lawton, 2011; Wills, Backett-Milburn, Lawton, Mackinnon, & Roberts, 2008). They conducted two linked comparative qualitative studies to describe and compare the food and eating practices of 36 young people aged 13 – 15 years from working-class families and 36 young people from middle-class families in Scotland. They found both similarities and differences between working and middle-class families, as well as contradictions between parent and child. For example, although both working and middle-class young people were cognizant of their parents' rules and expectations around food and eating, working-class young people reported having more opportunities to negotiate with their parents about what or when they ate. Having the ability to prepare food for themselves and organise their own social lives independently of their parents was also important to working-class young people. Similarly, working-class parents appeared to value their child's autonomy more than middle-class parents and their main priority was ensuring that each member of the household was fed their 'fair share' of food.

In contrast, middle-class young people reported having a lack of autonomy and control over their own food and eating practices. However, most agreed and accepted the importance of a 'family meal' and few reported having different food tastes to that of their other family members. Family meals were not viewed as restrictive or regulatory, but as an opportunity to socialise. Backett-Milburn and colleagues (2010) describe middle-class parents as 'having future oriented hierarchies of luxury and choice' and as 'controlling and moulding teenagers' food practices, tastes and manners' (p.308). But, most middle-class young people did not appear to think negatively about the control exercised by their parents; rather they saw it as encouragement to develop and to remain healthy and well-rounded.

However, the social and financial aspects of food and eating practices are difficult to disentangle. In one respect, food and eating practices are symbolic of and embedded in everyday lives and are shaped by culture, knowledge, values and history. In the other respect, income directly facilitates or generates barriers to adopt the food and eating practices that we choose. Wills and colleagues (2011) question whether it is the financial resources or the social complexities related to class that influence young people's food and eating practices: 'So does having more money mean easier access to better quality, more nutritious or more highly desirable food or are choices more directly driven by a social or cultural desire to consume or to not consume particular items?' (p. 734). Unfortunately, Wills and colleagues did not collect data about the families' household incomes, only the parents' occupations from which they determined their social class. However, they conclude that whilst income influences some of the food purchasing choices made by families, their practices were shaped by the embedded 'habitus' and tastes related to social class.

Summary

Parents have some influence on young people's food and eating practices. But, there are limits to this influence and it appears to diminish in adolescence. For example, family meals may not be important to all young people who instead may prefer their own space and avoid what they consider to be conflictual situations around food. Mothers' employment may be important for the diets of younger children, but the association is not as clear for adolescent-aged children. Current analyses do not take into account these life course changes as young people move into adolescence alongside the fluctuations in mothers' employment.

Social class differences are also evident in Wills' and colleagues' study (Backett-Milburn et al., 2010; Wills et al., 2011; Wills, Backett-Milburn, Lawton, et al., 2008), but there remains the question as to how differences between working and middle-class young people interact with family income. In particular, Wills and colleagues suggest working and middle-class parents exhibit differing priorities; working-class parents prioritise young people being fed in the present as opposed to middle-class parents who prioritise their health in the future. However, what is clear is that young people in adolescence seek greater autonomy in relation to their food and eating practices. Their emerging agency, identity and conformity are discussed next.

The Limits of Parental Influence: Young People's Emerging Agency, Identity and Conformity

Adolescence is a period of transition in which young people strive for greater individual autonomy from their parents and family. Some research has addressed this period of transition and analysed food as one of the ways in which young people achieve greater autonomy. In addition, studies from the fields of marketing, psychology and sociology demonstrate the importance of and the ways in which young people use food to convey identity, meaning and status or to bond with their peers through conformity.

Young people's use of food as a way to achieve more autonomy and to express identity often occur together, as will be discussed. Adolescence is also a period marked by a greater desire to 'fit in' with peers, and food and eating practices are one way of doing so (Stead et al., 2011; Wills, 2005). Not fitting in with peer groups can lead to stigma and exclusion (Valentine, 2000; Wooten, 2006). From a marketing perspective, young people in adolescence start to become more aware of the symbolic and social meanings associated with consumer goods and attribute more to these goods, beyond their functional purpose (Elliott & Wattanasuwan, 1998). Belk and colleagues (1982) suggest that 'one of the strongest and most culturally universal phenomena inspired by consumer behaviour is the tendency to make inferences about others based on their choices of consumption objects' (p. 4).

For example, Stead and colleagues (2011) conducted 12 focus groups with 80 young people (aged 13 – 16 years) attending secondary schools in the North East of England to explore the issues of 'image' and peer influence and how this relates to healthy eating and branded food in packed lunches. Their findings suggest that brands are a way for young people to project self-image and express similarity to their peers. By consuming 'desirable' food brands young people made inferences about each other such as being 'cool' or 'popular'. And some young people may see eating healthily as normatively deviant for their life stage. Stead and colleagues (2011) conclude that 'engaging in healthy eating symbolises something undesirable to them [young people] and exposes them to uncomfortable social risk' (p. 1138).

Roper and La Niece (2009) conducted interviews, rather than focus groups, with 30 low-income children and young people aged 7, 11 and 14 years in a primary school in Manchester and a secondary school in London. Their aim was to explore the meanings children and young people attach to food and drink brands and their influence on their status amongst peers. They found that at age 11 years young people were more aware of the need to conform to what their peers eat and healthy eating becomes a less socially desirable practice. At age 14 years, the social desirability of food brands was much more explicit and important for popularity and peer relationships. Cheaper budget or supermarket own brands were seen as cheap and low quality by young people aged 14 years. Some stated that they would be embarrassed to be seen with budget or supermarket own brand food and drink. One young person said they would rather not eat a budget brand product than be seen with it by their peers.

Roper and La Niece (2009) argue that these findings should not necessarily be seen as negative. Instead, they suggest that low-income young people may use brands as a way to improve their self-esteem and bond with their peers. In addition, the purchasing of branded food and drink by low-income parents may also be a way to express their love and to prevent their child from feeling socially excluded.

Focus groups present methodological issues, particularly when examining the role of peer influence. Young people may have a tendency to provide more socially accepted responses to 'fit in' with their peers during the focus group. However, Stead and colleagues (2011) state that they deliberately chose this method because focus groups can often reveal group norms that may not

be observable in one-to-one interviews with young people. In addition, the findings from Roper and La Niece (2009) suggest that young people can also reveal the importance of group norms even when not in the presence of their peers during one-to-one interviews.

In health and social psychology, there is a focus on identifying perceived social norms and attitudes. Injunctive norms are the perceived attitudes of peers and descriptive norms are the perceived behaviours of peers, in this case dietary intake. Lally and colleagues (2011) examined the associations between injunctive and descriptive norms and young people's (aged 16 – 17 years) reported dietary intake of fruit and vegetables, SSB and 'unhealthy snacks'. Two-hundred and sixty-four young people from four secondary schools in Hertfordshire completed a questionnaire about their own attitudes and intake, as well as what they perceived to be their peers' attitudes and intake. Attitudes were measured as whether young people thought consumption was 'good' or 'bad' for health as well as 'sensible' or 'foolish'.

Young people had misperceptions about their peers' consumption and attitudes. They underestimated peers' fruit and vegetable consumption, but overestimated their consumption of SSB and unhealthy snacks. Young people also thought that their peers' attitudes towards fruit and vegetables was less positive and more positive towards SSB and unhealthy snacks than they were. However, the only significant predictor of young people's fruit and vegetable intake was descriptive norms; their perception of their peers' intake. Young people who perceived that their peers consumed more fruit and vegetables tended to have higher intakes of fruit and vegetables too.

This suggests that it is the perception of what peers do, rather than their attitudes that is important for fruit and vegetable consumption. However the questionnaire was self-report, unlike food diaries, and did not measure actual intake which may have led to the under and overestimations. For instance, if all young people in the study overestimate their own fruit and vegetable intake, but are able to more accurately estimate others' intake, this will ultimately lead to the underestimation of peers' fruit and vegetable intake as described by Lally and colleagues (2011). This is because what young people estimated as their peers' intake was compared to what young people self-reported, as opposed to actual fruit and vegetable consumption.

From a sociological perspective, Bassett, Chapman and Beagan's (2008) analysis of interviews with 47 young people (aged 13 – 19 years) from 36 Canadian families, show how young people negotiate with their parents for autonomy over their food and eating practices. They argue that autonomy is co-constructed rather than adolescent acts of defiance or rebellion. Young people reported that their parents allowed them to have some autonomy to make food choices within the parameters of what their parents considered healthy and acceptable. Parents set these parameters by allowing young people to choose from what they made available to them in the home. Young people stated that they were aware of these parameters and developed strategies to achieve more autonomy within them, for example, complaining about or refusing to eat food they did not want or like. When they refused to eat a meal prepared by their parents, young people said that they prepared their own meal instead if they were permitted to do so. Outside of the

home they evaded parental influence. Young people said that they purchased food outside of the home that was generally not purchased or allowed to be consumed at home and in some cases they said that they hid this from their parents.

The young people in this study were from families with varying incomes. Bassett and colleagues (2008) stated there were no differences across income groups. However, they acknowledge that their study was not designed to compare young people's food and eating practices across income groups. The study was also conducted in Canada, so may not be reflective of young people in the UK.

Similarly, Wills and colleagues (2008) suggest that one way in which young people develop their identities is through their food preferences and the ongoing negotiation with their parents about what they will and will not eat at home. Wills and colleagues' (2008) qualitative interviews with 36 'socioeconomically disadvantaged' young people (aged 13 – 14 years) in Scotland demonstrates that while young people are able to enact some agency over what, when and where they eat, this agency is negotiated with and shaped by their immediate family. For instance, for most young people, meals were prepared by their parents and mealtimes were scheduled around the work or social arrangements of parents and other family members. But, young people also said that parents prepared meals 'on demand' to fit with their schedules too, for example if they had arranged to see friends.

Whilst young people's tastes and identities often reflect those of their families', young people still try to develop their own separate tastes and identities. Parents said they often prepared several different meals to cater to the different tastes of their children and half of the young people said they occasionally prepared their own meals. However, 'teenagers can only create differentiated food and eating practices to the extent that parental structures and norms within the family home allow them to' (Wills, Backett-Milburn, Gregory, et al., 2008, p. 10). For example, young people were often limited to the food that parents bought for the home or the meals they prepared for the family. In addition, for some young people, there was food in the home that they were not allowed to eat because it was for other members of the family.

Summary

During adolescence, the influence of peers on their food and eating practices become more pronounced. By age 11 years, the need to 'fit in' with peers and conform becomes a priority for young people. Food is one way of doing so. For example, eating healthily becomes undesirable and does not conform to what is expected of young people by their peers.

Young people also seek more agency at home, for example developing their own tastes and identities through food, sometimes differentiating from other family members. However, their food and eating practices are not developed within a vacuum, but are shaped, negotiated and co-constructed within the parameters of their home and what their parents allow, and young people are largely aware of this.

2.3 Young People's Food and Eating Practices at Secondary School

Outside of the home, school is one of the main contexts within which young people participate and is where children and young people in the UK consume a third of their food and drink (Nelson et al., 2004). School is therefore often a site for public health intervention (Mikkelsen, 2014; S. N. Moore, Murphy, & Moore, 2011). The introduction of nutritional standards in English schools since 2006 have led to improvements in children and young people's eating habits and the nutrition quality of school meals (Nelson, 2011, 2014; Nicholas, Wood, Harper, & Nelson, 2013).

The following section outlines the food and eating practices of young people at secondary schools in the UK from multiple disciplinary perspectives including, public health and nutrition, education and sociology. First, this section describes young people's dietary intake in relation to school meals in the last 10 – 15 years and the contribution of school meals to overall diet. The section then moves beyond dietary intake and discusses the importance of socialising for young people's food and eating practices at school. Lastly, it describes the existing evidence regarding how the restrictions or rules placed on young people during school break and lunchtimes influence young people's food and eating practices during these periods.

Young People's Consumption of School Meals

If school food regulations are to improve the diets of young people, particular focus on the contribution of school meals to young people's overall dietary intake is required. In particular, implementing nutritional guidelines for school food has the potential to affect children and young people at the population level across the socio-economic spectrum. It is therefore vital to understand the contribution that school meals make to young people's dietary intake and the importance of school meals for young people eligible for FSM.

The Contribution of School Meals to Overall Dietary Intake

To my knowledge, there are only two studies conducted that examine the contribution of school meals to young people's overall diet in England since the 2006 school food standards became statutory in English secondary schools in 2009.[17]

Spence and colleagues (2014) examined the impact of changes to school meal policies on young people's (aged 11 – 12 years) dietary intake at school and overall dietary intake (both school and non-school intake). Data were collected in the same middle-schools in Northumberland at two time points: 1999/2000 and 2009/2010. A total of 513 young people were included in the analysis (1999/00 n=298 and 2009/10 n=215). Young people were asked to complete a three-day food diary, followed by a second three-day food diary six months later. In total, each young person

[17] English school food standards are discussed in chapter six.

completed six food diary days of which there were four weekdays and two weekend days. School lunch recipes were also analysed for their nutritional content.[18] The type of school lunch typically consumed was also included in their analysis: school meal or packed lunch.

Young people's dietary intake from school meals significantly improved between 1999/00 and 2009/10. There was a decrease in mean energy intake from fat, and saturated fat and a decrease in the amount of sodium consumed. However, there was also a decrease in iron and fibre intake. Consumption of fibre, calcium, iron and vitamin C were all below the recommended level in 1999/00 and remained as such in 2009/10. For young people who consumed packed lunches, there was a significant increase in fibre, calcium and vitamin C between 1999/00 and 2009/10. There was no significant change for any other nutrient.

Spence and colleagues (2014) combined the data from both time points (1999/00 and 2009/10) to examine young people's overall dietary intake in relation to whether they consumed a school meal or a packed lunch. After adjusting for survey year, their analysis showed that young people who consumed a school meal had a significantly lower percentage of energy from saturated fat and a lower intake of sodium and calcium in comparison to young people who consumed packed lunches. There was also a significant association between survey year and lunch type for the percentage of energy from fat, whereby, for young people who consumed school meals, their percentage of energy from fat significantly reduced over time in comparison to young people who consumed packed lunches, which did not reduce. However, Spence and colleagues (2014) argue that this is because young people consuming school meals in 1999/00 had significantly higher intakes of percentage of energy from fat compared to those with packed lunches. The amount of saturated fat included in school meals was regulated in 2006. The mean difference in intake between school meals and packed lunches is relatively small in 2009/10 (31.9% and 32.1% respectively).

The time period between the data collection points (1999 – 2010) mark a decade of substantial change to school food regulation. Regulation was not introduced until 2001 and nutritional standards were introduced in 2006, so it is unsurprising to find improvements in dietary intake from school meals between 1999 and 2010. Combining data from both time periods to examine the differences between school meals and packed lunches may skew the analysis given the changes to regulation for school meals, but not packed lunches. Whilst their findings suggest that school meals contain significantly less fat content than previously, there is little evidence that school meals had a significant impact for young people's overall dietary intake in a substantial way when compared to packed lunches. The data may also not be generalizable as the data collection was limited to Northumberland in England.

In contrast, Winpenny and colleagues (2017) analysed data from the longitudinal cohort study Sport, Physical activity and Eating behaviour: Environmental Determinants in Young people (SPEEDY), to examine the changes of young people's overall dietary intake during the transition

[18] Nutrient included for analysis: total energy; % energy from fat; % energy from saturated fat; % energy from NMES; fibre; sodium; vitamin C; calcium; and iron.

from primary to secondary school. Young people attending participating schools in Norfolk completed a four-day food diary, which included two school days and two non-school days. Data were first collected in 2007 when the young people were aged 10 years and attending primary school. A follow-up was conducted in 2011 when attending secondary school at age 14 years with a total of 351 young people. Winpenny and colleagues (2017) examined the changes to dietary intake during school hours and to overall dietary intake between ages 10 and 14 years. They also examined the differences between young people who consumed a school meal and other lunch types.

During school hours, only the mean percentage of energy from sugar was found to significantly decrease from ages 10 to 14 years. However, there were some significant changes to overall dietary intake. The mean percentage of energy from sugar and percentage of energy from saturated fat both decreased. Mean total energy and fibre intake both increased. When comparing those consuming school meals to other lunch types for young people aged 14 years, there were limited significant differences in dietary intake during school hours. The mean percentage of energy from protein was higher and the mean percentage of energy from sugar was lower for young people consuming a school meal. There were no differences in overall dietary intake.

Their analysis suggests that although overall dietary intake improved slightly from age 10 to 14 years, consuming school meals does not appear to make a significant contribution to young people's dietary intake in comparison to other lunch types. Two strengths of this analysis is the use of longitudinal data (unlike the analysis conducted by Spence and colleagues (2014)), alongside a robust method of dietary data collection (four-day food diary). It is also one of the only studies to address the contribution of school meals to overall dietary intake. However, the authors do acknowledge that the sampling methods were not conducted to be regionally or nationally representative, so the findings cannot be generalised as such. But, it does provide some useful, and rare, insight into the contribution that school meals do or do not make to young people's overall dietary intake from a longitudinal perspective.

The Importance of Free School Meals for Young People from Low-Income Families

FSM are recognised as an important policy for tackling the inequalities of children and young people's health and diet in the UK (Acheson, 1998). Acheson's (1998) independent inquiry into 'Inequalities in Health' acknowledged that FSM were not only important for the diets of disadvantaged children, but for the diets of their families by contributing to their food budget. The Children's Society (2012) state that on average FSM contribute £370 per child per year to eligible households. FSM are vital for those children living in poverty and on the lowest incomes (O'Connell, Knight, et al., 2019).

To examine the importance of school meals for disadvantaged children, Ensaff and colleagues (2013) compared the lunchtime food purchases of young people eligible for FSM to those who were not in two schools in Yorkshire. In school A, 1,265 young people were in year 7 (aged 11 – 12 years) and year 11 (aged 15 – 16 years). In school B, 1,395 young people were in year 7 and

year 13 (17 – 18 years). Food purchase data were collected for a period of seven months in the 2010/11 academic year. Their findings show that young people eligible for FSM used the school canteen significantly more than non-FSM young people. FSM also chose both a meal deal and the 'dish of the day' significantly more than non-FSM. It is important to note that the 'dish of the day' was the most nutritional option and the meal deal consisted of the 'dish of the day' with a side of vegetables.

In both schools, young people (regardless of FSM eligibility) reported a preference for sandwiches and pizza, as opposed to dish of the day. This is despite FSM young people purchasing the dish of the day more often than non-FSM. A possible reason for these findings is that one or both of the schools do not allow young people with FSM to purchase certain items, such as the pizzas and sandwiches, and they may only be permitted to purchase meal deals or dish of the day with their FSM allowance. Unfortunately, Ensaff and colleagues (2013) did not describe the policies with regards to FSM eligibility within each school so it is not possible to confirm if this is the reason. Young people may also have been limited by their FSM allowance meaning their preferred food was too expensive. For example, O'Connell and colleagues (2019) describe cases of young people eligible for FSM whereby their FSM allowance is not enough and some food items are out of reach, such as larger baguettes. The data were also based on purchases, rather than consumption, so it is not possible to know whether young people enjoyed or consumed the meals they purchased.

The Children's Society have campaigned and investigated low-income parents' and young people's experience of FSM. Findings from focus groups with 13 young people receiving FSM in England (Rodrigues, 2012) suggest that young people are aware of the financial benefits of FSM meaning that they enable parents to afford other necessities: 'if you need to get new school uniform your parents can afford it' (p.5). Seventy-two per cent of teachers in their national survey reported that they have experience of children going to school with no lunch and no money to buy lunch from the school canteen. In a similar survey of 570 teachers from the same report (Rodrigues, 2012), teachers said that they believed that the FSM was the only hot meal that some young people ate each day.

In a separate survey with 140 parents with children currently or recently eligible for FSM (Royston, Rodrigues, & Hounsell, 2012), parents with primary school aged children stated that the FSM was their child's main meal of the day due to their low income. They also said that their secondary school aged children often required additional money to supplement their FSM allowance as it wasn't enough. Parents suggested that the amount of FSM allowance was not adequate or that their children are not given a choice about what they can eat at lunch: 'In secondary schools there is often a large choice of meals available – but only one choice for FSM (the 'meal-deal'). Not very fair for the child.' (Royston et al., 2012, p. 11).

Upon the publication of their report 'Through Young Eyes' (Pople, Rodrigues, & Royston, 2013), The Children's Society (2014) set up a children's commission of 15 young people aged 10 – 19

years in England to examine child poverty.[19] Twenty-one per cent of surveyed children said that they missed a meal at school because they did not have enough money. The report states that 'FSM provide significant financial benefits for families, as well as improving children's health, behaviour and ability to concentrate at school' (The Children's Society, 2014, p. 33).

Like The Children's Society, the Child Poverty Action Group (CPAG) have campaigned and reported on young people's experiences of FSM. Their findings (CPAG, 2012) from an online survey with over one thousand young people (aged 11 – 25 years) and focus groups with 13 young people (aged 14 – 18 years) resonated with those of The Children's Society discussed previous. Young people said that FSM should be free for all low-income children and young people, not just those who meet the criteria. Young people also said that the FSM allowance was often not enough to purchase a full meal.

Summary

Although there is evidence that the nutritional content of secondary school meals have improved since the introduction of statutory regulations, there is limited evidence that these improvements have contributed to improvements in young people's overall dietary intake. However, there are currently very few studies to make a definitive conclusion. Most of the available analyses reflect the considerable changes to school food legalisation that occurred since 2006/08. However, none reflect the more recent changes to school food policies that have occurred since 2011 and 2015. FSM are also clearly important for low-income young people and their families. Often, FSM provide low-income young people with the only full meal they consume per day. However, it appears that the FSM allowance available for young people is not sufficient to purchase a full meal.

Beyond Dietary Intake: The Importance of Social Factors

More recently, the 'School Food Plan' (SFP; Dimbleby & Vincent, 2013) advocates a 'whole school approach' in which it is suggested that school food policies should not only focus on nutrition, but should also include aspects of the lunchtime environment such as seating areas, queues and pricing. Whilst the government introduced new school food nutritional recommendations due to the SFP, it has stopped short of introducing changes to the wholesale school lunchtime environment (Ofsted, 2019).[20] The social aspects and how young people experience their lunchtimes at school are largely ignored by policymakers, despite this being a valued period of the school day for young people (Blatchford, 1998) as well as influencing their food and eating practices.

[19] The commission compiled evidence from: a survey with 2,000 children aged 10 – 19 years; oral and written evidence from experts; 13 in-depth interviews with low-income parents and children; 22 in-depth interviews with children living in poverty and eligible for FSM aged 8 – 16 years.
[20] School food policy changes in England are discussed in more detail in chapter six.

School Break Times as a Period for Socialising with Friends

To understand how school break and lunchtimes have changed in schools between 1995 and 2017, Baines and Blatchford (2019) conducted a follow-up national survey of primary and secondary schools in England about their break and lunchtimes. The school survey included questions about 'meal time organisation, withholding break times and organisation of and access to school clubs sometimes called 'enrichment activities' (Baines & Blatchford, 2019, p. 20). They also surveyed a sub-set of school head teachers, staff and young people from participating schools about their views and experiences of break and lunchtimes.

Over half of the state-funded secondary schools they surveyed had lunchtimes that were less than 45 minutes in total whilst only 16 per cent reported lunchtimes of approximately one hour. The average total time allocated to break and lunchtime throughout the school day in state-funded secondary schools has reduced between 1995 (76 minutes) and 2017 (63 minutes), with the most significant changes being made to the length of lunchtime. Schools reported that breaks and lunchtime have been shortened due to an increased pressure to improve educational attainment, as a way to manage conflicts or 'problem' behaviours and due to increasing financial constraints. However, almost two-thirds of young people in year 8 and year 10 said that their lunchtime period was not long enough and should be extended (61% and 62% respectively) and two-fifths stated that there was not enough time to eat at break and lunchtimes (38% and 44% respectively).

Seventy-one per cent of secondary schools stated in the survey that break and lunchtimes were valued periods of the school day for students to eat and drink, whereas only 57 per cent stated they were valued times for students to socialise. In contrast, the vast majority of secondary school students in year 8 and year 10 stated that being with friends at break and lunchtimes was one of the three best things about this period of the day (87% and 90% respectively). This was followed by having their free time (63% and 68% respectively) and being able to eat and drink (56% and 69% respectively). Over three-quarters of year 8 and year 10 students (85% and 84% respectively) stated that they either liked or really liked lunchtimes. From these findings it is clear that young people value their breaks and lunchtimes as periods for socialising with friends and as space and time away from lessons more so than an opportunity to eat and drink. Baines and Blatchford (2019) argue that these periods in the school day are significant for young people's development and well-being. 'It is important, we believe, to acknowledge the valuable contributions that break times make to the social, emotional, mental and physical development of children and young people' (p. 12).

Restrictions and Adult Intrusion at School

The findings from Baines' and Blatchford's (2019) national survey suggests that socialising during break and lunchtime is important to young people. But time for socialising is too short in secondary schools, especially at lunchtime. In their assessment of primary school children's experiences of changes to school meal policy that occurred in 2005, Daniel and Gustafsson (2010) state that one of their main findings 'relate to children's dislike of adult intrusion into what they view as their

limited and therefore precious opportunity for interaction with friends' (p. 272). This might include rules or regulations put in place during school lunchtimes that limit or impede young people's ability to socialise with friends as well as limiting what young people can eat. This is also evident in analyses of young people attending secondary school as will be discussed. However, some young people try to find ways of resisting these rules and regulations.

For instance, Ludvigsen and Scott (2009) interviewed 174 children and young people in small groups who were attending schools across the UK from three age groups; 3 – 4 years; 9 – 10 years; and 14 – 15 years old. The authors state that the schools the young people attended appeared to restrict socialisation during lunchtime by separating students who purchased school meals from those who brought a packed lunch from home. Several young people highlighted how they had changed from eating school meals to packed lunches, or vice versa, so that they could sit with their friends at lunchtimes. Ludvigsen and Scott (2009) argue that this shows how children are able to influence their parents and how the importance of socialising with friends is prioritised over what is eaten at school. This is also evidence of young people finding ways to circumvent the rules. However, interviews were conducted in small groups, rather than individually, so it is difficult to say how much children and young people's responses were influenced by the presence of their peers. But the study benefits from regional variability by including schools from across the UK (England, Scotland and Wales).

The importance of socialising was also evident from interviews, focus groups and 'go-along' tours with 221 young people (aged 14 – 15 years) attending 7 secondary schools in Scotland (Wills, Danesi, Kapetanaki, & Hamilton, 2019; Wills et al., 2015). In addition, 535 young people were also surveyed about their lunchtime food and eating purchases outside the school (beyond the school gate) at lunchtimes. The vast majority of those surveyed (88.9%) stated that they were more likely to visit a food outlet outside the school premises at lunchtime because their friends also go to the same food outlet. Young people also purchased food and drink from these food outlets because it meant they could consume specific food and drink that were not available in the school canteen, for example chips and sugary drinks. The food sold at food outlets were also seen as cheaper and better value for money than the food available in the school canteen.

Further analysis of the same data was carried out by Wills and colleagues (2016; 2018). Wills, Danesi and Kapetanaki (2016) suggest that the secondary schools included in the study predominantly ignored young people's food and social needs in the school canteens. For instance, young people said that 'they kick us out [of the dining hall] early', described catering staff as 'grumpy' and one head teacher stated that they did not have enough room for all students in the dining hall (Wills et al., 2016, p. 205). Wills and colleagues argue that in order to overcome the restrictions placed on their ability to socialise with friends, young people left the school premises at lunchtime to purchase food and drink from local food retailers. The surrounding food retailers developed their own commercial relationships with the students from nearby schools. Unlike the schools, most food retailers treated students as valued customers offering them lunchtime discounts, more choice, better tasting food and an opportunity to socialise with friends

without interference from adults. The commercial relationships also provided young people with the opportunity to exercise power and agency regarding their food choices, aspects which are inherently removed within the school setting.

The socio-economic circumstances of young people and their families had a significant influence on their school lunchtime experience and food and eating practices. Again, analysis of the same data (Wills et al., 2015) from interviews and focus groups with young people (aged 14 – 15 years) in Scottish secondary schools, Wills and colleagues (2018) explored how young people's SES 'shapes and reflects' their food and eating practices at lunchtimes (p. 196). The schools that young people attended were categorised as low, mixed or high SES on the basis of the SIMD and the proportion of students eligible for FSM. Four were categorised as low, two as mixed and one as high SES. Most young people stated that they disliked eating in school at lunchtime, regardless of SES. Young people from low and mixed schools said that the food and drink sold in the canteen was 'horrible' and 'disgusting' (p. 198). The seating and social areas were also reported as insufficient for their needs and long queues were an issue. Few young people from the high SES school commented negatively on the environment in the school dining hall and packed lunches were popular amongst the students. However, the head teacher commented that long queues were an issue.

The relationship with retailers (also discussed earlier; Wills et al., 2016) was found to be related to SES. Young people attending schools categorised as low SES were those who developed positive relationships with food retailers. Whereas there was little mutual respect between the food retailers and young people attending schools categorised as mixed SES. The young people from mixed SES schools found the food outlets inaccessible, but for different reasons. Firstly, the outlets that were more affluent were too expensive and unaffordable. Secondly, the cheaper outlets were seen as areas of conflict, for unhealthy foods and where students engaged in poor behaviours (e.g. smoking). This discouraged some young people whilst encouraging others to go to these food retailers during their lunch period. Similarly to the young people from the low SES schools, young people from the high SES school also had positive relationships with outside retailers. They considered the food outlets to be clean and sociable. Unlike the other schools, the head teacher at the high SES school encouraged students to bring the food and drink bought at the retailers back to school to eat, rather than eating outside school.

However, the study conducted by Wills and colleagues (2015) and the subsequent analyses presented here are not nationally representative of Scotland. The schools were purposively selected to participate on the basis that they represented varying levels of SES and varied in terms of density of food outlets surrounding the school. These findings are also only relevant to those schools which allow students to leave the school premises at lunchtimes. Although this is quite common in Scotland, it is not so common in England, where schools either do not allow students to leave the premises or only students of a certain age can leave the premises.

Fletcher and colleagues (2014) describe the ways in which young people try to circumvent school regulations and restrictions as 'counter school resistance to institutional constraints' (p. 500).

They conducted focus groups with 129 and interviews with 20 young people (aged 12 – 17 years) in six English secondary schools over two academic years (2011/12 and 2012/13) in London and the South East. Twenty members of staff also participated in focus groups and 16 were interviewed. The period of fieldwork reflects changes to school food regulations in England. As with the other studies discussed, they observed widespread dissatisfaction from young people regarding their schools' provision of school food. Across all of the schools, both student and staff described a growing trend of 'black markets' within schools operated by young people to counteract high prices, strict nutritional standards, the prohibition of certain food and drink and the dissatisfaction with the 'healthy foods' offered in the school canteen.

The young people running the black markets stated that they bought popular but relatively low priced confectionary and drinks from supermarkets that were no longer available in schools and then sold them at a profit to their peers at school. The 'customers' of these black markets were well aware that the proprietors were making a profit; however prices were generally seen as reasonable and in most cases cheaper than those in the school canteen or local retailers. According to students, some black markets were also facilitated with the use of technology, such as messenger apps on mobile phones either as a means to find out who was selling or to advertise what was available to buy. 'The price of school food thus appeared to be working in parallel with the prohibition of popular products in driving new underground markets in food and drinks, especially at schools in poorer areas' (Fletcher et al., 2014, p. 507). Fletcher and colleagues (2014) argue that regulating or prohibiting certain food and drink from schools ignores the complexity of factors that influence young people's diets.

Fletcher and colleagues (2014) note that their data only consisted of six schools in one part of England, therefore their findings may not represent the views or experiences of students attending other schools. They also did not interview all of the students meaning other students within the six schools may have different experiences than those interviewed. In addition, the purpose of their study was not to explore young people's experiences of school food policies, but to examine bullying prevention and girls' health behaviours. However, the emergence of school food as an issue led to further investigation.

Summary

With the exception of Baines' and Blatchford's (2019) national survey, none of the studies discussed are nationally representative. However, collectively they illustrate a broader view of some young people's views and experiences of their school dining environment and the consequences of regulating school lunchtimes. Lunchtime is a significant period of the school day in which young people can socialise with their friends, and clearly this time and space away from lessons is valued by young people. In the schools that allow their students to leave the premises, purchasing food from food retailers, as opposed to the school canteen, is a way in which young people show opposition to institutional structures - the rules of the school and its prohibition of 'unhealthy' food. In addition, the anti-social nature of the school canteen can act as a push factor

towards young people visiting outside retailers, operating black markets and choosing other areas within the school to consume lunch, such as corridors, the playground or classrooms.

Lunchtime provides opportunities to young people to enact agency and exercise power and express identities that are associated with food and eating practices and these, along with the social-cultural meanings of food, are evidently significant to young people, even within the school setting. Acts of defiance, for example leaving the school premises and setting up black markets, give young people a sense of control over their own food and eating practices within (or outside of) the boundaries and rules of schools. However, it is also clear that teachers and schools do not value break and lunchtimes in the same way or for the same reasons as young people. For teachers, lunchtimes are valued as opportunities to eat and drink, rather than to socialise and relax.

2.4 Summary and Discussion

As discussed in chapter one, the economic costs of health inequality can be substantial (J. P. Mackenbach et al., 2010; Marmot et al., 2020; The Marmot Review, 2010). Access to a good quality diet is vital for overall health, but not everyone has the required resources to achieve this (C. Scott et al., 2018). Young people have less healthy diets and are less likely to meet government recommendations for nutrient intake and fruit and vegetable portion consumption in comparison to younger children and adults in the UK. The empirical evidence suggests that there is a statistical association between income and dietary intake, whereby diet improves as income increases (Noonan, 2018; Ntouva et al., 2013; PHE, 2014b, PHE, 2019). Healthier diets typically cost more (Jones et al., 2014; Pechey et al., 2013; Pechey & Monsivais, 2015, 2016). Although young peoples' diets have improved over time, a socioeconomic gradient still persist (McNeill et al., 2017).

However, there is a lack of existing evidence examining the association between income and the dietary intake of adolescent young people aged 11 – 16 years. There is also little existing qualitative analysis as to why income is associated with young people's dietary intake or how differing family incomes (higher and lower) influence young people's food and eating practices. This is despite the importance of adolescence as a period of transition and one in which young people are particularly vulnerable to the negative consequences of a poorer diet quality, as discussed earlier.

The existing evidence discussed earlier suggests that there are also other factors that influence young people's dietary intake and food and eating practices including ethnicity, family practices and young people's peers. Although parent and family factors appear to be important, young people's own perspectives are currently missing from most of the existing evidence. There also does not appear to be any current focus on how these factors might relate to the food and eating practices of young people from differing family incomes.

There is evidence that the nutritional content of secondary school meals have improved over the last two decades due to the implementation of nutritional standards across the UK. However, there is little evidence that the improvements to the nutritional content of school meals have contributed to or led to improvements in young people's overall diet quality (i.e. food consumed outside of school). Nevertheless, FSM are clearly essential for young people from lower-income families. But more recently the focus has moved to the significance of the social aspects of school lunchtimes for young people. For instance, young people value their lunchtime period as an opportunity to socialise with friends more so than an opportunity to eat or drink (Baines & Blatchford, 2019). In addition, the socioeconomic circumstances of young people and their families can have a significant impact on how they experience their lunch period. However, to my knowledge there is no existing evidence as to how family income influences young people's food and eating practices at school or their experience of school lunchtime policies.

This doctoral study aims to address some of the gaps in the existing literature in relation to the influence of income on young people's food and eating practices. First, I address the lack of evidence examining the influence of differing incomes alongside other factors on young people's food and eating practices. Then I address the lack of evidence pertaining to how family incomes and school food policies and/or practices influence young people's food and eating practices at school and home. The research questions are presented in chapter three (section 3.3).

The next chapter describes the conceptual and methodological approach taken to address these research questions. Specifically, it focuses on the use of a mixed methods approach, which is also lacking in the existing literature. Quantitative analysis can examine dietary patterns and tell us what young people eat. However, qualitative methodology is more appropriate when examining the complexities of food and eating practices, for example the social and symbolic, as discussed in chapter three.

Chapter Three: Concepts, Methodology and Research Design

This chapter sets out the epistemological stance, and the main concepts that are employed in this doctoral study. This is followed by a discussion of the methodological approach and why a mixed methods research design was employed in this study. The chapter then outlines the data collection methods, both qualitative and quantitative. It describes the methodology of the National Diet and Nutrition Survey (NDNS) and the multiple qualitative methods employed in this study, including in-depth semi structured interviews, photo-elicitation interviews and kitchen tours. This is followed by a discussion about the practical and ethical considerations of this doctoral study. The chapter then moves on to detail the data analysis process, including secondary analyses of the NDNS and analyses of the qualitative data using a case-study approach. Last, it ends by discussing how the quantitative and qualitative data were integrated.

3.1 Epistemological Stance

An epistemological stance is '…a theory or philosophy about the nature of knowledge and the stance we take on how we come to know what we know about the world' (Allsop, 2013, p. 19). Within epistemology, there are differing paradigms, each representing a different set of assumptions about how knowledge is acquired. These paradigms are typically placed along a spectrum, with positivism at one end and interpretivism at the other. Positivism is said to be underpinned by quantitative methods of inquiry and posits that reality and knowledge are objective and there to be discovered by the researcher. Interpretivism is usually associated with qualitative methods (e.g. ethnography) and posits that reality and knowledge are subjective and can only be understood by the meanings that people ascribe to them (Allsop, 2013; Bryman, 2008). However, Bryman (2008) states that the differences between quantitative and qualitative research methods are exaggerated and 'often drawn up in predominantly philosophical terms' (2008, p. 14; see also Hammersley, 1996 for further discussion).

This doctoral study is underpinned by pragmatism as a methodological stance. A pragmatic stance is often adopted by those implementing a mixed methods design (Bryman, 2008; Johnson & Onwuegbuzie, 2004). Bryman (2008) argues that 'the pragmatist position either ignores paradigmatic differences between quantitative and qualitative research or recognises their existence but in the interests of exploring research questions with as many available tools as possible, it shoves them to the side.' (2008, p. 19). Similarly, Feilzer (2010) states that pragmatism 'sidesteps the contentious issues of truth and reality, accepts, philosophically, that there are singular and multiple realities that are open to empirical inquiry and orients itself toward solving practical problems in the "real world".' (p. 8).

3.2 A Practice Theoretical Approach: Food and Eating Practices

Since nutritional science is generally concerned with understanding body functioning and health, dietary intake data of the kind described in chapter four is generally collected at the individual level. Accordingly, public health nutrition interventions in neoliberal societies, such as the UK, have predominantly relied on psychological and cognitive theories of behaviour change (Leggett, 2014; Whitehead, Jones, & Pykett, 2011). These interventions focus on knowledge about healthy food, for example, with the aim of changing attitudes and behaviour (Blue, Shove, Carmona, & Kelly, 2016). But, informing or educating people in this way does not necessarily translate into a change of behaviour (Kelly & Barker, 2016; Lang, Barling, & Caraher, 2009). More recently, particularly since the publication of Tahler and Sustein's Nudge Theory (also referred to as "Nudge"; 2008) and the inception of the UK government's 'Behavioural Insights Team', an awareness of the 'gap' between knowledge and behaviour has refocused attention on the social contexts and environments in which food 'choices' are made.

Parallel to these developments, in recent years sociological research on food and eating has reflected a wider 'turn to practice' within the social sciences (Gustafsson, O'Connell, Draper, & Tonner, 2019; Shove, Pantzar, & Watson, 2012; Warde, 2016). Whilst there is no one theory of social practice, practice approaches generally focus on what people eat and do in relation to food as well as what they say about it. From a perspective of social practice, the beliefs and attitudes about food and eating that dominate traditional psychological approaches to understanding behaviour are less important for understanding social action than a focus on the actions themselves, the other practices with which they are connected and the social relations in which they are embedded. Whilst there are important differences between the approaches of Behavioural Science and Social Practice (Warde & Yates, 2016), both recognise that much action is carried out automatically and unreflectively and suggest the importance of understanding actions within their everyday contexts.

Practices are the mundane activities that we enact and (re)produce, embedded and reflective of our everyday lives and social circumstances (S. Scott, 2009; Shove et al., 2012). Practices can be so mundane and unremarkable that they are often taken for granted and their meaning lost (Punch, Mcintosh, & Emond, 2010). For instance, a broad definition of food practices can be said to include provisioning, such as food preparation, cooking, procurement, serving, planning and cleaning (DeVault, 1991). Practice theory does not assume that we are rational or reflective agents. Nor does practice theory assume that knowledge or education can change why, how and what we do (Shove et al., 2012). 'We do not only function as individuals; practices and decisions about practices are relational, dynamic, negotiated and maintained within wider social structures and within everyday family lives' (Phoenix, Boddy, Walker, & Vennam, 2017, p. 26).

A defining characteristic of the sociology and anthropology of food, in comparison to nutritional scientific or psychological approaches, is the recognition that food's symbolic dimensions are 'inextricably intertwined' with its physical (nutrition) dimensions (Lupton, 1996, p. 8). Food and

eating practices are different from dietary intake and nutrition because ‘people eat food, not nutrients. That is, they generally see the substances they ingest through the lens of culture and social relationships’ (McIntosh, 1996, p. 4). For example, when a child is fed, ‘[t]he experience of satisfying hunger… comes to mean much more than the physical sensation of tasting the milk or enjoying filling the stomach, but is bound up with the infant’s emotional and sensual responses to the person or people who provide the food.’ (Lupton, 1996, pp. 7–8).

Food practices are material, symbolic, personal and cultural. But these meanings can change over time and be dependent on where you are as well as who you are with (Mckendrick, 2004). For example, many religious and non-religious celebrations centre on food, such as the birthday cake at a birthday party or a traditional roast dinner for Christmas. Even offering a friend a cup of tea when they visit is a food practice associated with sociality as well as pleasure. Food can also be a form of care, control or negotiation (Charlies & Kerr, 1988; James, Curtis, & Ellis, 2009; Kaplan, 2000). In families, food is ‘embedded in power relations, including between adults and children’ and is often used as a way to judge ‘good’ or ‘bad’ parenting (Coveney, 2000; O’Connell & Brannen, 2014, p. 98).

From this perspective, food is also understood as and through the lens of discourse. Morgan (2011) suggests that ‘family’ is best understood in terms of ‘family practices’ and what families ‘do’. Sociological approaches to understanding family food practices recognise that food may be used as a means to ‘display’ family; a ‘proper’ family eats ‘proper’ food (Charlies & Kerr, 1988; Finch, 2007; James & Curtis, 2010). In addition, food can be used as a way to differentiate from others, for example, by social class or ethnicity (Bourdieu, 1984; Fischler, 1988; Joassart-Marcelli, Salim, & Vu, 2018). Methodologically, researchers of food and eating must be attentive to the meanings and materialities of food, particularly as they shape accounts of practices in interviews. For this reason and others, it can be useful to use more than one method to understanding what people eat and why they do what they do.

I use this approach to understand how eating functions in the everyday lives of young people, including the importance of food’s social and material realities. I show the ways in which these are affected by family income. For instance, a lack of family income is not only a material constraint on food budgets, but also leads to social inequalities among young people and exclusion, as will be discussed. For the purpose of this thesis ‘food and eating practices’ are conceptualised not only as eating or dietary intake but as the activities or habits involving food that young people and families enact every day, including the quality of the food that they eat. In addition, I use a mixed methods approach to understand the meanings and materialities of food, as discussed in the next section.

3.3 Research Design: A Mixed Methods Approach

Using a pragmatic approach, I sought to use a research strategy that best addressed my research questions. As Hesse-Biber (2015) argues:

> 'Unlike a purist, a pragmatic approach would ask, "What is needed to answer the research question?" In answering this question, a pragmatist does not look to his or her epistemological perspective for guidance but instead seeks the best method or methods for answering the questions.' (Hesse-Biber, 2015, p. xxxv).

Brannen (2005b) argues that a mixed methods research design is 'an approach employed to address the variety of questions posed in a research investigation that, with further framing, may lead to the use of a range of methods.' (p. 183). Mixed methods research designs are defined by their concern with quantitative questions regarding how widespread or common are phenomena within a population and questions that seek to examine the qualitative aspects of said phenomena, questions of meaning and process (Brannen, 2005a). Doyle and colleagues (2016) also suggest that seeking to pose different kinds of research questions is one of the most commonly cited justifications for employing a mixed methods research design. Table 3.1 presents each of my research questions in-turn alongside the methods utilised to address them.

Table 3.1 Research questions and the methods employed to address them.

Research Question	Methods Used to Address
1. To what extent do young people's diets vary by income and other factors? To what extent is family income related to the dietary intake and food and eating practices of young people? What other factors (e.g. age, sex, and ethnicity) also appear to be related to young people's dietary intake?	Secondary Analysis of the NDNS In-depth Semi-structured Interviews Eating Habits Questionnaires Photo-elicitation Interviews Kitchen Tours
2. How do young people's parents influence their food and eating practices? In what ways does family income appear to make a difference to what young people eat at home and what other factors seem to be important in understanding differences?	In-depth Semi-structured Interviews Eating Habits Questionnaires Photo-elicitation Interviews Kitchen Tours
3. How do school food policies and/or practices and young people's access to money influence their experience of eating at school? In what way do school food polices and/or practices influence what young people eat at home?	In-depth Semi-structured Interviews

As table 3.1 shows, my first research questions (1) seek to look for patterns and variation within a large sample of young people and also to find statistical explanations for their dietary intake. Other research questions (2 and 3) are largely 'how' or 'in what way' questions that seek to elucidate social processes and/or seek research participants' reasons for and meanings related to food practices.

This mix of methods seeks to explore food and eating practices in a complementary way. In doing so, it was hoped that the design would provide different insights into the phenomena broadly understood as young people's dietary and food practices. For example, secondary quantitative analysis of NDNS dietary data can help to address the first research question regarding young people's dietary patterns and examine whether dietary intake is statistically associated with income and other factors. However, quantitative analysis of the NDNS cannot address research questions two and three with regards to the 'why' or 'how' of young people's food and eating practices. Qualitative methods are better suited to address these types of questions because 'meanings reside in social practice, and not just in the heads of individuals' (Dey, 1993, p. 12).

Doyle and colleagues (2016) describe four research designs for conducting mixed methods research: convergent; explanatory sequential; exploratory sequential; and an embedded intervention. The mixed methods design that I have implemented in this study is 'convergent', defined by Doyle and colleagues (2016) as when 'equal priority is assigned to quantitative and qualitative data and [when] results are usually merged in the interpretation phase of the research' (p. 626). This study was designed so that the quantitative and qualitative methods were not dependent on each other during the data collection or analyses phases. Both methods remained separate, but were then examined together during interpretation, as is discussed in section 3.7 of this chapter.

3.4 Data Collection of this Doctoral Study

The following section details the data collection process. First, it describes the NDNS dataset, its purpose, methodology and summarises what data were collected as part of the survey. Second, it describes the qualitative methodology of this doctoral study, including where fieldwork was conducted and how families were recruited. Then it details how and why both in-depth semi-structured interviews and visual methods were carried out with participants.

The National Diet and Nutrition Survey

As discussed in chapter two, section 2.1, there are a number of large scale quantitative datasets that are focussed on or include information about the food practices and dietary intake of the UK population, including time-use data, food purchasing/expenditure datasets, the Living Costs and Food Survey (LCFS; ONS, 2019c), the Low Income Diet and Nutrition Survey (LIDNS; Nelson et

al., 2007), Health Survey England (HSE; 2018a) and the Health Behaviour in School-aged Children survey (HBSC; Brooks et al., 2015). However, the main source and most detailed dataset for assessing the food practices and dietary intake of children, young people and adults in the UK is the NDNS (NatCen Social Research & MRC Elsie Widdowson Laboratory, 2019).

The NDNS is a 'rolling programme' which began in 2008/09 and is designed to assess the diet and nutritional intake of a nationally representative cross-sectional sample of private households in the UK. A new dataset is therefore released periodically, increasing the available sample size of the dataset with each release. The sample is randomly selected using UK postcode data. All postcodes are clustered into 'primary sampling units' (PSUs) and 'geographical areas based on postcode sectors' (NatCen Social Research & MRC Elsie Widdowson Laboratory, 2015, p. 38). PSUs are then randomly selected from across the UK and an equal number of addresses are randomly selected from each PSU.[21] One adult and one child are then randomly selected from each household. To ensure there are approximately equal number of adults and children in the sample, in some instances no adult and only one child is randomly selected to participant.

The purpose of the NDNS is to report the nutritional status of the general population so that the UK Health Departments can monitor and implement policies where necessary.[22] The sample includes children from the age of 1.5 years, young people and adults. Adults are considered those aged from 19 years and children are those aged 1.5 – 18 years. For NDNS waves 1 – 6 (2008/09 – 2013/14) combined the sample of those who completed all the requirements of the survey consists of 4,738 adults and 4,636 children.[23]

NDNS data are collected using a combination of interviews, self-completion booklets, physical measurements, biological tests (e.g. blood and urine sample tests) and a four-day food diary in two phases. I carried out secondary quantitative analysis of the interview and food diary data in the NDNS dataset waves 1 – 6 (2008/09 – 2013/14) to address the first set of my research questions: To what extent do young people's diets vary by income and other factors? To what extent is family income related to the dietary intake and food and eating practices of young people? What other factors (e.g. age, sex, and ethnicity) also appear to be related to young people's dietary intake?

NDNS Interview and Food Diary Data

Interviewers carry out face-to-face Computer Assisted Personal Interviews (CAPIs), which consists of three main sections: a household questionnaire; a Main Food Provider (MFP) questionnaire; and individual questionnaires. The household questionnaire records the composition of the household such as how many people live in the household, ages, sexes, marital status and relationships and is completed by the MFP or by the Household Reference

[21] In waves 1 – 4, 21,573 addresses were randomly selected. In waves 5 – 6, 8,879 addresses were randomly selected.
[22] Health policy is largely devolved in Scotland, Wales and Northern Ireland. However some health policy initiatives are reserved to the Westminster government, but this varies across each country.
[23] Those who completed all requirements of the survey refers to members of a household that completed the NDNS questionnaire and at least three days of the four-day food diary. Not all members of a household are required to do so.

Person (HRP).[24] The MFP questionnaire records what cooking facilities and food storage is available in the home and what the MFP's typical food purchasing and preparation practices are. The individual questionnaires are completed by the individual members of the household who have been selected to participate in the survey[25] Table 3.2 summarises each interview questionnaire, which household members complete them and what the questionnaires consist of.

Table 3.2 Summary of the CAPI questionnaires of the National Diet and Nutrition Survey and who they are completed by.

CAPI Questionnaire	Participant and Questionnaire Summary
Household Questionnaire	Completed by the MFP or HRP. Records household composition.
MFP Questionnaire	Completed by the MFP only. Cooking and food storage facilities, food shopping and food preparation.
Individual Questionnaires	Completed by the MFP and other members of the household selected to participate.
Access to Food at School	Participants aged 1.5 to 18 years (unless in full-time employment). For those aged 1.5 – 10 years completed by proxy. Type of school, FSM eligibility and what is typically eaten for lunch.
Usual Eating Habits	All participants. For those aged 1.5 – 10 years by proxy. Frequency of eating meals out and takeaway at home. Frequency of certain food groups, food avoidance and dieting.
General Health	All participants. Quality of health and existing physical or mental health conditions or disabilities. Whether this limits or prevents day-to-day activities.
Oral/Dental Health	Participants aged from 16 years. General dental health and whether any difficulties eating.
Smoking and Drinking	Participants aged from 8 years. Participants aged 8 – 17 years are given a self-completion booklet. Those aged 18 – 24 years are given a self-completion booklet or can choose to proceed with the CAPI questionnaire. Frequency of type of cigarettes smoked. Frequency of type of alcohol consumed.
Education	Participants aged from 16 years and not HRP or MFP. Age finished education and qualifications.
Job/Income	Participants aged from 16 years (unless in full-time education) and not HRP or MFP. Type of employment, typical hours worked and number of jobs.

[24] The MFP is the adult in the household who is mainly responsible for food purchasing and cooking. The HRP is the adult of the household with the highest income. In cases where householders have equal incomes, the HRP is the eldest.
[25] Not all participants are required to complete each questionnaire. For example, only children aged 1.5 – 18 years (in full-time education) are required to complete the module relating to school food.

In the food diary, participants record their dietary intake at home and away from home (both food and drink) over four consecutive days.[26] The MFP records the food diaries by proxy for children aged 1.5 to 12 years. Participants record the time of consumption, a description of what is consumed, a brand name and the amount or portion size eaten. The amount or portion size eaten is calculated using a variety of different methods including the weight of items consumed where possible, typical portions (e.g. one slice of bread, one kit-kat finger), the measurements on food labels (e.g. a can of drink is 330ml), and other food label information including brand names. Calculations also account for leftovers and food not eaten, for example if the respondent states that they only consumed half a tin of beans (e.g. 205g instead of 410g). For homemade food, respondents are required to weigh and report individual ingredients and how much they ate. Alongside food, where they were when they ate the food, who they were with and whether they were watching TV and/or sitting at a table is also reported in food diaries. Before collecting completed diaries, interviewers also check with participants to see if they are completing the diary correctly and to answer any queries. It also allows the interviewer to query any missing data, such as insufficient food descriptions or missing portion sizes. For children and young people, entries are also reviewed by comparing portion sizes to images in the Food Atlas (Nelson, Atkinson, & Meyer, 1997).

Qualitative Data Collection Methods of the Doctoral Study

The following section describes the qualitative methods used in this doctoral study. As discussed in chapter one (section 1.2: A Linked Doctoral Study), this doctoral study is linked to a mixed methods study called 'Families and Food in Hard Times' (FFHT), funded by the European Research Council. The mixed methods approach includes in-depth semi-structured interviews with lower-income young people and a parent or guardian. The qualitative methods were carried out in two locations in the South East of England; 30 families living in an inner London borough and 15 families living in a coastal town. In addition, a sub-sample of nine families living in the London borough and four living in the coastal town also participated in a visual methods phase, including photo-elicitation interviews (PEI) with young people and a kitchen tour with a parent. Table 3.3 illustrates the various methodological phases of the FFHT study, including sample sizes, my contribution to the FFHT study and how this relates to the methodology of this doctoral study. The qualitative data for all 30 lower-income families from the FFHT study living in the inner London Borough were secondary analysed for the purpose this doctoral study, as discussed in section 3.6 (Data Analysis Strategies) of this chapter.

[26] The food diary is separate from the 'Usual Eating Habits' questionnaire noted in table 3.2. Originally, for the methodology of the NDNS in wave 1, the four-day food diary included both Saturday and Sunday. However in year 2 this methodology was changed so that the weekend days were not over-represented. The methodology introduced from year 2 tries to ensure that all days of the week are equally represented in the dataset as a whole.

Table 3.3 The methodology and data analyses of the Families and Food in Hard Times (FFHT) study and my contribution to the FFHT study.

Data	FFHT Research Questions	FFHT Methods	My Contribution to FFHT	My Original Research for this Doctoral Study
Quantitative	Government policies and how they target and/or impact different groups and families	**Secondary analysis** of the EU-SILC, HBSC and LCFS datasets **Review** of national surveys, official statistics, reports and literature **Content analysis** of national newspapers	Contributed to **literature review** of children, young people and food Contributed to **analysis and co-authored** peer-reviewed paper on UK newspapers portrayal of families and food poverty (Knight, Brannen, O'Connell, & Hamilton, 2018)	**Secondary analysis** of the National Diet and Nutrition Survey (chapter 4), waves 1 – 6 (2008/09 – 2013/14; n=1,296)
Qualitative	Parents' and children's food practices and experiences of living on a low income	**Qualitative research with 45 families in South East England; an inner London borough and a coastal town** **Interviews** with parents and young people in an inner London borough (n=30 families; n=36 young people)[1] **Visual methods** with a subsample of 9 families including a kitchen tour with parents and PEI with young people	Assisted an FFHT colleague and contributed to one parent interview **Visited 6 families total.** Assisted an FFHT colleague and contributed to 4 kitchen tours and 3 PEI. Conducted 1 kitchen tour and 2 PEI independently	**Interviews and visual methods** (kitchen tour and PEI) with higher-income parents and young people in the same inner London borough (n=6) **Secondary analysis** of all FFHT lower-income cases in the inner London borough (n=30 families; n=36 young people) for the purpose of this doctoral study, including visual methods data **Additional questions** related to this doctoral study were also included in the visual methods phase of the FFHT study: 4 kitchen tours and 4 PEI

[1] In most cases (n=24), only one young person was interviewed. However, in six of these families, two young people were interviewed.

The methodological differences and consistencies between this linked doctoral study and the FFHT study are detailed throughout this section. As noted earlier, multiple qualitative methods were used in this doctoral study, including semi-structured interviews, PEI and kitchen tours and the use of a quantitative questionnaire, the HBSC Eating Habits Questionnaire (EHQ). The qualitative methods of this doctoral study were conducted with higher-income families over two visits. First, during visit one, an interview with the parent and a kitchen tour were conducted. In addition, the PEI was introduced to the young person and they were given a digital camera. Second, during visit two, the interview with the young person and the PEI were conducted, including completion of the EHQ. Where possible, the second visit was conducted approximately two weeks after the first visit. These steps are illustrated in figure 3.1. The methodology differs slightly to that of the linked FFHT study and is discussed throughout each section.

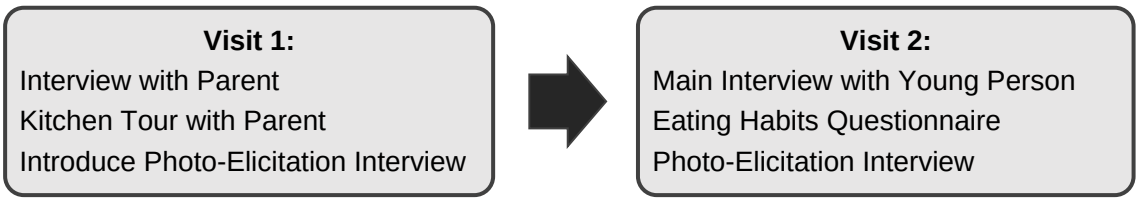

Figure 3.1 *Summary of visits during the qualitative fieldwork of this doctoral study.*

First, I describe the inner London borough where the qualitative fieldwork for FFHT and my own study was carried out and the justification for choosing this particular borough. Second, the participant selection criteria and methods for recruiting participants are described, followed by a description of the multiple qualitative methods used.

Fieldwork: An Inner London Borough

Fieldwork for this doctoral study was conducted in 2017/18 in the same inner London borough as the FFHT study.[27] The borough cannot be named for the purposes of anonymity. According to the Trust for London's Poverty Profile (Tinson, Carla, Karen, Born, & Long, 2017) London has a disproportionate distribution of income in comparison to the other eight regions in England. London has the highest proportion of people in the poorest income decile and the second highest proportion of people in the richest decile, only surpassed by the South East of England. Twenty-seven per cent of people living in London are in poverty, which is higher than for the other seven English regions and higher than England overall (21%).[28] Although child poverty rates have fallen in the last decade it still remains high at 37 per cent, higher than the average for England which is below 30 per cent (Tinson et al., 2017).

[27] Phase one fieldwork for the FFHT study occurred during 2015/16. The visual methods phase occurred during 2016/17.
[28] Measured as 60% below the median income after housing costs.

Using the English Index of Multiple Deprivation (EIMD)[29], Rae (2015) analysed the differences in deprivation between 2004 and 2015 across England and found that most of England had seen no change, in comparison there were significant changes to deprivation in London. Rather than local individuals escaping poverty and deprivation, Rae (2015) argues that the difference in deprivation between 2004 and 2015 found in some London boroughs was due to rising property values leading to changing local populations and gentrification. Gentrification is the influx of affluent middle-class residents into areas that historically and predominantly were occupied by working-class and low-income residents. The influx leads to a physical, economic and cultural transformation, often causing the displacement of the original working-class residents due to increasing property values and unaffordability (Watt, 2013). The inner London borough where fieldwork was conducted has been experiencing gentrification, and yet is still a significantly deprived borough, ranking amongst the 10 per cent most deprived local authority districts in England according to the 2015 EIMD (Smith et al., 2015).

The borough is diverse both in terms of the ethnicities of the residents and in terms of the types of food outlets available. The borough is characterised by the high density of cheap fast food outlets, but it also has a range of local independent food outlets (e.g. newsagents, cafes and some organic fresh food stores), ethnic food stores, national named supermarkets and local street markets selling fresh food. A variety of food outlets can typically be found together on the same high street. Public transport is also easily accessible and free for children and young people living in London. Housing is also varied, with both high density local authority flats on estates and privately owned Victorian terraced housing. Often local authority flats and Victorian terraces can be found in close proximity, meaning residents from different ethnic, income and social class backgrounds often live together in the same residential areas. This is also the case for schools within the borough, which are predominantly academies alongside some community and religious schools.

Recruitment of Families for the Doctoral Study

Given the time and scope available for qualitative fieldwork in this mixed methods study, I initially set out to recruit six higher-income families, by definition not part of the FFHT study, using the following selection criteria:

- A child aged 11 to 16 years.
- Living in the inner London borough of interest.
- Disposable annual household income (after tax, before housing costs) of £72,500.

Firstly, families, as in FFHT, had to include at least one young person aged 11 to 16 years. This also included children aged 11 who at the time of fieldwork were on their school summer holiday

[29] The EIMD is the official measure of relative deprivation within neighbourhoods in England. It ranks each area of England from 1 (most deprived) to 32,844 (least deprived) on the basis of seven domains: Income; employment; education' skills and training; health and disability; crime; barriers to housing and services; and living environment.

waiting to start secondary school in the new term. All families lived within the same inner London borough. This was the same borough of interest in the FFHT study (as discussed earlier). In order to ensure that the families participating in this study were higher-income, a disposable income threshold was also set. The threshold was set using the latest ONS (2017) national income dataset for the UK available at the time fieldwork was conducted (2017/2018), which was for the year ending 2016. The average annual disposable income for non-retirees (after taxes and benefits, but before housing costs) in the top income quintile (top 20% of incomes) was £72,476.[30] This income threshold was not equivalised to ensure that those interested in participating could be given the same straightforward selection criteria, regardless of family size.[31] The six higher-income families were recruited through personal networks and snowballing.

The 30 lower-income families in my study had already participated in phase one of the FFHT study. These families were recruited through state schools by completing and returning a screening questionnaire, food banks, local community groups and snowballing.[32] Although interviews had already been conducted with parents and a target child, there was an opportunity during phase two (visual methods) of the FFHT study to ask additional questions that were pertinent to my doctoral study using an amended interview schedule (discussed later). Families were contacted directly by the FFHT research team to ask if they would like to participate in the second phase of the study. Initially, I set out to interview six lower-income families from FFHT in addition to six higher-income families. However, unforeseen circumstances and delays meant that although I accompanied an FFHT colleague on interviews with six families, I was only able to ask the additional questions with four of the families.[33] However, the qualitative data from the lower-income FFHT families were subjected to secondary analysis as part of this doctoral study (discussed later).

In-Depth Semi-Structured Interviews

In-depth semi-structured interviews were conducted with six higher-income and 36 lower-income young people to explore young people's food and eating practices. Although the focus of the doctoral study is on young people's food and eating practices, parents were also interviewed, as they were in FFHT. This is to 'situate [the young person's] views in the context of the social relationships within which they are constructed' (Harden, Backett-Milburn, Hill, & MacLean, 2010, p. 441). As discussed in chapter two (Literature Review), young people's food and eating practices are developed within and influenced by their families. Therefore to fully understand these practices they were situated within the context of their family. How much control young people have over their own diet and how much responsibility the parent(s) take also differs across families (Brannen, Dodd, Oakley, & Storey, 1994), influencing young people's food and eating

[30] When a sample is divided into five equal groups, this is referred to as quintiles. For example, the bottom quintile refers to those earning *less than* 80% of the population. The top quintile refers to those earning *more than* 80% of the population.
[31] Household incomes were then equivalised before data analysis. Discussed in the data analysis section of this chapter.
[32] Screening questionnaires were used in schools to ascertain whether families were experiencing some form of food poverty before being contacted about participating in the study.
[33] This was due to delays in receiving ethical approval for my doctoral study.

practices in different ways. In addition, changes to the life of parent(s), such as a change in employment, divorce or illness, can also influence young people's food and eating practices (O'Connell & Brannen, 2016).

The semi-structured interview schedules were adapted from the existing FFHT study interview schedules. The interviews with young people and their parent were conducted over two separate visits at a location of their choosing, mostly in the home. The interview with the parent was carried out during the first visit and the interview with the young person was carried out during the second visit (figure 3.1). The parent interview in my study was shorter than those conducted with young people (approximately 45 and 60 minutes respectively). After both interviews, detailed fieldnotes were written and included details about: housing; access to transport; the local area (e.g. housing, parks and access to food outlets); time of day the interview took place and how this might relate to the family's typical routine; any relevant conversations that took place outside of the interviews; interactions between family members or friends; if the parent was cooking during the interview; and any issues with scheduling the visit (e.g. difficulties due to a busy working schedule).

The parent interviews included questions about: the family circumstances such as housing, transport, health issues, ethnicity, income/outgoings and who lives in the household; the employment and education of parents; the food budget and shopping; the young person's routine (weekday and weekend) including timing of meals and what they eat; food preparation and cooking at home; the young person's tastes and preferences; who the main food provider is; eating out, takeaways and special occasions; healthy eating and diet; who is responsible for feeding families; and whether things will change in the future (see Appendix 2).

As in the FFHT study, to ground the interview in everyday practice the young person's interview asked about what the young person did and ate on the last school day and the last non-school day he or she could remember. They were then asked about typicality of the activities and foods eaten and what might change them. The interview also included direct questions about the following topics: everyday life at school and what they eat at school; family meals; their tastes and preferences; cooking and preparing food at home; food related rules at home; eating out, takeaways and special occasions with family/friends; pocket money; food purchases at home and away from home; healthy eating and diet; who is responsible for feeding families; and whether things will change in the future (see Appendix 5).

As the research is about food and eating practices, it is likely that participants will provide socially desirable responses. Given the government discourse and popular discussions in the media and news about young people's health, healthy eating and obesity (e.g. Gallagher, 2015; HM Government, 2016; Siddique, 2016), parents may want to portray a 'healthy family'. Young people may also respond with what they think I want to hear about a healthy diet, rather than their own perspective. There is also the fear that people may be judged by experts for eating unhealthily. To overcome this, similarly to O'Connell and Brannen (2016), it was 'emphasised that we were not nutritionists' (p. 6) and therefore myself and colleagues were not there to judge the quality of their diet. In addition, asking the participant about a typical day, it was hoped that this would

ground the interview in everyday practice and reduce the likelihood of socially desirable responses.

Questions asked in the FFHT young person's schedule about living on a low income, help with food/money and food insecurity were removed. Some questions from the FFHT parent's schedule were omitted.[34] However, questions about other food purchasing practices (e.g. vegetable delivery boxes and organic food purchasing) were added to my interview schedule for higher-income young people and to my interview schedule for higher-income parents. These additional questions about other food purchasing practices were also included during the PEI and kitchen tours with lower-income families in phase two of the FFHT study. The PEI and kitchen tour are discussed later.

Eating Habits Questionnaire

In the FFHT study, during the second visit, young people were asked to complete the Eating Habits Questionnaire (EHQ; see Appendix 6). For this doctoral study young people completed the questionnaire during the second visit, between the main interview and the PEI. The EHQ is a HBSC England survey module that measures young people's consumption frequency of food groups and meals. The purpose of the EHQ in this study was to measure aspects of young people's diets. It provides data on the number of days the young person consumes breakfast on a weekday and on a weekend, consisting of 'more than just a glass of milk or fruit juice'. Second, it asks about consumption of 16 food and drink groups with the following responses: Never; Less than once a week; Once a week; 2 – 4 days a week; 5 – 6 days a week; Once a day, every day; and every day, more than once.[35] Third, the EHQ asks how often they consume breakfast and/or an evening meal with their mother or father using a similar scale of responses: Never; Less than once a week; 1 – 2 days a week; 3 – 4 days a week; 5 – 6 days a week; and every day.

The final two questions relate to hunger and were especially important for FFHT. The first question relating to hunger asks how often the young person goes to school hungry and the second asks how often the young person goes to bed hungry. The responses are as follows: Always; often; sometimes; and never.[36] The questionnaire was completed whilst the interviewer was present so that if the young person had any queries about what might be included in the food groups or about other questions, the interviewer was there to address them. This was particularly important for questions regarding hunger to ensure that young people understood that the questions were in relation to hunger due to lack of food and money, as opposed to just general hunger.

[34] Questions omitted from the schedule include those about low income, life history, managing the food budget on a low income and seeking financial/food help from neighbours, community groups and charities. The 'food coping strategies' questionnaire that was a part of the FFHT parent interview was also not included in the parent interviews for this study.
[35] The food and drink groups are: Fruits; Vegetables; Sweets (candy or chocolate); Coke or other soft drinks that contain sugar; Diet coke or diet soft drinks; Energy drinks (such as Red Bull, Monster, Rockstar); skimmed or semi-skimmed milk; Ordinary (full fat) milk; Cheese; Other milk products (like yoghurt, milkshakes, rice pudding); Cereals (like cornflakes, muesli, coco pops); White bread; Brown bread; Crisps' Chips; and Fish.
[36] These questions were not used for analysis in the doctoral study.

Visual Methods: Photo-Elicitation Interview and Kitchen Tour

'Visual research methods can elicit different types of information than interviews only involving words' (Power, 2003, p. 11). They can enable participants to show and express their experiences in ways that might be difficult to verbalise, such as poverty or mental illness for example (Fullana, Pallisera, & Vilà, 2014; Sime, 2008). Sweetman (2009) argues that visual methods can 'reveal' practices in our everyday lives that we are not necessarily aware or conscious of. Visual methods are particularly useful with regard to food research with young people because of the embodied and nuanced nature of food and eating practices meaning 'they are not necessarily easily accessible to reflection or amenable to textual representation' (O'Connell, 2013, p. 31). Visual methods were employed alongside the semi-structured interviews using two methods: a kitchen tour with the parent and a PEI with the young person. Visual methods were conducted with all six higher-income families and nine of the thirty lower-income families in the second phase of the FFHT study.

Kitchen tours were carried out in order to learn more about the kinds of food available in the home, and how resources are distributed between household members (Meah & Jackson, 2016; Wills, Meah, Dickinson, & Short, 2013). The purpose was to gain further insights into the family food and eating practices as part of understanding young people's food and eating practices as situated within their family. This included food preparation, cooking and eating within the home, whether storage and cooking facilities influence food purchasing, whether certain food storage areas are restricted and the type of food available in the home and why. It was also an opportunity to reveal or elaborate on aspects of family food practices that were discussed in the semi-structured interview as well as to either contradict or corroborate what was said. During the kitchen tour the interviewer took photographs of the kitchen, eating/dining space (if any), food preparation areas and food storage areas including inside the kitchen cupboards, fridges and freezers. The kitchen tour also acted as a supplementary interview (see Appendix 7). Whilst taking photographs, my colleagues and I interviewed the parent (and the young person if present) about their household food and domestic environment, establishing whether the food inside the fridge is typical for that day of the week for example.

The purpose of the PEI with young people was to provide additional insights into the young person's food and eating practices, including those away from the home, and what a typical week (in relation to eating routines) might look like as well as any other potential influences on those practices (e.g. friends, after school activities or special occasions). Young people were asked to take photographs of what and where they ate over a seven day period (Monday – Sunday) as well as anything else they considered to be significant to their everyday life in relation to food. These photographs could be in the home, at school or when out with friends or family. The photographs did not necessarily have to be images of food, they could include images of shops or food outlets or places where they might eat. Before the young person received the camera it was set up to display the date and time on photographs so that they did not have to remember when they had taken the photograph. It also gave a sense of their typical routine.

There was the possibility that young people would want to capture socially desirable images, for instance, only photographs of healthy meals or snacks so as not to portray an unhealthy diet. In addition, because the images taken as part of the PEI were captured in the absence of the researcher, it is difficult to know if anyone (e.g. parents or friends) had influenced the young person's decision to take a particular picture. In order to overcome these issues my colleagues and I from the FFHT study reiterated to both the parent and the young person that we are not nutritionists and nor were we there to judge the food they ate. Additionally, it was explained to both the parent and young person that the decision to take photographs (or not) lies with the young person. It was also important to establish whether the food in the images were typical and if not, why not to ascertain why the young person had captured the image.

During the PEI, I or a colleague uploaded the images onto a laptop (so that the young person could keep the camera). We then went through the photographs one by one in the sequence they were captured and discussed them (see Appendix 8). The young person was asked: when and where the photograph was taken; what the image was of and why they chose to capture it; if of food, where was it consumed and who prepared it; where was it bought (if purchased); if it was consumed with anyone else; and whether any of these details were typical for them. By discussing the images, it was hoped that this would help illuminate young people's own interpretations of their food and eating practices and how they fit into their everyday lives. PEI were not as long as the semi-structured interviews but was dependent on the number of photographs they had taken.

When and how the visual methods were conducted differed slightly between the doctoral study and the linked FFHT study. In the doctoral study, kitchen tours were carried out during the first visit immediately after the semi-structured interview with the parent. The PEI was then introduced to the young person and they were given their digital camera. Approximately two weeks later and during the second visit the PEI was conducted immediately after the semi-structured interview with the young person (as illustrated earlier in figure 3.1). In FFHT there was a longer gap and not all lower-income families participated in the visual methods, which occurred approximately one year after the initial semi-structured interviews took place. The kitchen tour and PEI with lower-income families in the FFHT study became an opportunity for me to ask additional questions pertinent to the aims of this doctoral study which were not included in the original FFHT interview schedules. For instance, questions about other food purchasing practices (e.g. vegetable delivery boxes and organic food purchasing) were included in the visual methods schedules for the lower-income families I visited as part of the visual methods visits of the FFHT study.

3.5 Ethical Considerations of Researching Young People's Food and Eating Practices

I now discuss the ethical considerations of my doctoral study, including issues with privacy, consent of young people and matters of anonymity, especially in their photographs.

Interviews in the home (where most took place) can present ethical issues, for example privacy. During recruitment and again before each interview was conducted it was explained that, if possible, interviews be conducted in a private space that limited disruption and interference from others. This was to ensure that each interviewee could speak openly about their food and eating practices and protect both the young person's and the parent's right to privacy. This was more challenging in homes with open living spaces, cramped housing conditions or households with many family members. This was not a particular issue for higher-income families as the participants' homes were large with many rooms which afforded privacy. This was more of a problem in lower-income households. However, in some cases, the presence of others did often provide an opportunity to observe the interactions between child and parent, also resulting in some interesting discussions between them.

There are ethical considerations that are specific to research conducted with young people, as opposed to adults. For instance, young people's voluntary participation is dependent on the permission of and relationship they have with their parents. In some cases, young people may have little or no say as to whether they consent to taking part in research. Others will be given a choice, but this may be under pressure to please their parents. The young people participating in this study were asked directly if they agreed to take part. However, the first meeting with the young person was often after parents had already agreed that their child could participate and after my colleagues and I had been invited to the home (or to a meeting point elsewhere). On some occasions, parents consented to participating in the study without asking their child first. Where this happened it was difficult for the young person to say no. In addition, parents were required to provide consent for their child to participate due to their age as well as the young person being asked for their consent first. We told young people that taking part was their decision and that they could remove consent at any stage of the interviews without saying why (none did). However, this may have been difficult for them to do so if the parent had already agreed to participate.

Preserving anonymity of the families taking part is also important for any study. To protect the identities of participants and their families, families are referred to by a three letter code and young people by a pseudonym. Identifying information was removed from transcripts prior to analysis. Anonymity is also an ethical issue when employing visual methods, for example the identification of people in the photographs. It was explained to the young person not to include images of other people's faces in their photographs to protect their anonymity, otherwise the photographs could not be included. Where people's faces were included in photographs, they were deleted. All photographs were stored using secure storage on the University server, which is password protected and cannot be accessed without permission.

3.6 Data Analysis Strategies

The following section details the data analysis process, starting with the secondary analysis of the NDNS. First, it details how the sample was achieved from the available NDNS dataset. Then it explains how income and social class were derived from the NDNS dataset and describes the explanatory variables included in the analysis and why. Lastly, it goes on to explain how dietary intake was measured as an outcome variable, including the development and extension of the Diet Quality Index. The section then moves to describe how the qualitative data were analysed, including how young people's diets were assessed in terms of quality. It explains how a case-study approach was used to analyse qualitative cases, including secondary analysis of lower-income qualitative cases from the FFHT study.

Secondary Analysis of National Diet and Nutrition Survey

In the secondary analysis of the NDNS dataset to assess the diet quality and food and eating practices of young people aged 11 – 16 years, I examined data collected from the CAPI questionnaires and dietary intake data collected as part of the four-day food diaries.[37] First, to ensure that there was a sufficient sample size for these analyses, waves 1 – 6 (2008/09 – 2013/14) were combined into one dataset. Combining the data waves not only increases the available sample size, but allows for analysis comparing separate waves or time periods. However, this dataset is cross-sectional and it is not possible to conduct any longitudinal analysis. The dataset was then cleaned to ensure that only children and young people aged 1.5 – 16 years who completed all requirements of the survey were included in the final sample. Respondents with missing income data were also removed leaving a total sample size of 3,590 children and young people aged 1.5 – 16 years, of which 1,296 are aged 11 – 16 years.

NDNS data weighting was not used in this analysis due to difficulties with applying the NDNS data weights. Firstly, there is some suggestion from statisticians that weighting survey data can be problematic when conducting multiple regression analysis, because introducing weights can increase the standard errors and produce imprecise outputs (Gelman, 2007; Winship & Radbill, 1994). Secondly, I chose to analyse a 'subpopulation' of the larger NDNS sample. Typically analysis of the NDNS in relation to young people is inclusive of 11 – 18 year olds. However, this analysis only included 11 – 16 year olds, meaning that the pre-existing weights provided in the NDNS dataset were not applicable. Further, some respondents were excluded due to incomplete data relevant to my analyses. Therefore, due to the factors outlined and after numerous discussions with senior colleagues (who have experience of analysing the NDNS dataset) and discussions with the official NDNS research team, I decided to exclude weighting from the analyses in this doctoral study. The aim of my analysis was not to provide an overview or

[37] Secondary data analysis was conducted using IBM SPSS version 25 (IBM Corp, 2017).

representation of the diets of children and young people in the UK. Therefore the analysis is not representative of the UK population and is not presented as such throughout my analysis chapter.

As stated earlier in this chapter, food and eating practices are conceptualised not only as eating and diets but also as the activities or habits involving food that young people and families enact everyday such as: food preparation, cooking, procurement, serving, planning, cleaning and socialising (DeVault, 1991). However, for the purpose of this analysis of the NDNS, dietary intake and diet quality are presented as outcome variables and other food and eating practices (e.g. food purchasing, takeaway consumption and eating out) are presented as explanatory variables. This is to explore whether some food and eating practices are statistically associated with dietary intake or overall diet quality.

The following sections detail what explanatory factors from the NDNS dataset were included for analysis and how young people's dietary intake was measured. The following measures were included on the basis of the availability within the NDNS and their relevance according to existing literature. A detailed description and definition of the factors included in the analysis are presented in table 3.4. Descriptive and regression analyses of this NDNS sample are carried out and presented in chapter four.

Table 3.4 NDNS variables for inclusion in secondary analysis and their descriptions.

Variables	Variable Categories	Descriptions
Young Person's Demographics		
Sex	Male; Female	Young person's sex
Age		Young person's age at the time of the survey
Ethnicity [1]	Non-white; White	Ethnic group HRP considers [child] belongs to.
Household Characteristics and Socio-Economic Circumstances[1]		
Equivalised Household Income Decile	Decile 1 (lowest) to 10 (highest)	Total household income in the last 12 months before deductions and housing costs. Equivalised using the McClements equivalence scale adjusting for household composition.
Dual-Parent	No; Yes	Dual-parent if HRP in a relationship with someone who lives in the same household, regardless of marriage status or relationship to young person.
Housing Tenure: Mortgage/Owner	No; Yes	Stated that the home is owned outright or with a mortgage and not renting (socially or privately).
Mother in Paid Employment	No; Yes	Mother is in paid employment if she is working full-time, part-time or working whilst in education.
Household Social Class	1: Higher managerial, administrative & professional; 2: Intermediate; 3: Small employers & own account workers; 4: Semi-routine & routine; 5: Lower supervisory & technical.	Derived using the NS-SEC groupings of five classifications on the basis of the HRP's occupation. HRP is the person in the household with the highest income.
Household Food Purchasing Practices[1]		
Regularity of Buying Fruit and Vegetables	Less than weekly; Weekly; 2 – 3 times per week; Once a day or more	'How often do you buy fresh fruit and vegetables?'
Availability of Fresh Fruit	Never; Sometimes; Most of the time	'How often do you usually have fresh fruit available in your home?'
Buying Organic Food [2]	No; Yes	'Do you ever buy any organic foods for your household or does anyone else buy them for your household?'[3]
More Organic Food [2]	No; Yes	'Would you like to eat (more) organic food?'
Affordability of Organic Food [2]	No; Yes	Doesn't 'currently eat as much organic food as would like' due to affordability/too expensive.
Young Person's Food and Eating Practices		
Regularity of Young Person Eating Meals Out	Rarely or never; 1-2 times per month; 1-2 times per week; 3-4 times per week; 5 or more times per week	'On average, how often do you eat meals out in a restaurant or cafe (e.g. more than a beverage or crisps)?'
Regularity of Young Person Eating Takeaways	Rarely or never; 1-2 times per month; 1-2 times per week; 3-4 times per week; 5 or more times per week	'On average, how often do you eat takeaway meals at home (e.g. more than a beverage or crisps)?'
Young Person a Vegetarian or Vegan	Neither; Vegan/Vegetarian	'Would you describe yourself as vegetarian or vegan?' Understanding checked.
Eligibility for FSM	No; Yes	'Are you entitled to free school meals?'
School Meal Consumption	No; Yes	'Usually' consumes a hot or cold school lunch.

[1] Question was not asked of the young person, but of the MFP (or HRP by proxy)
[2] Only available in limited data waves. Not covered in wave 6.

Income and Social Class

Income is the main focus of this doctoral study, and given the importance of income and social class in food and eating practices as presented in the literature review (chapter two), both equivalised household income and social class were included in the analysis of young people's diets. Equivalised household income is a derived variable within the NDNS dataset and is calculated using the total household income in the last 12 months, as reported by the MFP (or the HRP by proxy), before housing costs (BHC) and deductions (e.g. tax). Household income includes earnings from employment (including self-employment), benefits (including housing and child benefit), pensions and interest from savings. The household income is then equivalised using the McClements equivalence scale (McClements, 1977), adjusting for household composition including the number of people, age and relationships of the adults and children living in the household. Income deciles were then calculated using equivalised household income on the basis of the distribution for the full sample of children and young people aged 1.5 – 16 years that completed all relevant aspects of the NDNS.[38]

Socio-economic class is also a derived variable within the NDNS dataset and based on the ONS National Statistics Socio-economic Classifications (NS-SEC; Rose & Pevalin, 2003). The NS-SEC is a classification system used in all official surveys conducted in the UK. Each household is classified on the basis of the HRP's current or most recent occupation and consists of five categories: higher managerial and professional; intermediate; small employer's and account workers; lower supervisory and technical; and semi-routine and routine occupations. For example, a 'higher managerial and professional occupation' would be a barrister and a 'semi-routine and routine occupation' would be a retail sales assistant. In some cases, the same occupation is classified differently depending on whether the individual is self-employed or employed by an organisation. For example, self-employed electricians are classified as 'small employers and own account workers', whereas electricians employed by an organisation are classified as 'semi-routine and routine occupations'. Those not currently working or long-term unemployed are excluded.

Demographic and Household Characteristics

Young people's sex, age and ethnicity were included in the analysis, given the importance of these factors on young people's diets as discussed in chapter two (Literature Review). Given the evidence that children's diets change in adolescence as a consequence of increasing influence from friends and the food environment (BMA, 2015), age is of interest. Comparing age groups using the NDNS dataset may provide some insight into whether a reduction in diet quality is an inevitable consequence of adolescence and how this might relate to income. Five age groups were derived in accordance with the methodology of the Diet Quality Index (DQI; Simon,

[38] When a population sample is divided into ten equal groups, this is referred to as deciles. For example, the bottom decile refers to those earning *less than* 90% of the population. The top decile refers to those earning *more than* 90% of the population.

O'Connell, & Stephen, 2012), which is discussed later in this chapter: 1.5 – 3 years (n=731); 4 – 6 years (n=713); 7 – 10 years (n=850); 11 – 14 years (n=842); and 15 – 16 years (n=454). Unfortunately, it was not possible to conduct robust analysis of individual ethnic groups due to the small sizes of ethnic minority and non-white ethnic groups in the dataset. The way in which ethnicity is measured and coded in the dataset also differs between waves 1 – 4 and waves 5 – 6. So, for the purpose of this analysis, ethnicity was analysed on the basis of binary 'white' and 'non-white' ethnic groups.[39]

Household factors were also included: whether there is a partner present, housing tenure and whether the mother is in paid employment. These factors were included to control for aspects of the household that might influence young people's diets or be related to family food practices and the main focus of this doctoral study, income. First, households were determined as having a partner present if a second adult in the household was co-habiting and in a relationship with the HRP, regardless of marital status or relation to the young person. According to the UK government's Households Below Average Incomes (HBAI; DWP, 2019a) 2017/18 dataset, lone-parent households are more likely to be in the lowest income quintiles, (quintile one: 44% and quintile two: 32%) in comparison to dual-parent households (quintile one: 23% and quintile two: 23%).[40] Housing tenure is defined as whether the HRP/MFP own the house in which they live (outright or with a mortgage) or if the home is rented (socially or privately). In the latest English Housing Survey (Ministry of Housing, Communities & Local Government, 2019), those who own their home outright or with a mortgage are more likely to be in the highest household income quintile (26%) when compared to private renters (14%) and social renters (2%).

With regards to the paid employment of all mothers in the NDNS, mothers were considered in paid employment if they stated that they are employed full or part-time (including whilst in education). Those who stated they are unemployed, have never worked or in full-time education (but not employed) were categorised as not in paid employed. It was not possible to distinguish between full and part-time employment due to limitations of the NDNS dataset. First, when respondents are asked about their economic status they are provided with three possible responses: in education; working full or part-time; or not working at present. Second, although respondents are asked about their typical working hours, this is only available at an individual level, meaning this data is not available in households where only a child was selected to participate. However, economic status is available at a household level and can therefore be attributed to the parent of a child only respondent. For this reason, employment, rather than working hours, was included in the analysis.

Household Food Purchasing Practices

What young people can eat at home is largely determined by the food purchased by their parents. Despite young people's increased autonomy with age, family still remains an important aspect of

[39] Only 10.5% of children aged 1.5 – 16 years are from non-white ethnic minority groups in waves 1 – 6.
[40] Net equivalised disposable household income after housing costs.

their food and eating practices (Backett-Milburn et al., 2010). NDNS variables measuring household food purchasing were therefore included in the analysis. As government recommendations focus on fruit and vegetable consumption, the regularity of purchasing fruit and vegetables and the availability of fresh fruit at home are collected in the NDNS and were both included in the analysis. First, the MFP was asked 'how often do you buy fresh fruit and vegetables?' with the following responses: 'less than weekly'; 'weekly'; '2 – 3 times per week'; and 'once a day or more'.[41] Second, the MFP was asked 'how often do you usually have fresh fruit available in your home?' with the following responses: 'never', 'sometimes' or 'most of the time'. Research suggests some consumers perceive organic food to be healthier and both higher and lower-income families have a desire to consume organic produce (Shashi, Kottala, & Singh, 2015; Vega-Zamora, Parras-Rosa, Murgado-Armenteros, & Torres-Ruiz, 2013). However, affordability is often considered a reason for non-purchase of organic produce. Given that the influence of income is a focal point of this doctoral study, these practices have also been included in the analysis. First, the MFP was asked 'do you ever buy any organic foods for your household?'[42] Second, the MFP was asked if they 'would you like to eat (more) organic food?' regardless of whether they already purchased organic produce or not. If they answered yes, they were asked why they did not currently, including if affordability was the reason for non-purchase.

Young People's Food and Eating Practices

Existing analysis of the NDNS shows that takeaway consumption significantly influences young people's dietary quality (Taher et al., 2019). Therefore, consumption of meals out and takeaways were included in the analysis. Young people were asked 'On average, how often do you eat meals out in a restaurant or café (e.g. more than a beverage or a bag of crisps)?' The frequency of takeaway consumption at home was also determined with the following question: 'on average, how often do you eat takeaway meals at home (e.g. more than a beverage or a bag of crisps)?' For both questions, young people were able to provide the following responses: 'rarely or never'; '1-2 times per month'; '1-2 times per week'; '3-4 times per week'; and '5 or more times per week'. A vegetarian diet is also a significant influence on young people's and young adult's dietary intake (Robinson-O'Brien, Perry, Wall, Story, & Neumark-Sztainer, 2009). In the NDNS, young people are asked if they are vegetarian, vegan or neither: 'would you describe yourself as vegetarian or vegan?' Their understanding of a vegetarian and vegan diet was also checked.

Lastly, free school meal (FSM) eligibility is often used as a proxy measure for socioeconomic status (SES).[43] Young people were asked 'are you entitled to free school meals at lunchtime?' Furthermore, given the importance of school meals as a site for public health policy, in particular with policies targeted at improving children and young people's diets, the type of school meal consumed at lunchtime was also analysed. Young people were asked 'on a school/college day,

[41] These categories were condensed from eight response options: More than once a day; once a day; 2 or 3 times a week; weekly; 2 or 3 times a month; monthly; every 2 months; and less often than every 2 months.
[42] Organic was defined in the NDNS as: 'Anything labelled organic, or anything that you know is grown without pesticides and without artificial (or chemical) fertilisers'.
[43] See Taylor (2018) for a discussion about the reliability of FSM as a proxy measure for socio-economic disadvantage.

what do you usually have for lunch?' Cooked school meals; cold school meal (including sandwiches, salads); packed lunch (from home); buy lunch from shop/café; go home; and do not eat lunch. This particular variable was recoded to form a binary variable of whether the young person typically consumed a meal provided by their school (hot or cold) or not. School meal consumption was analysed in separate regression analyses (chapter 4) to assess its influence on young people's dietary intake, after controlling for age, sex, ethnicity and income. The purpose of this was to assess if school lunchtime influences young people's overall diet.

Young People's Dietary Intake and Diet Quality

Young people's diet quality and dietary intake are the key outcome measures of interest in this analysis and measured in two ways: daily mean fruit and vegetables portion consumption and intake of key nutrient components via the Diet Quality Index (DQI).

Daily fruit and vegetable portion consumption is typically considered an indicator to assess whether a diet is healthy or not. Fruit and vegetable portion consumption was analysed using a derived variable within the NDNS; the average number of fruit and vegetable portions consumed per day (in accordance with national '5-a-day' recommendations; NHS, 2019). One '5-a-day' portion consists of 80 grams (g) of fruit and/or vegetables (fresh, canned or frozen), 30g of dried fruit, 150 millilitres (ml) of fruit/vegetable juice or smoothie or 80g of beans/pulses. However, only one 150ml portion of juice or smoothie and only one 80g portion of beans/pulses count towards an individual's total '5-a-day' portions, regardless of how many juice/smoothie or beans/pulses portions are consumed[44]. The recommendations only relate to individuals aged 11 years and older. There are no official government recommendations for children aged below 11 years; therefore age comparisons between young people and younger children aged 10 years or less are not possible with regard to recommended daily portions of fruit and vegetables.

To measure the overall diet quality of children and young people in this analysis, I adapted a diet quality index from a previous analysis of the NDNS (Simon et al., 2012). There are also other measures of dietary intake, such as the Healthy Eating Index (Guenther et al., 2013), the Revised Diet Quality Index (Patterson, Haines, & Popkin, 1994) and the Mediterranean Diet Scale (Trichopoulou, Costacou, Bamia, & Trichopoulos, 2003). But they reflect dietary recommendations in countries other than the UK or are not designed to assess the diet quality of children and young people. Although the DQI (Simon et al., 2012) is not a validated measure of diet quality, the DQI is specifically designed for use with the NDNS to assess the diet quality of children aged 1.5 – 10 years in the UK.

An overall DQI score is calculated on the basis of nutritional intake in comparison to the recommended level of key nutrients which vary depending on age group (1.5 – 3 years; 4 – 6 years; and 7 – 10 years) where necessary. Nutrients include non-milk extrinsic sugars (NMES),

[44] This is due to the increased amount of sugar present in juice/smoothies and the decreased amount of nutrients in beans/pulses in comparison to fruit and vegetables.

fibre, vitamin C, folate, calcium and iron. NMES is converted into a percentage score of kilocalories (kcals) consumed. For each nutritional component an intake range is provided on the basis of upper and lower recommended limits informed by UK nutritional guidelines and expert opinion. The scores range from 0 – 5 and scoring differs depending on the nutritional component. The range and scores of each nutrient component for 1.5 – 10 years as presented by Simon and colleagues (2012) can be found in table 3.5. The score is then converted into a DQI percentage score (0 – 100%). A higher DQI percentage score is indicative of a healthier diet and means a greater proportion of their dietary intake is meeting UK nutrition recommendations for their age and sex.

The DQI was developed and extended to include 11 – 16 year olds for the purpose of this doctoral study. The same method was used to determine the cut-off points for this age group, using relevant UK dietary guidelines (Department of Health, 1991) and expert opinion, including from the original authors. For instance, both WHO (2015) and SACN (2015) advise that NMES intake should not exceed 10 per cent of daily energy and suggest a further reduction to below 5 per cent. The existing scoring for NMES is in-line with these recommendations and therefore remained the same for the 11 – 16 years age group. Saturated fat was also included as a nutrient component, as suggested by the previous authors. Unlike the other nutrient components fat is not restricted for children under the age of 11 years and therefore is not relevant to those age groups and only refers to young people aged 11 – 16 years. Similarly to NMES, saturated fat is converted into a percentage of kcals consumed. Unlike for children aged 1.5 – 10 years old, the reference nutrient intake (RNI) for calcium and iron differed not only by age group but also by sex. This was taken into account and different ranges and scores were designated for girls and boys. In the case of vitamin C, the RNI differed by age for young people aged 11 – 14 years and 15 – 18 years. This was again taken into account. Therefore two additional age groups were derived; 11 – 14 years and 15 – 16 years. Table 3.6 shows the nutrient component ranges and scores for young people aged 11 – 16 years, disaggregated by sex and age group.

Table 3.5 DQI nutrient component ranges and scoring for children aged 1.5 – 10 years old (Simon et al., 2012)

	1.5 – 3 years		4 – 6 years		7 – 10 years	
	Range	**Score**	**Range**	**Score**	**Range**	**Score**
NMES as % of energy	< 8	5				
	8 - 10	4				
	10 - 14	3				
	14 - 18	2				
	18 - 22	1				
	> 22	0				
Vitamin C (mg)	< 30	0				
	30 - 50	2				
	50 - 70	4				
	> 70	5				
Fibre (g)	< 4	0	< 6	0	< 6	0
	4 - 6	1	6 - 8	1	6 - 8	1
	6 - 8	2	8 - 10	2	8 - 10	2
	8 - 10	3	10 - 12	3	10 - 12	3
	10 - 12	4	12 - 14	4	12 - 14	4
	> 12	5	> 14	5	> 14	5
Folate (µg)	< 70	0	< 100	0	< 150	0
	70 - 120	2	100 - 150	2	150 - 200	2
	120 - 170	4	150 - 200	4	200 - 250	4
	> 170	5	> 200	5	> 250	5
Calcium (mg)	< 350	0	< 450	0	< 550	0
	350 - 600	1	450 - 600	1	550 - 700	1
	600 - 800	2	600 - 800	2	700 - 900	2
	800 - 1000	4	800 - 1000	4	900 - 1100	4
	> 1000	5	> 1000	5	> 1100	5
Iron (mg)	< 5	0	< 5	0	< 6	0
	5 - 6	1	5 - 6	1	6 - 7	1
	6 - 7	2	6 - 7	2	7 - 8	2
	7 - 8	4	7 - 9	4	8 - 9	3
	> 8	5	> 9	5	9 - 11	4
					> 11	5

Where nutrient consumption ranges and scoring **does not differ** by age group then the range and score has only been presented in the 1.5 – 3 years age group column. Where ranges and scoring **does differ** then this is presented in the relevant age group columns and refers only to that age group.

Table 3.6 DQI nutrient component ranges and scoring for young people aged 11 – 16 years old

	Girls				Boys			
	11 – 14 years		15 – 16 years		11 – 14 years		15 – 16 years	
	Range	Score	Range	Score	Range	Score	Range	Score
NMES as % of energy	< 8	5						
	8 - 10	4						
	10 - 14	3						
	14 - 18	2						
	18 - 22	1						
	> 22	0						
Saturated Fat as % of energy	< 10	5						
	10 - 12	4						
	12 - 14	3						
	14 - 16	2						
	16 - 18	1						
	> 18	0						
Vitamin C (mg)	< 35	0	< 40	0				
	35 - 50	2	40 - 50	2				
	50 - 70	4	50 - 70	4				
	> 70	5	> 70	5				
Fibre (g)	< 7	0						
	7 - 9	1						
	9 - 11	2						
	11 - 13	3						
	13 - 15	4						
	> 15	5						
Folate (µg)	< 200	0						
	200 - 250	2						
	250 - 300	4						
	> 300	5						
Calcium (mg)	< 500	0			< 800	0		
	500 - 700	1			800 - 1000	1		
	700 - 900	2			1000 - 1200	2		
	900 - 1100	4			1200 - 1400	4		
	> 1100	5			> 1400	5		
Iron (mg)	< 12	0			< 8	0		
	12 - 13	1			8 - 9	1		
	13 - 14	2			9 - 10	2		
	14 - 15	3			10 - 11	3		
	15 - 16	4			11 - 12	4		
	> 16	5			> 12	5		

Where nutrient ranges and scoring **does not differ by age or sex** then this is presented in the 'girls' 11 – 14 years column. Where nutrient ranges and scoring **does not differ by sex but differs by age**, then this is presented in the 'girls' column for each age group and vice versa. Where ranges and scoring **does differ by age and sex** then this is presented in the relevant age/sex columns and refers only to that group.

Analysis of the Qualitative Data

The qualitative data analysed include in-depth semi-structured interviews, EHQ, PEI and kitchen tours of higher and lower-income young people and a parent. Analysis includes a total of 42 young people from 36 families. Six young people are from higher-income families and 36 from lower-income families.[45] Qualitative cases of lower-income young people have been subjected to secondary analysis as part of the FFHT study. Not all young people and their families participated in all aspects of the qualitative methodology, as illustrated in table 3.7. The qualitative analysis chapters (chapters 5 and 6) that follow detail if and which cases have been excluded from each chapter's analysis.

Table 3.7 Summary of the qualitative data collected

Method of Data Collection	Total Completed
Higher Income Families (n=6)	
In-depth Semi-structured Interviews with the young person	6
In-depth Semi-structured Interviews with the parent	6
Eating Habits Questionnaire	6
Photo-elicitation Interview	6
Kitchen Tour	6
Lower Income Families (n=30)	
In-depth Semi-structured Interviews with the young person	36
In-depth Semi-structured Interviews with the parent	30
Eating Habits Questionnaire	33
Photo-elicitation Interview	9
Kitchen Tour	9

The following sections describe how the qualitative data were analysed, starting with a description of the methods used to derive the household income and social class of families, followed by a discussion about the use of a case-study approach. Lastly, it describes how the diet quality of young people from the qualitative data was assessed.

Deriving Equivalised Household Income and Social Class in the Qualitative Cases

The interviews with parents (both in this doctoral study and the FFHT study) included a qualitative interview questionnaire (Appendix 3), completed by the interviewer. From the questionnaire, parents were first asked about the family circumstances such as how many family members lived in the home, their ages and sex, education and qualifications and about their paid employment (e.g. typical hours and job role). This was then followed by questions about the household's

[45] In six lower-income families, two young people were interviewed and both are included in the qualitative analysis.

income sources and how much was received on a weekly or monthly basis after tax deductions (referred to as disposable income).[46] They were then asked about household expenditure including housing costs, bills and utilities, food (including takeaways) and anything else they considered an expense (e.g. mobile phones, insurance).

Disposable incomes were then equivalised after housing costs (AHC). Equivalisation was achieved using the same method as the HBAI analysis of UK income distribution, which calculates AHC equivalisation on the basis of the OECD 'Companion' scale (DWP, 2019b). First, each household is given a weighting on the basis of the number of household members and their ages as illustrated in table 3.8. Housing costs (i.e. rent or mortgage payments) are then deducted from total household disposable income. Where a range was given for disposable income, the mid-point of this range was taken, for example £4,500 for a range of £4,000 to £5,000. The total disposable income AHC is then divided by the weighting to calculate the total equivalised household income AHC. So, for example, a household with two adults and two children below the age of 14 years would have a weighting of 1.4, calculated as follows: 0.58 + 0.42 + 0.2 + 0.2 = 1.4. A disposable income of £3,000 and housing costs of £1,000 per month, means they have a disposable income of £2,000 AHC per month. Dividing £2,000 by the weighting of 1.4 calculates a total equivalised household income AHC of £1,429 per month. The same calculation was conducted for both higher and lower-income families.

Table 3.8 OECD 'Companion' scale to calculate equivalised household income AHC.

First Adult	Second adult (Spouse/Partner)	Child (aged 14 years or higher)	Child (aged below 14 years)
0.58	0.42	0.42	0.2

The income decile for each family was also calculated to illustrate their incomes relative to the UK income distribution. This was calculated using the HBAI income distribution data available from the DWP. Each family's equivalised disposable income AHC was compared to the UK income decile ranges presented by the HBAI. For example, decile 10 (the highest income decile) includes households with incomes AHC of £880 or more per week. Equivalised household income AHC for higher-income families were compared to the HBAI income distribution data for 2016/17 and lower-income families to the 2015/16 financial year to account for the differing periods of data collection (DWP, 2017, 2018).

Using this method of equivalisation to calculate household income means that households' incomes can be compared more reliably because it accounts for the differences in income that is required for households of varying sizes. Using AHC calculations also means that it accounts for the differing housing costs which can have a significant impact on the disposable income

[46] Income Sources: Earning from employment or self-employment; Pension from a former employer' State Pension; Child Benefit; Other Benefit; Interest from savings; Stocks and shares; Other regular allowances; Other sources (e.g. rent); or no source of income.

available. For instance, in this study one higher-income family have significantly higher housing costs in comparison to other higher-income families. Although they have a disposable income of £6,900 per month, their housing costs are £4,500 per month, meaning they have a significantly reduced disposable income relative to other higher-income families AHC.

The same method used to classify social class in the NDNS (described earlier in this chapter) was used for the qualitative cases. Using the parent qualitative questionnaire described earlier, parents' occupations were classified into one of five occupational groups using NS-SEC Standard Occupational Classification 2010 unit groups: analytic classes: Higher managerial, administrative and professional occupations; intermediate occupations; small employers and own account workers; lower supervisory and technical occupations; and semi-routine and routine occupations.[47] Those who have never worked or long-term unemployed are classified as such. The equivalised household income AHC, income decile and social class of both higher and lower-income families are included in Appendix 10, which summarises all the cases of young people included in this study.

A Case Approach

A case-study approach is useful for exploring 'how', 'what' and 'why' questions and is valuable when seeking 'to obtain an in-depth appreciation of an issue, event or phenomenon of interest, in its natural real-life context' (Crowe et al., 2011, p. 1). In this study, I have sought to examine a set of cases of young people from high and low income households with a focus on their food and eating practices and experiences situated within the context of their families and their lived realities. Food and eating practices are both complex and embedded within our everyday lives.

There are of course limitations to such an approach. One of these is that the findings obtained cannot be generalised to the wider population (Brannen & Nilsen, 2011). However, Atkinson and Hammersley (2007) argue that extrapolation is possible by testing the typicality of the cases analysed in relation to other available studies or survey data. In addition, Gomm and colleagues (2000) suggest that with a systematic approach to sampling, using theoretical rationale for example, detailed descriptions of a small number of cases can still lead to theoretical insights. Hammersley and colleagues (2009) argue that there is a distinction between a case study analysis that 'is designed to describe the features of a particular set of cases or to explain what occurred in those cases, on the one hand, and research that is concerned with developing and testing theories, on the other' (2009, p. 250). In this study, the purpose was to describe and compare these cases and thereby contribute to the existing literature relevant to the influence of income on young people's food and eating practices.

Each case was first summarised using a case summary template developed from an FFHT template (Appendix 9). The framework was separated into the main topics of interest: Family

[47] Available at the following ONS link: https://www.ons.gov.uk/methodology/classificationsandstandards/otherclassifications/thenationalstatisticssocioeconomicclassificationnssecrebasedonsoc2010

demographics; food at home; routine change; food at school; food to and from school; food not at home or school; resources; diet and health; ethical and sustainable foods; social responsibility; future; and other. Each of these topics were then further portioned into key issues and questions included in the interviews. For instance, the 'Diet and Health' section includes the key questions 'What is a good diet?' and 'Do they think they have a good diet?'. The summaries comprised of the qualitative data from interview transcripts, fieldnotes and visual methods data. Quotes from the transcripts and images (where possible) were referenced throughout the case summary. For instance, where transcript data referred to a young person's favourite meal or 'typical' evening meal that was also referred to in the PEI or photographs, these were cross-referenced in the case summary with a short quote (or transcript page number) and the relevant photograph ID.

The case summary framework was adapted to include those aspects of the interviews that were asked in the interviews with higher-income families as discussed earlier in section 3.4: Data Collection. The lower-income cases were secondary analysed for the purpose of this doctoral study. Being linked to the FFHT study meant that I had the benefit of discussing the cases with the original interviewers in order to seek clarifications or further contextual data. My FFHT colleagues also have a detailed knowledge about the fieldwork borough that I did not have prior to this study. Again, this proved invaluable in understanding and analysing all of the cases.

Not all cases are presented in the analysis chapters, nor were all cases selected for comparison. Cases that were selected for presentation in the thesis analysis were selected primarily on the basis of two criteria: the typicality of the case (as best as possible) and the contribution the case would make to the understanding of young people's food and eating practices. I also took a pragmatic approach, selecting cases for analysis in each chapter on the basis of the completeness of the data available and its relevance to the analysis being conducted.

Before cases were selected, all of the qualitative data were examined, including interview transcripts, case summaries, fieldnotes and, where possible, photographs. This was to ensure familiarity with the data before analyses. All of the qualitative data were then condensed into two separate spreadsheets to provide an overview, one relevant to the analysis in chapter five (food and eating at home) and the other relevant to the analysis in chapter six (food and eating at school). In addition, throughout analyses, the original data (e.g. transcripts) were also referred to alongside these spreadsheets. Although the summaries were separated by topic of interest, I utilised an inductive approach when analysing the data, looking for patterns in the data whilst being guided by my research questions. Figure 3.2 illustrates this process and highlights that the original qualitative data were constantly referred back to throughout the analyses.

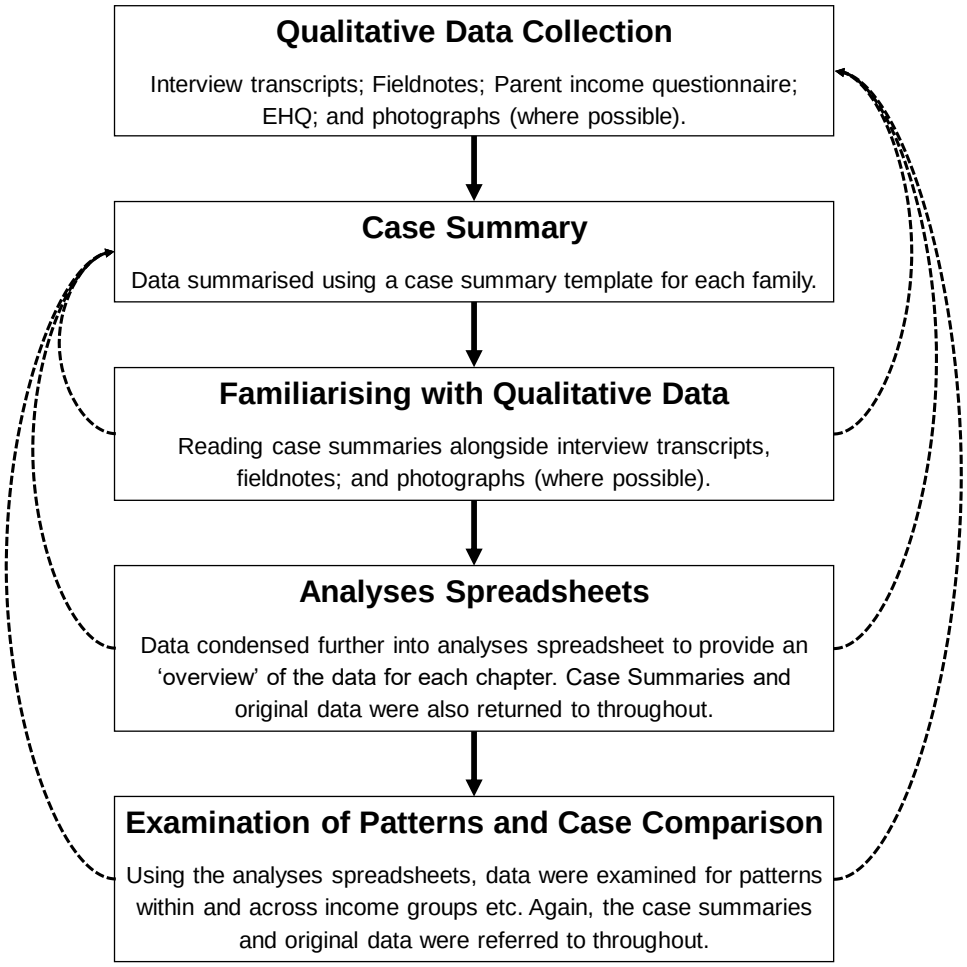

Figure 3.2 *Illustration of the qualitative data analysis.*

Specifically for the analysis presented in chapter five, the diet quality of each young person was first assessed and categorised as 'good', 'mixed' or 'poor' diet quality (as described in the next section). The cases were then examined for similarities and differences within each diet quality category. Cases were then selected as outlined earlier. For example, the case of Sally was selected as a lower-income young person categorised as having a good quality diet. Sally is not typical of the lower-income young people in terms of the type of school she attends (a private school with a scholarship). However, she is typical in terms of her and her mother's food and eating practices at home, such as the types of meals Sally consumes and the access she has (or does not have) to snacks. Not only was Sally typical in this sense, but the data available for this case was also more complete in comparison to the other lower-income cases. The comparative higher-income case of Olivia was again selected based on the typicality in comparison to the other higher-income cases categorised as having a good quality diet. However, Olivia was also selected due to her family's food and eating practices in relation to her father's ethnicity. This was because it makes a significant contribution to the understanding of young people's food and eating practices, particularly given the lack of evidence in relation to ethnicity as discussed earlier in chapter two (Literature Review).

For the analysis presented in chapter six (food and eating at school), cases were first categorised on the basis of the school the young person attends. Two schools were then selected on the basis of the following: the available information about the school's lunchtime policies; at least one lower and one higher-income young person attends the school; and whether both school lunchtime policies differed in terms of their approaches. For example, of the two schools discussed in chapter six, one has compulsory school meals and the other does not. Both a lower and higher-income young person from each school were then selected as to the completeness of data about their typical school day and the contribution it would make to understanding young people's food and eating practices at school. For example, the case of Fahad was selected for two reasons. First, the other lower-income cases did not have as complete data as Fahad. Second, his family are lower-income but ineligible to receive FSM, which makes a significant contribution to the understanding of lower-income young people's food and eating practices at school and highlights some potential issues with his school's food practices (as discussed in chapter 6).

Using a comparative approach, in both chapters five and six, some of the cases were compared by income group (higher and lower income), as well as other dimensions relevant to the analysis such as age and sex. Appendix 10 summarises all the cases of young people included in this study.

Assessing the Diet Quality in the Qualitative Cases

Young people's diets were assessed and categorised into a loose typology of quality: 'good', 'mixed' or 'poor'. This was based on the interview accounts of both young people and their parents and other qualitative sources (O'Connell & Brannen, 2016), including:

- The food young people and their parent said they consumed in a typical day from semi-structured interviews, including breakfast, lunch, dinner, snacks and takeaways (42/42).
- EHQ completed by young people (39/42).
- Young people's photographs of the food they have eaten and PEI (15/42).
- Photographs and discussion from the kitchen tour (15/36).

An overall assessment of quality was made for each case. Most young people consumed sweets, biscuits or crisps as a snack, therefore this did not necessarily signify a poorer quality of diet. However, the frequency that young people consumed sweets, biscuits and crisps was taken into account alongside the variety of nutrients within the rest of their diet. Diets that are varied and balanced in terms of nutrients and high in fruit and vegetable consumption were assessed as 'good quality'; for example, a balanced diet consuming a variety of different fruit and vegetables more than once per day as a snack or as part of a main meal, consumption of beans, pulses and whole grains (such as wholemeal/brown bread) and limited takeaways or processed food and meat. Diets that have some variation in terms of nutrients with some fruit and vegetable consumption (once per day), but a higher frequency of takeaway and processed food consumption were assessed as 'mixed quality'. Diets that are less varied, with a lower frequency

of fruit and vegetable consumption and a higher dependency on takeaways and processed food were assessed as 'poor quality'.

Firstly, data from interviews and (where available) the PEI were used to create 'food menus' for each young person to represent the typical food they eat for main meals, snacks and takeaways. Table 3.9 presents examples of young people's food menus assessed as having a good, mixed or poor quality diet. Secondly, frequency of fruit and vegetable consumption from the EHQ was taken into account, with a higher frequency of consumption ('once per day' or 'every day or more') assessed as having a better quality of diet.[48] Fruit and vegetable frequency from the EHQ was also compared to young people and parent interviews to confirm and check for contradictions regarding fruit and vegetable consumption. Thirdly, for young people who participated in the PEI and parents in the kitchen tour, photographs and visual method interviews were assessed. In the case of the PEI with young people, this relied on the frequency of fruit and vegetables as well as the variety of foods present in the photographs and the PEI whereby young people described what food was in each photograph and whether this food was typical for them. Photographs and the interview from the kitchen tour was assessed in terms of the availability of fruit, vegetables and processed food and whether this was typical for the family and young person.

All of these 'meals' were taken into consideration when assessing overall diet quality. However, the evidence for some young people was more clear-cut than others. It is possible that some data, for example photographs of healthy meals, were unrepresentative of what they typically ate because they could be perceived by young people as more socially acceptable for a study interested in diet. This is despite protestations that neither I nor my colleagues are nutritionists. Where it was not clear which diet quality category a young person's eating practices belonged, this was discussed and agreed with FFHT study colleagues.

[48] This was not possible in all cases as some young people did not complete the EHQ and was therefore not taken into account for the assessment of their diet quality (n=3). In these cases, assessment relied on data from interviews, PEI and kitchen tours.

Table 3.9 An example of a 'food menu' from young people assessed as having a good, mixed and poor diet quality.

	Good Quality Diet	Mixed Quality Diet	Poor Quality Diet
EHQ Frequency of Fruit	Every day, more than once per day.	5 – 6 days per week.	2 – 4 days per week.
EHQ Frequency of Vegetables	Every day, more than once per day.	Once every day.	Less than once per week.
Breakfast	Shredded Wheat or Weetabix with yoghurt, nuts, seeds and fruit; and pancakes with fruit.	Coco pops.	Cereal. Full English breakfast on weekends.
School Break	Smoked salmon and crème cheese bagel; pizza slice; bacon and cheese muffin; sausage roll; and fruit.	N/a.	Waffles.
School Lunch	Fish, chips and peas; and pasta with tomato sauce and cheese.	Nutella sandwich, brunch bar and fruit.	Hot meals: Sausages; meatballs; chicken curry; cake.
Evening Meal	Vegetarian lasagne; chilli garlic prawns; aubergine and vegetable pasta; lentil curry; homemade pizza; homemade fajita wraps; tuna steak with soy, ginger and rice; and teriyaki salmon.	Pasta with salt, lemon or ketchup; curry with vegetables; shepherd's pie; lasagne; salads; chicken dumplings; rice; chapattis; samosas.	Yam and egg; Jollof rice with chicken; plantain and stewed beans; Bolognaise pasta; chips.
Snacks	Fruit; yoghurt; muesli bar; nuts and seeds; seaweed slices; Jaffa cakes; crisps; cakes; and sweets.	Cucumber salad with yoghurt; satsumas; tangerines; toast; biscuits; bunch bar; crisps.	Pizza; burger; sweets; biscuits; and chocolate.
Takeaways	None.	Chips.	Chicken and chips.

3.7 Integrating Quantitative and Qualitative Data Analysis

Typically, quantitative and qualitative data collection would occur concurrently when using a 'convergent' design. However, the quantitative analysis was conducted during the qualitative data collection phase because there was no quantitative data to collect, given that the NDNS dataset has already been collected and was only available to me for secondary analysis.

During the interpretation stage of this study I have loosely utilised what O'Cathain and colleagues (2010) define as 'triangulation' as a technique for integrating the different data:

> '[Triangulation] require[s] researchers to list the findings from each component of a study on the same page and consider where findings from each method agree (convergence), offer complementary information on the same issue (complementarity), or appear to contradict each other (discrepancy or dissonance).' (O'Cathain et al., 2010, p. 1147).

This technique is applied after the analysis and during the interpretation phase. It was hoped that in applying a similar technique I could bring together the findings from the different methods in a more holistic manner, rather than as individual pieces of analysis within the same study. However, it cannot be assumed that during analysis that the methods will easily come together: 'data collected from different methods cannot be simply added together to produce a unitary or rounded reality' (Brannen, 2005b, p. 176). Brannen (2005b) suggests that there are four outcomes when combining quantitative and qualitative data: corroboration; elaboration; complementarity; and contradiction. To bring the different methods together as best as possible, I devised a table with three headings; young people's dietary intake and income; other influences of young people's dietary intake; and school food practices. A summary of the key quantitative and qualitative findings were then listed under the relevant headings alongside each other. These findings were then compared and it was noted as to whether there was: corroboration; elaboration; complementarity; and/or contradiction. Whilst interpreting and summarising the findings for this thesis in the final chapter, the summary table acted as a starting point from which to then return to the data presented in each of the data analyses chapters.

When I set out to analyse the data I did not have a predetermined outcome in mind. In some ways the different analyses have corroborated each other because the same or similar results have been obtained. In particular, this is in regard to the existence of an income trend in young people's diet quality in both the quantitative and qualitative analyses (addressed in chapters 4, 5 and 7). In other ways it has been complementary because the results combined have produced new insights. For example, the quantitative analysis did not find any relationship between ethnicity (white and non-white ethnic groups) and diet quality. However, the qualitative analysis suggests that customary cuisines and food practices linked to parental ethnicity are important for young people's diets. The analysis of quantitative and qualitative methods are discussed separately

within discreet chapters (chapters 4, 5 and 6), but combined within the final chapter (chapter 7) where I interpret the findings together.

Table 3.10 An illustration of the data integration table utilised during the interpretation phase.

Quantitative Data	Qualitative Data
Young People's Dietary Intake and Income	
Few young people meet recommendations for fruit and veg or nutrients.	Few young people categorised as having 'good' quality diets – Assessment of diet quality with food menus.
Diet quality increases with income; fruit and vegetable consumption and DQI percentage score.	Diet quality increases with income. But some lower-income young people also had good quality diets. No higher-income young people in poor diet quality. Low income leads to constraints and on food budget – economising on the quality as well as quantity of fresh fruit, vegetables and meat.
Some improvements in DQI over time, but income trends have persisted.	N/A.
Other Influences of Young People's Dietary Intake	
No sex differences for fruit and veg, but boys have better diet quality for DQI. Sex differences for DQI components: NMES, fibre, vitamin C, folate and calcium.	No obvious sex differences – except mother's stating how much their young boys eat; they eat a lot.
Differences in age for DQI. Younger children have better diets than young people.	Not possible to ascertain from qualitative, as no data from younger children. Although there did not appear to be any significant differences in the mean age of adolescents with good, mixed or poor diet quality.
Ethnicity not statistically significant.	Customary cuisines and food practices related to parental ethnicity important factor for some.
Fruit and Veg Associations: takeaways; income; availability; regularity of purchase; vegetarian/vegan; social class. DQI Associations: sex; income; regularity of purchase; availability; takeaways; mother's employment.	Parameters and established rules described by young people and parents. Mother's employment not significant here – most mothers were employed. Takeaways largely unaffordable for low income families. Restricted for those with 'good' diets.
School Food Practices	
No associations between school meal consumption and diet quality.	Not assessed in qualitative.
Affordability not assessed in quantitative analysis.	Affordability of school meals important for lower-income young people. Many not eligible for FSM, despite low income. Money made a difference.

Chapter Four: Young people's diet quality. Secondary analysis of the National Diet and Nutrition Survey

This chapter outlines the secondary quantitative analysis of the dietary intake and diet quality of young people aged 11 – 16 years from the National Diet and Nutrition Survey (NDNS; NatCen Social Research & MRC Elsie Widdowson Laboratory, 2019) waves 1 – 6 (2008/09 – 2013/14) by examining the nutrition data from respondents' four-day food diaries. Two outcome variables are assessed in this chapter: (1) mean daily fruit and vegetable portion consumption; and (2) a Diet Quality Index (DQI) percentage score.[49] Chapter three (section 3.6) outlines the outcome and explanatory factors that were selected from the NDNS dataset for this analysis and the reasons why they have been selected. A summary with definitions of these factors are also presented in table 3.4 of chapter three (section 3.6). The analyses presented in this chapter will address the first research questions: (1) To what extent do young people's diets vary by income and other factors? To what extent is family income related to the dietary intake and food and eating practices of young people? What other factors (e.g. age, sex, and ethnicity) also appear to be related to young people's dietary intake?

The chapter begins by describing the sample of young people from the NDNS dataset, including: income, demographic and household characteristics; household food purchasing practices; and young people's other food and eating practices related to dietary intake. The chapter then moves to examine the two outcome variables: (1) mean daily fruit and vegetable portion consumption; and (2) DQI percentage score. The analysis of daily fruit and vegetable portion consumption is presented first, followed by DQI percentage score. The analyses presented for each outcome variable are as follows. First, the outcome variable is described in relation to household income decile, the young person's sex and I present analyses showing trends over-time. Additional analysis of age differences are carried out for the DQI percentage score. For each outcome variable, two regression analyses are then carried out to assess the associations with: (1) income and other factors; and (2) school meal consumption. Further analysis of the sex differences between girls' and boys' DQI percentage score are also presented. The chapter ends by discussing the findings in relation to existing literature.

4.1 Sample Description of NDNS Waves 1 – 6 (2008/09 – 2013/14)

This section details the descriptive analyses of young people aged 11 – 16 years in the NDNS in relation to household income (waves 1 – 6; n=1,296).[50] On the basis of existing literature and the availability of relevant measures within the NDNS dataset, explanatory factors were selected for

[49] Four-day food diaries are completed by proxy for 1.5 – 12 year olds. The diaries are self-report for 13 – 16 year olds.
[50] Only households with a young person that completed all aspects of the NDNS were included; completion of NDNS questionnaires and at least three days of the four-day food diary. See chapter 3, section 3.4.

analysis to assess their association with young people's dietary intake. This section presents the mean equivalised household income of the sample by income decile. It then describes the young people in this sample (age, sex and ethnicity) and their household characteristics (whether dual or lone parent, housing tenure, mother's paid employment and social class) stratified by income decile. This is followed by a description of the household food purchasing practices. Last, this section ends by describing the food and eating practices of young people, related to but not including their dietary intake and diet quality (discussed in chapter 3, section 3.6).

As noted in chapter three, the analysis of the NDNS in this doctoral study was not representative of the population of 11 – 16 year olds in the UK.[51] However, where possible, comparisons with other largescale datasets have been made. Using Mann-Whitney and Kruskal-Wallis H tests, median equivalised household income was tested for significant differences across explanatory factors where relevant in this section. *P* values < 0.05 are considered statistically significant.

Young People's Household Income, Demographics and Household Characteristics

Figure 4.1 presents the mean equivalised household income (£) by income decile for young people aged 11 – 16 years in the combined dataset (n=1,296; waves 1 – 6). Mean equivalised household income ranges from £5,460 in decile 1 to £65,126 in decile 10. This is an income ratio of 11.9, meaning households in the richest 10% have on average 11.9 times more income than those in the poorest 10% of the sample. Overall, equivalised household income ranges from £1,055 to £90,000 per annum, with a mean of £25,028 (S.D. 16,759) and a median of £20,348.

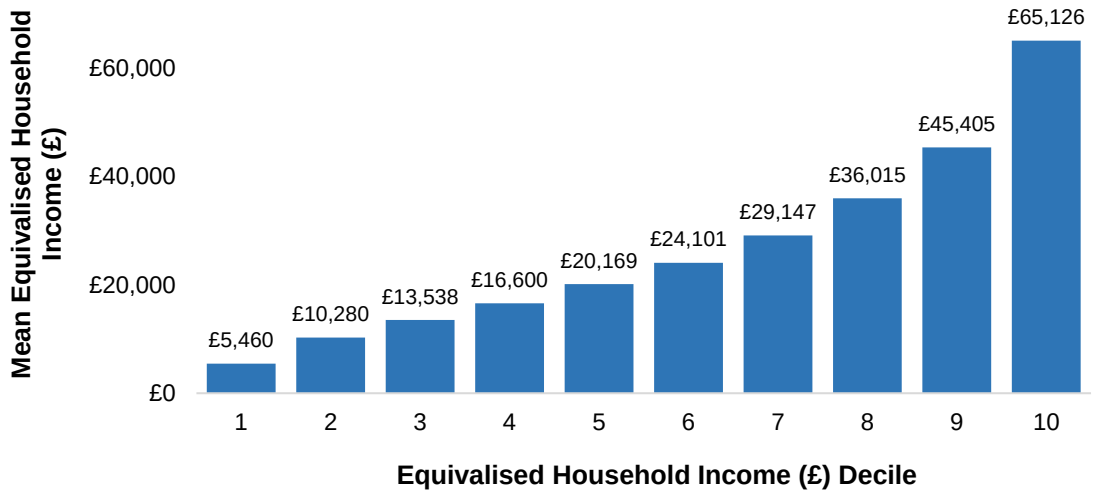

Figure 4.1 *Mean equivalised household income (£) of young people aged 11 - 16 years by income decile from NDNS waves 1 - 6 (2008/09 - 2013/14).*

[51] No weighting has been applied to the dataset: see chapter 3, section 3.6 for further details.

Equivalised household income, demographics and household characteristics are presented in table 4.1 and stratified by income decile. The mean age of young people is 13.6 years (S.D. 1.7) and 50.8% are female (n=658). Of all the young people, 92.1% are ethnically white. There is a statistically significant difference in median equivalised household income for ethnicity ($p < .001$). Decile 2 has the lowest proportion of young people of white ethnicity and decile 8 has the highest proportion (86.1% and 96.7% respectively).

There is also a statistically significant difference in median equivalised household income for the following explanatory factors: sex of the main food provider (MFP), dual/lone parent status, mother's employment, housing tenure and social class (all: $p < .001$). For the majority of young people, the MFP in their household is the mother (89.4%).[52] There is a higher proportion of female MFPs in lower-income than in higher-income households, ranging from 78.3% in decile 7 to 95.7% in decile 4. The majority of young people (74.0%) live in a dual parent household.[53] There is a higher proportion of higher-income dual parent households than lower-income dual parent households (decile 1: 48.3% and decile 10: 94.9%). In the UK, the ONS (2019a) states that 85.1% of families are dual-parent. The majority of mothers in the NDNS sample are employed (full or part-time; 74.8%), in comparison to 25.2% who are unemployed or have never-worked.[54] The proportion of young people with mothers in employment ranges from 49.0% in decile 1 to 94.7% in decile 9, with higher proportions in the highest income deciles than in lower income deciles. In the UK, 75.1% of mothers with a dependent child are in paid work (ONS, 2019b).

The majority of young people live in households that own their home outright or with a mortgage (69.7%) in comparison to renting privately (10.7%) or renting social housing (19.6%). The proportion of households that own their home increases by income decile (decile 1: 35.4% and decile 10: 93.9%). Latest figures from the UK Labour Force Survey (LFS; Barton, 2017) state that 64% of UK households are owner-occupier, 17% are privately rented and 17% are socially rented. The largest proportion of households in the NDNS (44.0%) are in the higher social class category: higher managerial, administrative and professional occupations (class 1). This is in comparison to intermediate (class 2: 9.6%), small employers and account workers (class 3: 11.0%), lower supervisory and technical (class 4: 10.0%) and semi-routine and routine occupations (class 5: 25.4%). The proportion of households in the highest social class category (higher managerial) increases with income decile (decile 1: 9.1% and decile 10: 71.7%). The reverse is true for households in the lowest social class category (semi-routine and routine; decile 1: 53.0% and decile 10: 6.9%). Analysis of the LFS (Savage et al., 2015) show that earners in 'higher managerial, lower managerial and professional' occupations have higher average incomes and are more likely to have an income in the top 20 per cent in the UK when compared to earners in 'intermediate, lower supervisory' and 'semi-routine or routine' occupations.

[52] The MFP is defined as the person who does the majority of cooking and food purchasing in the household.
[53] A lone-parent household (as opposed to dual parent) did not necessarily mean the MFP is single and not in a relationship, only that a partner does not live in the same household.
[54] Unemployed is classified as those not in paid employment at the time of the survey, including those in full-time education who do not also have paid employment. However it is not clear whether the respondent was seeking employment or not.

Table 4.1: Characteristics and household composition of young people aged 11 – 16 years stratified by income decile from NDNS waves 1 - 6 (2008/09 – 2013/14; n=1,296)[1]

	All	**Decile 1** (n=147)	**Decile 2** (n=144)	**Decile 3** (n=147)	**Decile 4** (n=116)	**Decile 5** (n=141)	**Decile 6** (n=130)	**Decile 7** (n=120)	**Decile 8** (n=20)	**Decile 9** (n=132)	**Decile 10** (n=99)
Equivalised Household Income (£) Range		£1,055 - £8,522	£8,536 - £11,824	£11,842 - £14,805	£14,900 - £18,258	£18,292 - £21,930	£21,959 - £26,162	£26,209 - £31,666	£37,716 - £39,308	£40,584 - £50,872	£51,775 - £90,000
Young Person (11 – 16 years)											
Age (Mean, (S.D.))	13.6 (1.7)	13.7 (1.5)	13.3 (1.6)	13.8 (1.7)	13.8 (1.7)	13.4 (1.7)	13.5 (1.8)	13.8 (1.8)	13.8 (1.8)	13.4 (13.0)	13.8 (1.7)
Female	50.8	57.1	51.4	49.7	56.0	48.2	47.7	45.0	48.3	49.2	55.6
White Ethnicity*	92.1	87.8	86.1	91.2	91.4	91.5	96.2	94.2	96.7	95.5	91.9
Household											
MFP Mother*	89.4	93.2	92.4	93.9	95.7	91.5	87.7	78.3	88.3	82.6	87.9
Dual Parent*	74.0	48.3	67.4	55.8	62.1	70.9	77.7	88.3	91.7	95.5	94.9
Mother Employed* [2]	74.8	49.0	50.7	70.7	71.6	76.6	80.8	89.2	94.2	94.7	81.8
*Housing Tenure** [3]											
Own Outright/Mortgage	69.7	35.4	41.7	58.5	58.3	66.4	76.7	91.7	93.3	97.7	93.9
Rented Privately	10.7	21.8	19.4	12.9	11.3	12.2	12.4	3.3	2.5	1.5	5.1
Rented Social Housing	19.6	42.8	38.9	28.6	30.4	21.4	10.9	5.0	4.2	0.8	1.0
*Household's Social Class** [4]											
1: Higher Managerial	44.0	9.1	14.5	19.9	29.0	38.8	52.3	62.2	70.6	71.7	85.9
2: Intermediate	9.6	11.4	10.7	14.2	13.1	9.4	9.3	10.1	5.9	8.4	2.0
3: Small Employers	11.0	19.7	15.3	13.5	8.4	9.4	10.2	5.9	9.2	6.9	10.1
4: Lower Supervisory	10.0	6.8	9.1	17.7	13.1	9.4	10.2	13.4	10.1	6.1	2.0
5: Semi/Routine	25.4	53.0	50.4	34.7	36.4	33.0	18.0	8.4	4.2	6.9	0

[1] Represented as percentages, unless otherwise stated.
[2] Part-time or Full-time. Including those working whilst in education (n=4).
[3] Excluding 'Don't Know' (n=3).
[4] Excluding 'Never-worked or Long-term Unemployed' and those classified as 'other' (n=50). In accordance with NS-SEC five class version; Class 1: Higher Managerial, Administrative & Professional Occupations; Class 2: Intermediate Occupations; Class 3: Small Employers & Own Account Workers; Class 4: Lower Supervisory & Technical occupations; Class 5: Semi-Routine and Routine occupations.
* Statistically significant difference in median equivalised household income: $p < .05$

Household Food Purchasing Practices

Given that young people are largely restricted by the food available in the home, it is necessary to ascertain how household food purchasing practices influence young people's diets. In the NDNS, the MFP of each household was asked about household food purchasing practices. Due to the importance of fruit and vegetables in young people's diets and as a measure of dietary intake I included the following NDNS variables: How often do you buy fresh fruit and vegetables? How often do you usually have fresh fruit available in your home? I then focus on organic food purchasing: Do you ever buy any organic foods for your household? Would you like to purchase (more) organic food? Both higher and lower-income families report the desire to purchase 'ethical' food, such as organic food, but price is often reported as a reason for non-purchase (Beagan, Chapman, & Power, 2016; Dowler, 2008). Given that the influence of income is a focal point of this doctoral study, these practices have been included. A summary of this descriptive analysis stratified by equivalised household income decile is presented in table 4.2.[55]

There is a statistically significant difference in median equivalised household income for the following explanatory factors: the purchasing of fresh fruit and vegetables ($p = .011$) and the availability of fruit ($p < .001$). Few households report 'never' (0.7%) or 'sometimes' (11.0%) having fresh fruit available to consume in the home. The majority (88.3%) report that fresh fruit is available 'most of the time'. A lower proportion of lower income than higher income households report that fresh fruit is available most of the time (decile1: 75.5% decile 10: 92.0%). Most households report purchasing fruit and vegetables on a 'weekly' basis (48.8%) or '2 – 3 times per week' (43.4%). Only 4.0% do so 'less than weekly' and 3.8% 'once a day or more'. A higher proportion of lower income than higher income households purchase fruit and vegetables on a weekly basis (decile 1: 57.8% and decile 10: 39.4%). The reverse is true for purchasing 2 – 3 times per week (decile 1: 31.3% and decile 10: 54.1%).

There is also a statistically significant difference in median equivalised household income for organic food purchasing practices ($p < .001$) and affordability as a stated reason for non-purchase ($p = .027$), but not for the desire to purchase (more) organic produce. Almost half (44.7%) of all households report that they purchase organic food. A higher proportion of higher-income decile households say they purchase organic food (decile 9: 58.3% and decile 10: 73.8%) in comparison to lower-income decile households (decile 1: 35.0% and decile 2: 32.0%). For all households, regardless of whether they purchase organic food or not, 52.1% desire to purchase (more) organic food. However, 89.4% of these households stated affordability is a reason for non-purchase. Although households in all income deciles report that affordability is a reason for non-purchase, it was reported by a higher proportion of lower-income households than higher-income households (decile 1: 95.3% and decile 10: 82.2%). Similarly, Shashi and colleagues (2015) find that price is the main reason for non-purchase of organic produce.

[55] Some questions omitted from the wave 6 (2013/14) data collection period. See table 3.4 in chapter three, section 3.6.

Table 4.2: Food purchasing practices in the households of young people (aged 11 –16 year) stratified by income decile from NDNS waves 1 - 6 (2008/09 – 2013/14; n=1,296)[1]

	All	**Decile 1** (n=147)	**Decile 2** (n=144)	**Decile 3** (n=147)	**Decile 4** (n=116)	**Decile 5** (n=141)	**Decile 6** (n=130)	**Decile 7** (n=120)	**Decile 8** (n=120)	**Decile 9** (n=132)	**Decile 10** (n=99)
*Frequency Buying Fruit & Veg** [2]											
Less than weekly	4.0	3.4	4.2	4.8	5.2	7.1	4.6	2.5	3.3	3.8	0
Weekly	48.8	57.8	47.2	53.7	46.6	46.1	48.5	49.2	50.8	44.7	39.4
2 – 3 times a week	43.4	31.3	44.4	38.8	45.7	43.3	43.8	45.0	42.5	50.0	54.1
Once a day or more	3.8	7.5	4.2	2.7	2.6	3.5	3.1	3.3	3.3	1.5	6.1
*Availability of Fruit in the Home**											
Never	0.7	2.0	0.7	1.4	0.9	0.7	0	0	0	0.8	0
Sometimes	11.0	22.4	13.9	15.6	12.9	13.5	8.5	5.0	7.5	3.8	2.0
Most of the time	88.3	75.5	85.4	83.0	86.2	85.8	91.5	95.0	92.5	95.5	92.0
Buy Organic Food* [3]	44.7	35.0	32.0	43.2	37.6	36.9	44.0	44.6	51.4	58.3	73.8
More Organic Food[3] [4]	52.1	52.9	50.0	46.2	48.0	53.2	60.3	54.0	53.7	49.1	53.6
Affordability of Organic* [3] [6]	89.4	95.3	90.0	87.0	85.4	96.6	92.9	90.7	87.9	81.1	82.2

[1] Represented as percentages, unless otherwise stated.
[2] Excluding missing data (n=1).
[3] Excluding unavailable data from wave 6 (n=203).
[5] Excluding 'Don't Know' (n=10). Includes all households regardless of whether responded 'yes' or 'no' to 'buying organic food'.
[6] Excluding households responding 'No' or 'Don't know' to 'More organic food' (n=529).
* Statistically significant difference in median equivalised household income: $p < .05$

Young People's Other Related Food and Eating Practices

As the focus of this chapter is on young people's (aged 11 – 16 years) dietary intake and overall diet quality, NDNS measures of young people's other but related food and eating practices were also selected for analysis as explanatory variables, including the following: On average, how often do you eat meals out in a restaurant or café (e.g. more than a beverage or a bag of crisps)? On average, how often do you eat takeaway meals at home (e.g. more than a beverage or a bag of crisps)? Would you describe yourself as vegetarian or vegan? Food and eating practices related to school are also included: Are you entitled to free school meals (FSM) at lunchtime? Usually consumes a school meal at lunchtime. A descriptive summary of these food and eating practices stratified by income decile is presented in table 4.3.

There is a statistically significant difference in median equivalised household income for the following explanatory factors: frequency of eating meals out ($p < .001$) and having a vegetarian or vegan diet ($p = .002$), but not frequency of takeaway consumption at home. The proportion of young people who report eating a 'meal out' at a restaurant or café is as follows: 30.1% rarely or never; 49.3% 1 – 2 times per month; 17.9% 1 – 2 times per week; 1.4% 3 – 4 times per week; and 1.3% 5 or more times per week. The lowest income deciles have the highest proportion of young people who say they 'rarely or never' eat a meal out (decile 1: 54.5% and decile 2: 43.8%). In comparison, the highest income deciles have the lowest proportions of young people who say they 'rarely or never' eat a meal out (deciles 9 and 10: both 15.2%). A lower proportion of young people in the lowest income decile in comparison to the highest decile eat a meal out 1 – 2 times per month (decile 1: 43.5% and decile 10: 57.6%) and 1 – 2 times per week (decile 1: 12.2% and decile 10: 24.2%). The proportion of young people who report consuming a takeaway meal at home is as follows: 26.5% 'rarely or never'; 45.4% 1 – 2 times per month; 26.2% 1 – 2 times per week; 1.4% 3 – 4 times per week; and 0.4% 5 or more times per week.

Only 2.2% of young people say that they follow a vegetarian or vegan diet, ranging from 0% in deciles 1 and 5 to 4.5% in decile 9. The proportion of vegan or vegetarian diets is slightly higher in higher-income deciles (decile 8: 4.2%, decile 9: 4.5% and decile 10: 3.0%) than in lower-income deciles (decile 1: 0%, decile 2: 0.7% and decile 3: 2.7%). According to The Vegan Society (2019), in the UK, 10% of young people aged 8 – 16 years are vegetarian or vegan and almost half (44%) say they try to eat less meat, dairy and eggs.

There is a statistically significant difference in median equivalised household income for FSM eligibility ($p < .001$), but not school meal consumption. Only 13.2% of young people report that they are eligible for FSM. Unsurprisingly, given that FSM are an income-based means-tested benefit, the proportion of FSM eligibility decreases as household income increases. Decile 1 and 2 have the highest proportion of young people eligible for FSM (41.1% and 29.8% respectively) in comparison to deciles 9 and 10 (both 0%). Almost half (43.6%) of young people say that they 'usually' consume a meal provided by the school at lunchtime on a school day. Ranging from 36.5% in decile 6 to 54.1% in decile 10.

Table 4.3: Food and eating practices of young people aged 11 –16 years old stratified by income decile from NDNS waves 1 - 6 (2008/09 – 2013/14; n=1,296)[1]

	All	**Decile 1** (n=147)	**Decile 2** (n=144)	**Decile 3** (n=147)	**Decile 4** (n=116)	**Decile 5** (n=141)	**Decile 6** (n=130)	**Decile 7** (n=120)	**Decile 8** (n=120)	**Decile 9** (n=132)	**Decile 10** (n=99)
*Frequency Eating Meals Out**											
Rarely or never	30.1	41.5	43.8	27.9	34.5	33.3	33.1	22.5	27.5	15.2	15.2
1 – 2 times per month	49.3	43.5	40.3	46.3	41.4	46.1	48.5	55.8	51.7	65.9	57.6
1 – 2 times per week	17.9	12.2	14.6	21.8	21.6	17.7	15.4	18.3	19.2	16.7	24.2
3 – 4 times per week	1.4	1.4	1.4	2.0	0.9	2.1	0.8	0.8	1.7	1.5	1.0
5 or more times per week	1.3	1.4	0	2.0	1.7	0.7	2.3	2.5	0	0.8	2.0
Frequency Eating Takeaways											
Rarely or never	26.5	31.3	22.2	23.8	30.2	20.6	23.8	30.8	26.7	26.5	32.3
1 – 2 times per month	45.4	39.5	47.2	46.3	43.1	44.7	49.2	40.8	48.3	48.5	47.5
1 – 2 times per week	26.2	25.2	28.5	27.2	25.9	32.6	26.9	26.7	24.2	23.5	19.2
3 – 4 times per week	1.4	2.0	2.1	2.7	0	2.1	0	1.7	0	1.5	1.0
5 or more times per week	0.4	2.0	0	0	0.9	0	0	0	0.8	0	0
Vegetarian or Vegan* [2]	2.2	0	0.7	2.7	0.9	0	3.8	2.5	4.2	4.5	3.0
Free School Meal Entitlement* [3]	13.2	41.1	29.8	15.2	15.2	13.6	4.8	2.6	0.8	0	0
Usually consumes School Meal at Lunchtime[3]	43.6	49.6	46.8	48.3	42.0	40.0	36.5	40.9	36.9	42.4	54.1

[1] Represented as percentages, unless otherwise stated.
[2] Excluding missing data (n=1).
[3] Excluding young people not enrolled at school during the time of the survey (n=26).
* Statistically significant difference in median equivalised household income: $p < .05$

4.2 Fruit and Vegetable Portion Consumption

Dietary intake is a main outcome factor of this analysis. As an indicator of what is typically considered a healthy diet, daily fruit and vegetable portion consumption was analysed using a derived variable within the NDNS from the four-day food diary data; the average number of fruit and vegetable portions consumed per day in accordance with national '5-a-day' recommendations (NHS, 2019). The following section describes young people's mean daily fruit and vegetable portion consumption. First, the section details the proportion of young people achieving the 5-a-day recommendation. Then the section details the mean daily fruit and vegetable portions consumed by young people. Comparisons between income deciles, age groups and sex are made where possible, as well as consumption trends over-time. Finally, two hierarchical multiple regression analyses are presented of the associations between fruit and vegetable portion consumption and the following: (1) income and other factors; (2) school meal consumption.

Overall, only 7.7% of young people aged 11 – 16 years achieve the recommended five portions of fruit and vegetables on average per day. A higher proportion of girls (8.1%) achieve 5-a-day in comparison to boys (7.4%). A higher proportion of older young people consume five or more portions per day. Of young people aged 11 – 14 years, 6.8% achieve the 5-a-day recommendation, in comparison to 9.5% of young people aged 15 – 16 years. There is a statistically significant difference in median equivalised household income between young people who do and do not achieve the '5-a-day' recommendation ($p < .001$). The proportion of young people achieving the 5-a-day recommendation by equivalised household income decile is shown in figure 4.2. Only 1.4% of young people in income decile 1 achieve 5-a-day in comparison to 19.2% of young people in decile 10.

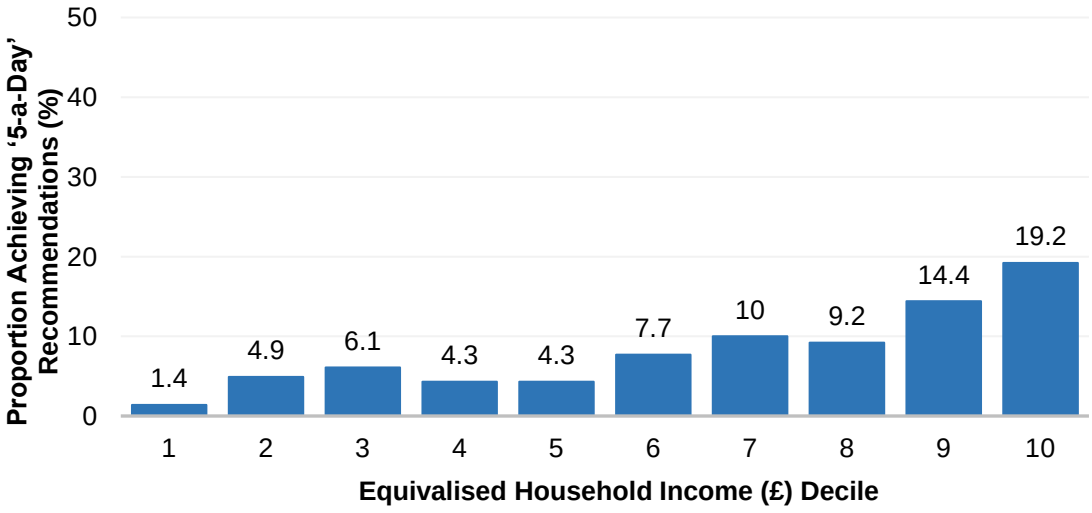

Figure 4.2 *Proportion of young people aged 11 - 16 years achieving the '5-a-day' fruit and vegetable portion recommendations by household income decile.*

The mean daily fruit and vegetable portions consumed by young people is 2.7 (S.D. 1.5), ranging from 0 – 10 portions. Young people aged 11 – 14 years consume slightly fewer portions on average (M 2.6, S.D. 1.5) than young people aged 15 – 16 years (M 2.8, S.D. 1.7). Figure 4.3 presents the mean daily portions consumed by equivalised household income decile for young people aged 11 – 16 years. Similarly to the proportion of young people achieving 5-a-day, as income decile increases so too does mean daily fruit and vegetable portion consumption. The lowest mean daily portions consumed is in decile 1 (M 2.2, S.D. 1.2) and decile 2 (M 2.2, S.D. 1.6), whereas the highest mean daily portions consumed is in decile 10 (M 3.6, S.D. 1.8). However, deciles 3 and 8 do not fit the overall trend. In decile 3, mean daily portion consumption is 2.6 (S.D. 1.4), higher than deciles 1 and 2, but also higher than decile 4 (M 2.4, S.D. 1.5). In addition, mean daily portion consumption for decile 8 is 2.7 (S.D. 1.6), lower than decile 7 (M 3.0, S.D. 1.4). If it were to follow the overall trend I would expect it to be higher.

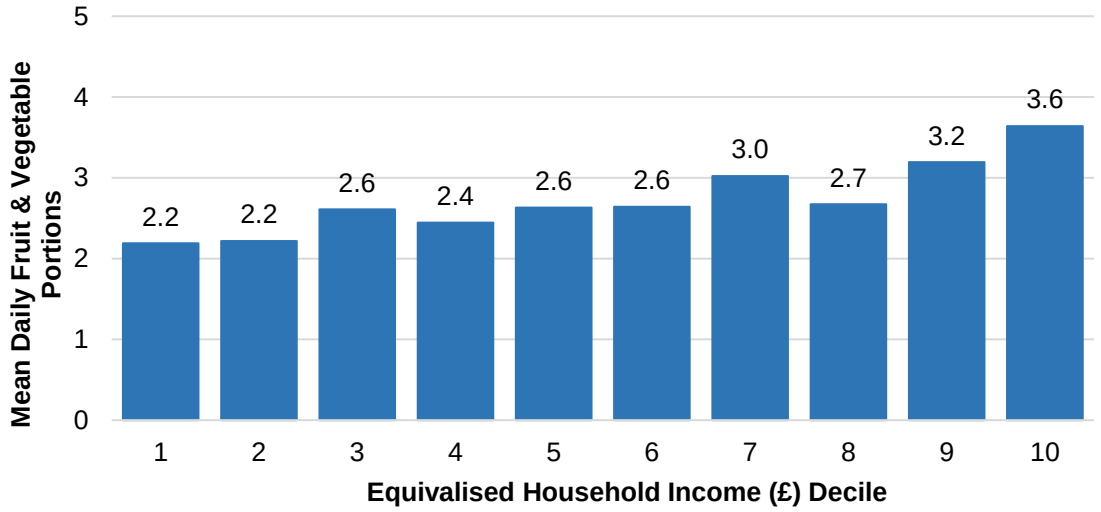

Figure 4.3 *Mean daily fruit and vegetable portion consumption of 11 - 16 year olds by household income decile.*

On average, girls (M 2.7, S.D. 1.6) and boys (M 2.7, S.D. 1.5) consume the same mean daily fruit and vegetable portions. The income decile trend between girls' and boys' mean daily portion consumption does not vary considerably, as presented in figure 4.4. For both girls and boys, as income increases, so too does mean daily fruit and vegetable portion consumption. There is minimal variation in decile 1 whereby girls consume 2.0 (S.D. 1.1) and boys consume 2.4 (S.D. 1.3) mean daily portions. In decile 10, girls (M 3.5, S.D. 1.7) consume marginally less mean daily portions than boys (M 3.8, S.D. 1.8).

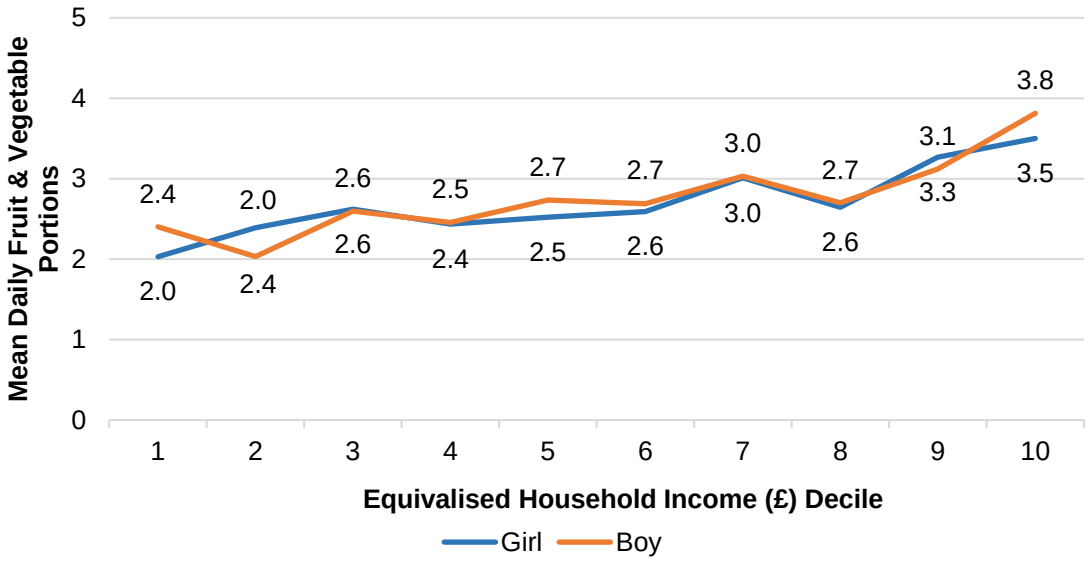

Figure 4.4 *Mean daily fruit and vegetable portion consumption of 11 - 16 year olds by household income decile and child's sex.*

Figure 4.5 shows young people's mean daily fruit and vegetable portion consumption over time, from survey year 1 (2008/09) to year 6 (2013/14). Surprisingly, given efforts by governments to encourage fruit and vegetable consumption, there is no statistically significant difference in mean daily portion consumption between survey years. The trend between mean daily portions and income decile by survey year is shown in figure 4.6. Across all six time points, young people's mean daily portion consumption increases as income decile increases; there has been little change in this income trend over time. However, there appears to be some differences within income deciles. For instance, in decile 10 (highest decile) mean daily portion consumption has increased over-time more so in comparison to other deciles. In decile 10 mean daily portion consumption is 3.1 (S.D. 1.9) in year 1 and 3.9 (S.D. 1.9) in year 6, whereas in decile 1 it is 2.0 (S.D. 0.9) in year 1 and 2.2 (S.D. 1.4) in year 6.

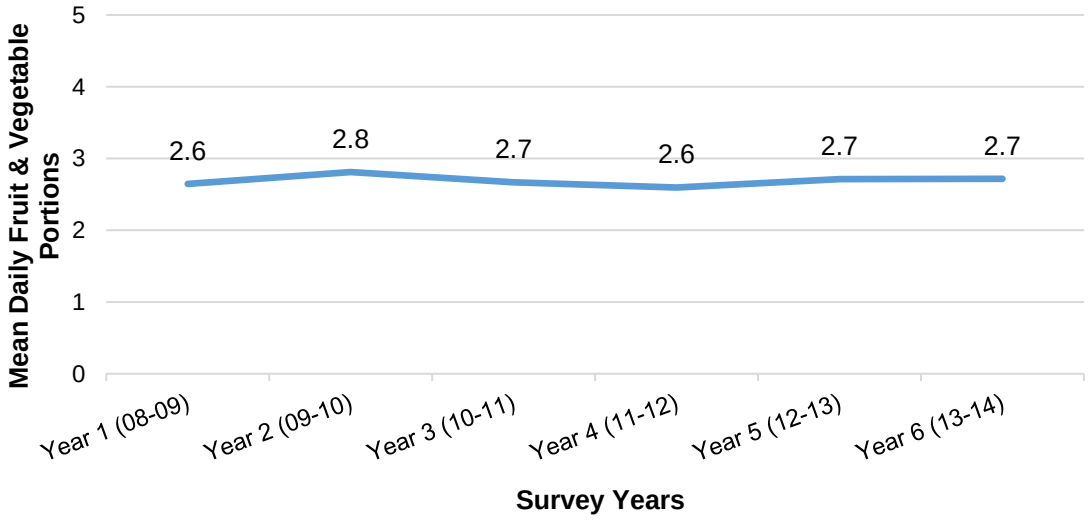

Figure 4.5 *Mean daily fruit and vegetable portion consumption of 11 - 16 year olds survey year.*

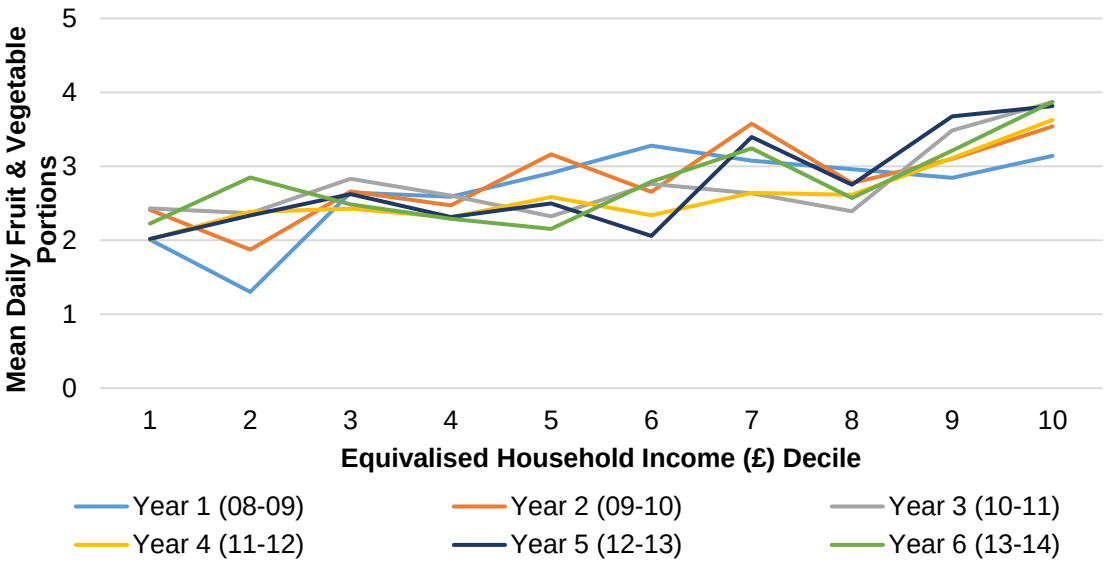

Figure 4.6 *Mean daily fruit and vegetable portion consumption of 11 - 16 year olds by household income decile and survey year.*

Association between Fruit and Vegetable Portion Consumption, Income and Other Factors

The previous section detailed the differences in fruit and vegetable portion consumption by income decile. In this section, I present a hierarchical multiple regression, conducted to examine what explanatory factors, including income decile, might be associated with young people's mean daily fruit and vegetable portion consumption. Hierarchical multiple regression was chosen for this analysis because it allows me to determine whether income (the main explanatory factor of interest) is associated with fruit and vegetable consumption, whilst controlling for other variables that may also be associated with fruit and vegetable consumption. For example demographic variables or household food purchasing practices that have been shown in the existing literature to be important to young people's diets.

The analysis was carried out in three stages. The first model controls for demographic variables including the child's sex, age and ethnicity and household characteristics including whether it is a dual parent household, housing tenure, mother's paid employment and the household's social class. This is to control for the influence of these factors before introducing the main explanatory factors of interest, including income. The second model introduces factors that can be considered important to our understanding young people's dietary intake including: regularity of buying fruit and vegetables in the home, the availability of fresh fruit at home, regularity of eating meals out, regularity of eating takeaways at home and whether the young person has a vegetarian or vegan diet. Lastly, the final model introduces the main explanatory factor of interest in this study, equivalised household income decile. These variables were selected on the basis of previous literature and availability within the NDNS dataset (see chapter 3, section 3.6).

Before conducting the regression analysis, diagnostic tests were run to ensure the data did not violate any assumptions. First, analysis of the collinearity statistics show that there is no multicollinearity; VIF scores were below a value of 2 and tolerance scores were above .2. Second, a Durbin-Watson statistic value close to 2 shows that the residuals are independent (DW = 1.897). Third, the variance of the residuals is constant, as the plot of standard residuals and standard predicted values suggest that the assumption of homoscedasticity is met. Fourth, the P-P plot suggests that the residuals are normally distributed. Fifth, all Cook's Distance values are below 1 suggesting that there are no individual cases influencing the regression model. *P* values <0.05 are considered statistically significant.

Table 4.4 presents the beta coefficients for the three regression models. Firstly, to control for the effects of young people's demographics (sex, age and ethnicity) and household characteristics (dual parent, housing tenure, mother's paid employment and the household's social class) these were entered into model 1. This model is statistically significant: F (7, 1234) = 9.034, p <.001. However, housing tenure (*b* = .359, p= .001) and social class (*b* = -.131, p <.001) are the only variables to make a significant contribution to the model. This model explains 4.9% of the variance in young people's mean daily fruit and vegetable portion consumption. Secondly, food related variables that are thought to explain young people's dietary intake were entered into model 2. This model is also statistically significant: F (5, 1229) = 13.802, p <.001. Housing tenure (*b* = .229, p = .039) and social class (*b* = -.109, p <.001) still make a significant contribution to the model. Four of the five food related variables also make a significant contribution to this model; regularity of buying fruit and vegetables (*b* = .286, p <.001); availability of fresh fruit (*b* = .506, p <.001); regularity of consuming takeaway meals (*b* = -.336, p <.001); and vegan/vegetarianism (*b* = 1.105, p <.001). These variables contribute an additional 7% to the total variance in mean daily fruit and vegetables portion consumption (total variance explained for model 2: 11.9%). Lastly, the main variable of interest, equivalised household income decile, was entered into model 3. This model is also statistically significant: F (1, 1228) = 14.511, p <.001. Income makes a significant contribution to the model (*b* = .084, p <.001), adding 1.4% to the total variance in mean daily fruit and vegetables portion consumption. With the addition of income, the total variance explained for the final model (model 3) is 13.3%. Of the demographic and household characteristic variables that are significant in model 1 only social class (*b* = -.058, p =.043) still makes a significant contribution to the final model. The four food related variables have also remained significant in model 3; regularity of buying fruit and vegetables (*b* = .290, p <.001); availability of fresh fruit (*b* = .479, p <.001); regularity of consuming takeaway meals (*b* = -.327, p <.001); and vegan/vegetarianism (*b* = 1.026, p <.001).

The regression analysis suggests that there are other factors not accounted for in this analysis that may be associated with young people's mean daily fruit and vegetable portion consumption, as 86.7% of the variance is unaccounted for in the final model (model 3). These factors might include access to transport, the cooking facilities available in the home or the type of food outlets available where they live. Although income is significant, it makes a small contribution to young

people's consumption of fruit and vegetables, particularly in comparison to the other food related variables included in the model. For example, availability of fresh fruit in the home has a positive influence on fruit and vegetable portion consumption, whereby the more often fresh fruit is available in the home the more portions young people consume. On average young people who live in households where fresh fruit is available 'sometimes' consume .479 portions more than young people who live in households where fresh fruit is 'never' available. And for young people who live in households where fresh fruit is available 'most of the time' they consume .958 portions more on average than 'never'. The regularity that young people's parents buy fruit and vegetables also appears to be an important factor. The more regularly fruit and vegetables are purchased the more portions of fruit and vegetables young people consume on average.

In contrast, the regularity of eating a takeaway at home has a negative impact on mean daily fruit and vegetable portion consumption, whereby the more often young people consume takeaways the less portions of fruit and vegetables they consume on average. The number of portions consumed decreases by .327 on average with each category, meaning that those who consume takeaways '5 or more times per week' consume 1.308 portions less on average than those who consume takeaways 'rarely or never'. If the young person is a vegan or a vegetarian has the largest impact on their fruit and vegetable portion consumption. On average young people who are vegan or vegetarian consume 1.026 more portions of fruit and vegetables than young people who do not have these types of diets. This could be due to an increase in vegetables, beans and pulses being used as a substitute for meat in meals. Social class had the least influence on young people's mean daily fruit and vegetable portion consumption in the model, even less so than income decile.

Finally, an examination of the β coefficients suggests that takeaway consumption (β = -.164) and income (β = .155) have the strongest relationship with fruit and vegetable portion consumption, followed by the regularity of purchasing fruit and vegetables (β = .120) and the availability of fresh fruit (β = .108). Whether the young people is a vegan/vegetarian (β = .099) and household social class (β = -.064) have the weakest relationship with young person's fruit and vegetable portion consumption. Overall, this analysis suggests that food purchasing practices, other related dietary practices and income are significant to young people's fruit and vegetable consumption.

Table 4.4: Hierarchical multiple regression of mean daily fruit and vegetable portion consumption (dependent) of 11 – 16 year olds for NDNS waves 1 – 6 (2008/09 – 2013/14; n=1,242).

	Model 1			**Model 2**			**Model 3**		
Predictor Variables	*b*	β	*p* value	*b*	β	*p* value	*b*	β	*p* value
Young Person's Sex (0 Girl, 1 Boy)	.061	.020	.479	.128	.042	.124	.117	.038	.159
Young Person's Age	.014	.015	.579	.012	.013	.636	.016	.017	.531
Young Person's Ethnicity (0 Non-white, 1 white)	.047	.008	.780	.167	.028	.303	.115	.019	.475
Dual Parent[1]	.033	.009	.762	-.051	-.014	.634	-.155	-.043	.151
Housing Tenure: Mortgage/Owner[1]	**.359**	**.105**	**.001**	**.229**	**.067**	**.039**	.136	.040	.225
Mother in Paid Employment[1]	.103	.028	.329	.096	.026	.345	.004	.001	.967
Household's Social Class[2]	**-.131**	**-.143**	**<.001**	**-.109**	**-.119**	**<.001**	**-.058**	**-.064**	**.043**
Regularity of Buying Fruit and Vegetables[3]				**.286**	**.118**	**<.001**	**.290**	**.120**	**<.001**
Availability of Fresh Fruit[4]				**.506**	**.114**	**<.001**	**.479**	**.108**	**<.001**
Regularity of Young Person Eating Meals Out[5]				.019	.010	.717	-.004	-.002	.946
Regularity of Young Person Eating Takeaways[5]				**-.336**	**-.168**	**<.001**	**-.327**	**-.164**	**<.001**
Young Person a Vegetarian or Vegan[1]				**1.105**	**.106**	**<.001**	**1.026**	**.099**	**<.001**
Equivalised Household Income Decile							**.084**	**.155**	**<.001**
F	9.034			13.802			14.511		
R^2	.049			.119			.133		
p value	**<.001**			**<.001**			**<.001**		

[1] 0: No; 1: Yes.
[2] 0: Higher Managerial and Professional; 1: Intermediate; 2: Small Employer's and Account Workers; 3: Lower Supervisory and Technical; 4: Semi-Routine and Routine.
[3] 0: Less than weekly; 1: Weekly; 2: 2 or 3 times per week; 3: Once a day or more.
[4] 0: Never; 1: Sometimes; 2: Most of the time.
[5] 0: Rarely or never; 1: 1-2 times per month; 2: 1-2 times per week; 3: 3-4 times per week; 4: 5 or more times per week.

Association between Fruit and Vegetable Portion Consumption and School Meal Consumption

Although evidence suggests that the improvements made to school food standards have benefited children and young people's diets at school (Adamson et al., 2013; Nelson, 2011; Nicholas et al., 2013), few studies have examined the nutritional benefits to overall diet quality. Therefore, hierarchical regression analysis was conducted to examine whether consumption of school meals at secondary school is associated with young people's mean daily fruit and vegetable portion consumption.[56] The regression analysis was carried out in two stages. The first model accounts for demographic variables including the child's sex, age, ethnicity and equivalised household income decile. This is to control for the influence of these factors before introducing the factor of interest. The second model includes the main factor of interest which is school meal consumption. A total of 1,163 young people are included in this analysis, of which 52.3% are girls, 92.1% are ethnically white and the mean age is 13.6 years (S.D. 1.6). Just under half of the young people reported that they typically consume a school meal at lunchtime (44.8%).

Before conducting the regression analysis, diagnostic tests were run to ensure the data did not violate any assumptions. First, analysis of the collinearity statistics show that there is no multicollinearity, VIF scores were below a value of 2 and tolerance scores were above .2. Second, a Durbin-Watson statistic value close to 2 shows that the residuals are independent; DW = 1.726. Third, the variance of the residuals is constant, as the plot of standard residuals and standard predicted values suggest that the assumption of homoscedasticity is met. Fourth, the P-P plot suggests that the residuals are normally distributed. Fifth, all Cook's Distance values are below 1 suggesting that there are no individual cases influenced the regression model. *P* values <0.05 are considered statistically significant.

The mean daily fruit and vegetable portions consumed by young people who typically consume a school meal (M 2.7, S.D. 1.5) in comparison to those who typically do not is the same (M 2.7, S.D. 1.6). Table 4.5 presents results of the regression examining the association between school meal consumption and mean daily fruit and vegetable portion consumption. Firstly, the control factors were entered; household equivalised income decile, sex, age and ethnicity. This model is statistically significant: F (4, 1158) = 17.760, p <.001. Only income decile makes a statistically significant contribution (*b* = .125, p <.001) and explains 5.8% of the total variance in young people's mean daily fruit and vegetable portion consumption. In model 2, the variable of interest was entered, consumption of school meals. This model is also statistically significant: F (1, 1157) = 14.201, p <.001. School meal consumption does not make a statistically significant contribution to the model (*b* = -.014, p = .872), but income decile remains significant (*b* = .125, p = <.001) and explains 5.8% of the total variance. This suggests that consumption of school meals at secondary school is not associated with young people's fruit and vegetable portion consumption when socioeconomic and demographic factors are controlled for.

[56] School meal consumption refers to young people who report 'usually' consuming either a hot or a cold meal provided by the school at lunchtime, as opposed to those who consume a meal not provided by the school (e.g. a packed lunch).

Table 4.5 Hierarchical multiple regression examining association between mean daily fruit and vegetable portion consumption and school meal consumption of 11 – 16 year olds attending secondary school for NDNS waves 1 – 6 (2008/09 – 2013/14; n=1,163).

	Model 1			**Model 2**		
Predictor Variables	*b*	β	*p* value	*b*	β	*p* value
Household Equivalised Income Decile[1]	**.125**	**.234**	**<.001**	**.125**	**.234**	**<.001**
Young Person's Sex[2]	.015	.005	.865	.016	.005	.857
Young Person's Age	.047	.048	.092	.046	.047	.102
Young Person's Ethnicity[3]	-.277	-.049	.089	-.278	-.049	.088
School Meal Consumption[4]				-.014	-.005	.872
Model F Statistic	17.760			14.201		
R^2	.058			.058		
p value	<.001			<.001		

[1] 1 Income Decile 1 (Lowest) through to 10 Income Decile 10 (highest)
[2] 0 Girl; 1 Boy
[3] 0 Non-white; 1 White
[4] 0 No; 1 Yes

4.3 Diet Quality Index

In addition to dietary intake (fruit and vegetable consumption), overall diet quality is also a main outcome factor of this analysis. The DQI (Simon et al., 2012) was specifically designed for secondary analysis of the four-day food diary nutrition data available in the NDNS. The index uses individual nutritional components to derive a total percentage score of overall diet quality, ranging from 0 to 100, with 0 being the lowest diet quality and 100 being the highest. A higher score is indicative of consumption of nutrients in-line with recommended intakes. A detailed description of the DQI can be found in chapter three, section 3.6. The following section details young people's DQI percentage score. Comparisons between income deciles, age groups and sex are made where possible, as well as diet quality trends over-time. Finally, two hierarchical multiple regression analyses are presented of the associations between DQI percentage score and the following: (1) income and other factors; (2) school meal consumption.

The mean DQI percentage score of young people aged 11 – 16 years is 46.4 (S.D. 18.8), ranging from 0 – 97.1. Similarly to mean daily fruit and vegetable portion consumption, as income decile increases mean DQI percentage score also increases (figure 4.7). Decile 1 (M 41.8, S.D. 18.2) and decile 2 (M 42.4, S.D. 18.8) have the lowest mean DQI percentage scores and decile 9 (M 50.6, S.D. 19.1) and decile 10 (M 52.2, S.D. 18.8) have the highest. However deciles 4, 6 and 8 do not fit the overall trend. The mean DQI percentage score for decile 4 is 43.6 (S.D. 17.9), lower than decile 3 (M 45.2, S.D. 18.0). The mean of decile 6 (M 46.6, S.D. 18.8) is lower than decile 5 (M 47.4, S.D. 18.6). Similarly, the mean of decile 8 (M 46.6, S.D. 19.1) is lower than decile 7 (M 50.2, S.D. 18.5). I would expect the mean for decile 4, 6 and 8 to be higher if it were to fit the overall trend, as with fruit and vegetable portion consumption in the previous section.

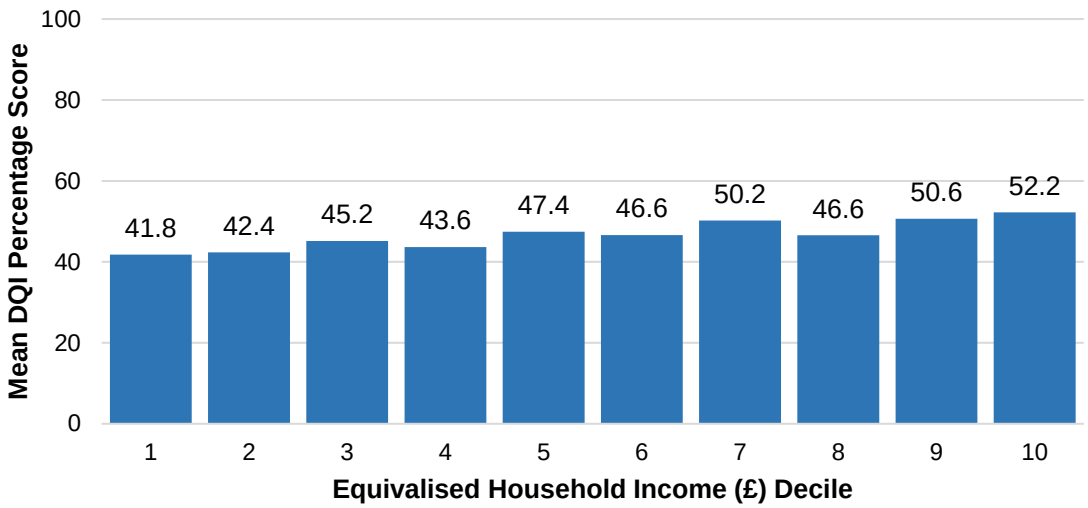

Figure 4.7 *Mean DQI percentage score of 11 - 16 year olds by household income decile.*

Girls on average have a lower DQI percentage score (M 41.0, S.D. 16.1) than boys (M 52.0, S.D. 19.7). As presented in figure 4.8, the trend between mean DQI percentage score and income decile for both girls and boys shows a steady increase from decile 1 to decile 10. It is clear that girls, on average, have lower DQI percentage scores than boys across all income deciles. In decile 1 for example the mean DQI percentage score for girls is 36.4 (S.D. 14.3) and 49.1 (S.D. 20.3) for boys. The difference between girls and boys is most evident in decile 10, where the mean DQI percentage score for girls is 45.7 (S.D. 16.0) and 60.5 (S.D. 19.0) for boys. Further analysis of the differences between girls' and boys' nutrient intake are presented later.

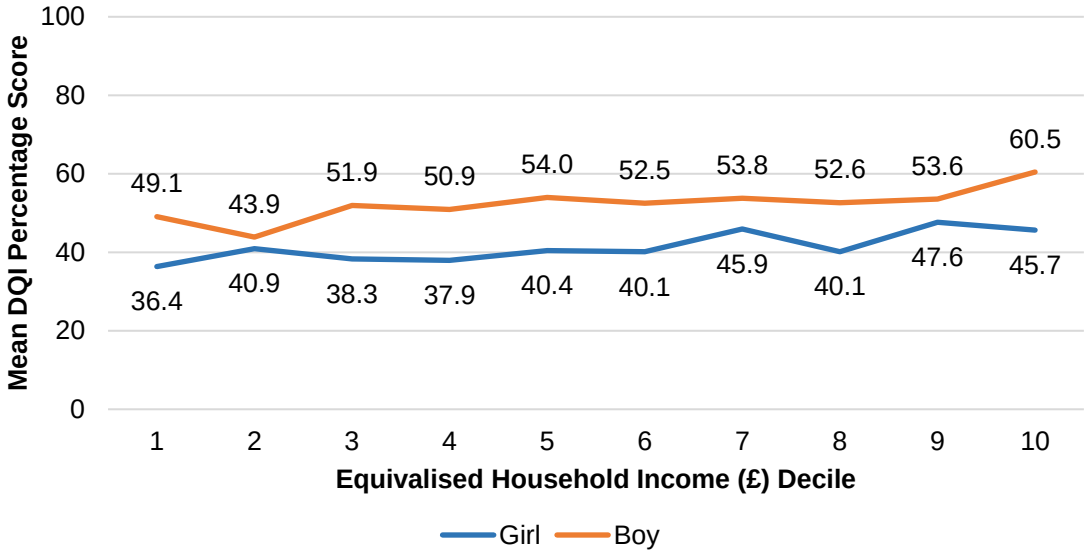

Figure 4.8 *Mean DQI percentage score of 11 - 16 year olds by household income decile and child's sex.*

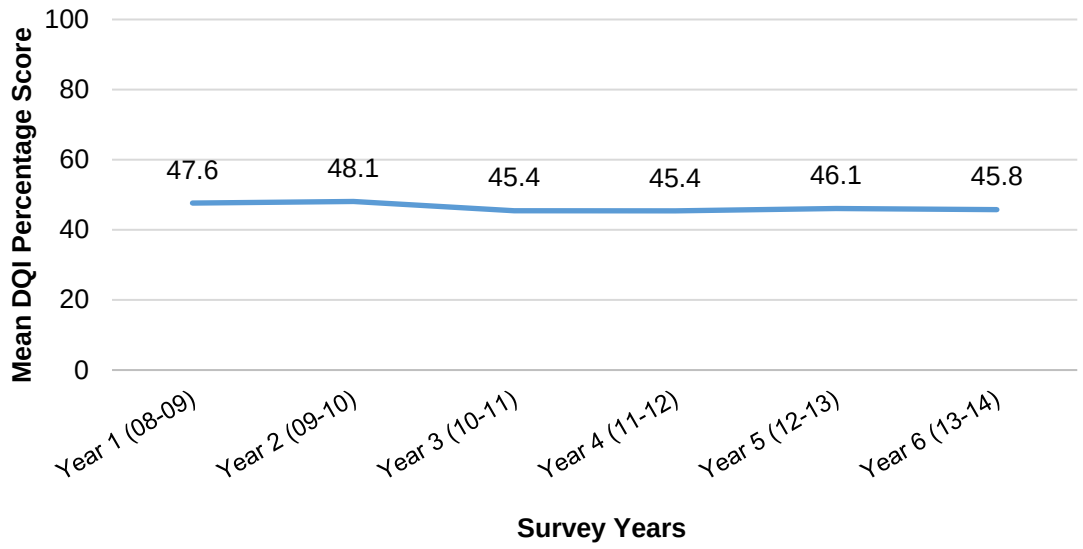

Figure 4.9 *Mean DQI percentage score of 11 - 16 year olds by survey year.*

Figure 4.9 illustrates the mean DQI percentage score for each survey year. There was a slight decrease from a mean DQI percentage score of 47.6 (S.D. 18.2) in survey year 1 (2008/09) to 45.8 (S.D. 18.2) in year 6 (2013/14). But, there is no statistically significant difference between survey years. Figure 4.10 presents the trend between mean DQI percentage score and income decile by survey year. All six survey years show a similar trend whereby mean DQI percentage score increases as income decile increases. The mean DQI percentage score for decile 1 ranges from 35.9 (S.D. 14.1) in survey year 5 to 47.1 (S.D. 17.5) in year 6. In income decile 10, the mean DQI percentage score ranges from 46.7 (S.D. 21.1) in year 6 to 57.1 (S.D. 11.4) in year 3.

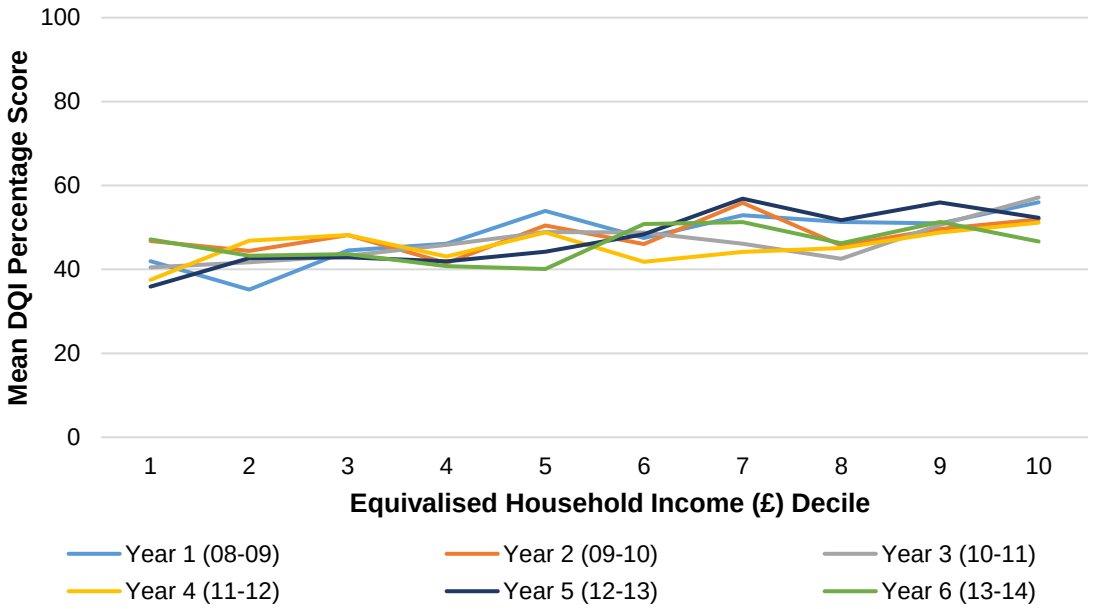

Figure 4.10 *Mean DQI percentage score of 11 - 16 year olds by household income decile and survey year.*

As stated earlier due to the methodology used to calculate the DQI percentage score, it is possible to make age group comparisons.[57] Figure 4.11 presents the mean DQI percentage score by age group, illustrating that younger children on average have higher DQI percentage scores meaning they have better quality diets on average. Children aged 4 – 6 years have the highest mean DQI percentage score (M 61.5, S.D. 19.4) in comparison to those aged 1.5 – 3 years (M 57.9, S.D. 17.9) and 7 – 10 years (M 56.9, S.D. 19.8). Young people aged 11-14 years (M 46.5, S.D. 18.3) and 15 – 16 years (M 46.3, S.D. 19.7) have the lowest DQI percentage scores on average in comparison to other age groups. This suggests that diet quality decreases as children get older, however caution is needed as the data is cross-sectional, not longitudinal. Young people aged 11 – 14 years on average have slightly higher DQI percentage scores than 15 – 16 year olds, but the difference is marginal. In comparison, the reverse is true for fruit and vegetable portion consumption (section 4.2). Young people aged 11 – 14 years consume slightly fewer mean daily portions of fruit and vegetables (M 2.6, S.D. 1.5) than those aged 15 – 16 years (M 2.8, S.D. 1.7).

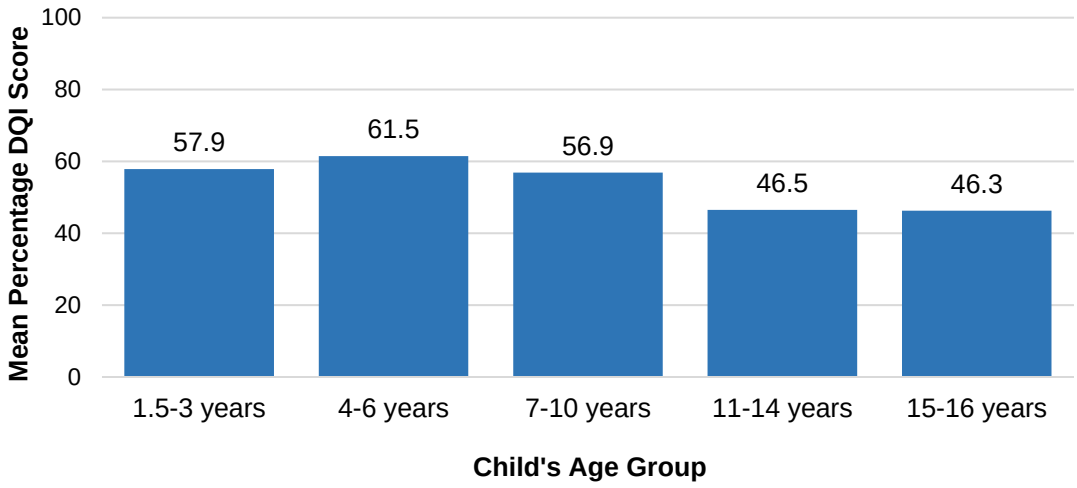

Figure 4.11 *Mean DQI percentage score of 1.5 - 16 year olds by age group.*

Figure 4.12 illustrates that there is an income trend across all age groups whereby mean DQI percentage score increases alongside income decile. In decile 1, mean DQI percentage score ranges from 38.3 (S.D. 18.9) for young people aged 15 – 16 years to 57.0 (S.D. 20.8) for those aged 4 – 6 years. In decile 10, it ranges from 51.7 (S.D. 18.2) for those aged 11 – 14 years to 66.3 (S.D. 17.4) for those aged 4 – 6 years. Furthermore, the graph demonstrates the divergence between younger children and adolescent-aged children's diet quality, as illustrated by the gap that exists in between the trend lines for the younger age groups (aged 1.5 – 10 years) and the older age groups (aged 11 – 16 years).

[57] Age groups: 1.5 – 3 years (n=731); 4 – 6 years (n=713); 7 – 10 years (n=850); 11 – 14 years (n=842); 15 – 16 years (n=454).

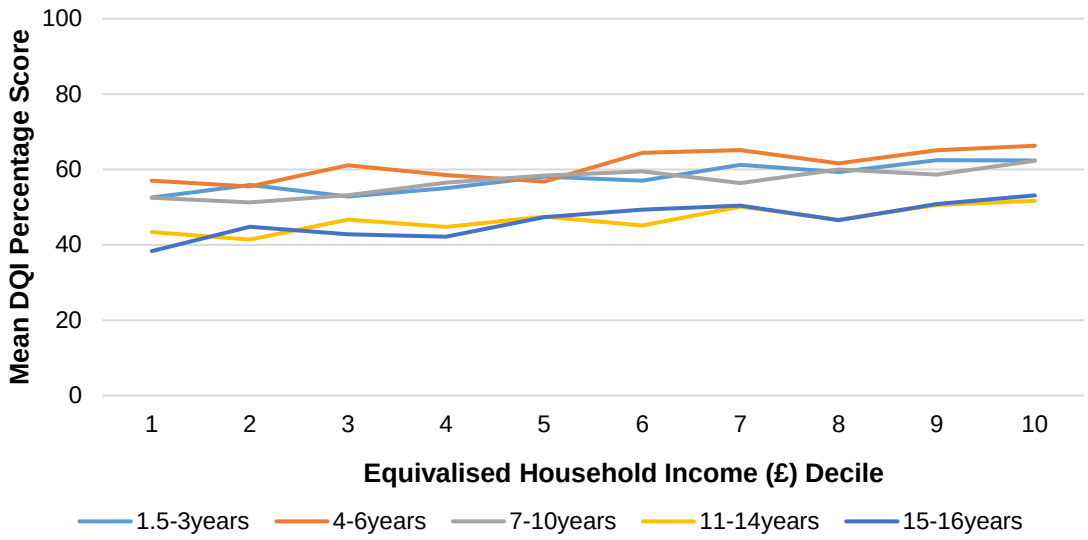

Figure 4.12 *Mean DQI percentage score of 1.5 - 16 year olds by household income decile and age group.*

Association between Overall Diet Quality, Income and Other Factors

The previous section detailed the differences in DQI percentage score by income decile. Similarly to the analysis of mean daily fruit and vegetable portion consumption (section 4.2). In this section, I present a hierarchical multiple regression analysis to examine what explanatory factors, including income, might be associated with young people's diet quality, with DQI percentage score as the outcome variable. As noted previously, hierarchical multiple regression was chosen for this analysis because it allows me to determine whether income (the main explanatory factor of interest) is associated with diet quality, whilst controlling for other explanatory variables that may also be associated with young people's diet quality.

The analysis was carried out in three stages. The first model controls for demographic variables including the child's sex, age and ethnicity and household characteristics including whether it is a dual parent household, housing tenure, mother's paid employment and the household's social class. This is to control for the influence of these factors before introducing the other explanatory factors of interest, including income. The second model introduces factors that can be considered important to our understanding young people's dietary intake, including: regularity of buying fruit and vegetables in the home, the availability of fresh fruit at home, regularity of eating meals out, regularity of eating takeaways at home and whether the young person has a vegetarian or vegan diet. Lastly, the final model (model 3) includes the main explanatory factor of interest in this study, equivalised household income decile. These variables were selected on the basis of previous literature and availability within the NDNS dataset (see chapter 3, section 3.6).

Table 4.6: Hierarchical multiple regression of DQI percentage score (dependent) of 11 – 16 year olds for NDNS waves 1 – 6 (2008/09 – 2013/14; n=1,242).

	Model 1			**Model 2**			**Model 3**		
Predictor Variables	*b*	β	*p* value	*b*	β	*p* value	*b*	β	*p* value
Young Person's Sex (0 Girl, 1 Boy)	**11.007**	**.292**	**<.001**	**11.441**	**.304**	**<.001**	**11.329**	**.301**	**<.001**
Young Person's Age	.320	.028	.294	.332	.029	.271	.368	.033	.221
Young Person's Ethnicity (0 Non-white, 1 white)	2.231	.030	.259	2.956	.040	.131	2.459	.034	.207
Dual Parent[1]	-.061	-.001	.962	-.880	-.020	.493	-1.885	-.043	.149
Housing Tenure: Mortgage/Owner[1]	**4.427**	**.106**	**.001**	**3.117**	**.075**	**.020**	2.215	.053	.102
Mother in Paid Employment[1]	-2.382	-.053	.056	-2.229	-.050	.070	**-3.114**	**-.070**	**.013**
Household's Social Class[2]	**-.946**	**-.085**	**.004**	**-.762**	**-.068**	**.018**	-.275	-.025	.431
Regularity of Buying Fruit and Vegetables[4]				**2.509**	**.085**	**.002**	**2.548**	**.086**	**.001**
Availability of Fresh Fruit[3]				**6.418**	**.118**	**<.001**	**6.154**	**.114**	**<.001**
Regularity of Young Person Eating Meals Out[5]				-2.78	-.012	.663	-.497	-.021	.436
Regularity of Young Person Eating Takeaways[5]				**-1.726**	**-.071**	**.009**	**-1.637**	**-.067**	**.013**
Young Person a Vegetarian or Vegan[1]				4.286	.034	.206	3.530	.028	.296
Equivalised Household Income Decile							**.808**	**.122**	**<.001**
F	21.980			16.821			16.669		
R^2	.111			.141			.150		
p value	<.001			<.001			<.001		

[1] 0: No; 1: Yes.
[2] 0: Higher Managerial and Professional; 1: Intermediate; 2: Small Employer's and Account Workers; 3: Lower Supervisory and Technical; 4: Semi-Routine and Routine.
[3] 0: Never; 1: Sometimes; 2: Most of the time.
[4] 0: Less than weekly; 1: Weekly; 2: 2 or 3 times per week; 3: Once a day or more.
[5] 0: Rarely or never; 1: 1-2 times per month; 2: 1-2 times per week; 3: 3-4 times per week; 4: 5 or more times per week.

Before conducting the regression analysis, diagnostic tests were run to ensure the data did not violate any assumptions. First, analysis of the collinearity statistics show that there is no multicollinearity; VIF scores were below a value of 2 and tolerance scores were above .2. Second, a Durbin-Watson statistic value close to 2 shows that the residuals are independent (DW = 1.849). Third, the variance of the residuals is constant, as the plot of standard residuals and standard predicted values suggest that the assumption of homoscedasticity is met. Fourth, the P-P plot suggests that the residuals are normally distributed. Fifth, all Cook's Distance values are below 1 suggesting that there are no individual cases influencing the regression model. *P* values <0.05 are considered statistically significant.

Table 4.6 presents the beta coefficients for the three regression models. Firstly, to control for the effects of young people's demographics (sex, age and ethnicity) and household characteristics (dual parent, housing tenure, mother's paid employment and the household's social class) these were entered into model 1. This model is statistically significant: F (7, 1234) = 21.980, p <.001. The young person's sex (*b* = 11.007, p <.001), housing tenure (*b* = 4.427, p= .001) and social class (*b* = -.946, p= .004) are the only variables to make a statistically significant contribution to the model. The model explains 11.1% of the variance in young people's DQI percentage scores. Secondly, food related variables that are thought to explain young people's diet quality were entered into model 2. This model is also statistically significant: F (5, 1229) = 16.821, p <.001. The young person's sex (*b* = 11.441, p <.001), housing tenure (*b* = 3.117, p= .020) and social class (*b* = -.762, p= .018) still make a significant contribution to the model. Three of the five food related variables entered into this model also make a significant contribution; regularity of buying fruit and vegetables (*b* = 2.509, p = .002); availability of fresh fruit (*b* = .6.418, p <.001); and regularity of consuming takeaway meals (*b* = -1.726, p = .009). These variables contribute an additional 3% to the variance explained in young people's DQI percentage scores (total variance explained for model 2: 14.1%). Lastly, the main variable of interest, equivalised household income decile, was entered into model 3. This model is also statistically significant: F (1, 1228) = 16.669, p <.001. Income decile makes a significant contribution to the model (*b* = .808, p <.001), adding 0.9% to the total variance explained in young people's DQI percentage scores. With the addition of income, the final model (model 3) explains a total variance of 15%. Of the demographic and household characteristic variables that are significant in model 1 only the young person's sex (*b* = 11.329, p <.001) still makes a significant contribution. Although mother's paid employment was not significant in models 1 or 2, it is in model 3 (*b* = -3.114, p = .013). Housing tenure and social class are no longer significant. The three food related variables have also remained significant in model 3; regularity of buying fruit and vegetables (*b* = 2.548, p = .001); availability of fresh fruit (*b* = 6.154, p <.001); and regularity of consuming takeaway meals (*b* = -1.637, p = .013).

The regression analysis suggests that, similarly to the analysis of fruit and vegetable portion consumption, there are other factors not accounted for in this analysis that may be associated with young people's diet quality, as 85% of the variance in DQI percentage score is unaccounted for in the final model. Similar to fruit and vegetable portion consumption, these factors might

include access to transport, the cooking facilities available in the home or the type of food outlets available where they live. Although income is significant it makes a small contribution to the variance in young people's diet quality. The regression suggests that young people in decile 10 (the highest) will on average have a DQI percentage score 8.08 points higher than those in decile 1 (the lowest). However, there are other factors that have a similar or much larger influence. Firstly, the young person's sex has a positive association with diet quality, whereby boys on average have a DQI percentage score 11.329 points higher than girls. Given that sex was not significant in the analysis of fruit and vegetable portion consumption and that the DQI percentage score is between 0 and 100, this is a noteworthy difference. In addition the household's social class is not a significant predictor here (unlike for fruit and vegetable portion consumption). But mother's paid employment has a negative influence on diet quality, whereby young people with mothers in paid employment will on average have lower DQI percentage scores.

Of the food related variables, the availability of fresh fruit in the home has a positive influence on DQI percentage scores, whereby young people with fresh fruit available more often have higher scores on average. On average young people who live in households where fresh fruit is available 'never' have DQI percentage scores 6.154 points less than young people who have fresh fruit available 'sometimes' and 12.308 points less than 'most of the time'. Again, given the score range (0 – 100) this is a noteworthy difference. The regularity that fruit and vegetables are bought at home also appear to be an important factor whereby the more regularly fruit and vegetables are purchased the higher young people's DQI score is on average. As with fruit and vegetable portion consumption, the regularity of eating takeaways at home has a negative impact on DQI percentage scores whereby the more often young people consume takeaways at home the lower their DQI percentage score is on average. Unlike with fruit and vegetable portion consumption, a vegetarian or vegan diet is not a significant predictor of diet quality. This indicates that although these diets may encourage greater fruit and vegetable consumption, it does not necessarily mean that young people will have improved nutritional intake overall.

Finally, an examination of the β coefficients suggests that the young person's sex (β = .301) has the strongest relationship with DQI percentage scores, followed by income (β = .122) and the availability of fresh fruit (β = .114). The regularity of purchasing fruit and vegetables (β = .086), mother's paid employment (β = -.070) and takeaway consumption (β = -.067) have the weakest relationships with young people's DQI percentage scores. Overall, this analysis suggests that the young person's sex and household income are significant to young people's overall diet quality as measured by DQI percentage score.

Association between Diet Quality and School Meal Consumption

Similar to the analysis of mean daily fruit and vegetable portion consumption (section 4.2), in this section, I present further regression analysis to examine whether consumption of school meals at secondary school is associated with young people's diet quality. The hierarchical regression

analysis was carried out in two stages. The first model accounts for demographic variables including the child's sex, age, ethnicity and equivalised household income decile. This is to control for the influence of these factors before introducing the factor of interest as with the previous regression analysis. The second model includes the main factor of interest which is school meal consumption. A total of 1,163 young people are included in this analysis, of which 52.3% are girls, 92.1% are ethnically white and the mean age is 13.6 years (S.D. 1.6). Just under half of the young people reported that they typically consume a school meal at lunchtime (44.8%).

Before conducting the regression analysis, diagnostic tests were run to ensure the data did not violate any assumptions. First, analysis of the collinearity statistics show that there is no multicollinearity. VIF scores were below a value of 2 and tolerance scores were above .2. Second, a Durbin-Watson statistic value close to 2 shows that the residuals are independent; DW = 1.963. Third, the variance of the residuals is constant, as the plot of standard residuals and standard predicted values suggest that the assumption of homoscedasticity is met. Fourth, the P-P plot suggests that the residuals are normally distributed. Fifth, all Cook's Distance values are below 1 suggesting that there are no individual cases influenced the regression model. *P* values <0.05 are considered statistically significant.

Table 4.7 Hierarchical multiple regression examining association between DQI percentage score and school meal consumption of 11 – 16 year olds attending secondary school for NDNS waves 1 – 6 (2008/09 – 2013/14; n=1,163).

	Model 1			**Model 2**		
Predictor Variables	*b*	β	*p* value	*b*	β	*p* value
Household Equivalised Income Decile[1]	**.933**	**.143**	**<.001**	**.929**	**.142**	**<.001**
Young Person's Sex[2]	**10.778**	**.287**	**<.001**	**10.854**	**.289**	**<.001**
Young Person's Age	.528	.044	.114	.473	.039	.162
Young Person's Ethnicity[3]	-.614	-.009	.752	-.714	-.010	.713
School Meal Consumption[4]				-1.102	-.029	.301
Model F Statistic	34.101			27.497		
R^2	.105			.105		
p value	<.001			<.001		

[1] 1 Income Decile 1 (Lowest) through to 10 Income Decile 10 (highest)
[2] 0 Girl; 1 Boy
[3] 0 Non-white; 1 White
[4] 0 No; 1 Yes

Table 4.7 presents results of the regression examining the association between school meal consumption and DQI percentage score. Firstly, the control factors were entered; equivalised household income decile, sex, age and ethnicity. This model is statistically significant: F (4, 1158) = 34.101, p <.001. Income decile (*b* = .933, p <.001) and the young person's sex (*b* = 10.778, p <.001) make a statistically significant contribution and explain 10.5% of the total variance in young people's DQI percentage score. In model 2, the variable of interest was entered, school meal

consumption. This model is also statistically significant: F (1, 1157) = 27.497, p <.001. School meal consumption does not make a statistically significant contribution to the model (ß = -1.102 p = .301). Income decile (*b* = .929, p = <.001) and the young person's sex (*b* = 10.854, p = <.001) remain significant and explain 10.6% of the variance. This suggests that school meal consumption at secondary school is not associated with young people's DQI percentage score after controlling for relevant socioeconomic and demographic factors.

Girls' and Boys' Consumption of DQI Nutrient Components

Given that the young person's sex was a statistically significant predictor of DQI percentage score in the hierarchical regression analysis previous, additional analyses were conducted to examine the differences in the individual nutrient components of the DQI between girls and boys. This was to identify whether the significance of sex is due to the nutrients (calcium and iron) that have different intake recommendations (and therefore DQI scores) for girls and boys or whether there is a difference across all DQI nutrients, indicating a difference in overall diet quality. Using the Shapiro-Wilk test of normality, it was determined that the data were not normally distributed (*p*<.05). Therefore Mann-Whitney tests were carried out to examine whether there is a statistically significant difference between girls (n=658) and boys (n=638) aged 11 – 16 years and the individual DQI nutrient components measured as mean daily intake. *P* values <0.05 are considered statistically significant. Table 4.8 presents the median intake and the interquartile range (IQR) of each DQI nutrient for girls and boys.

Table 4.8 Median (IQR) intake of DQI nutrient components for girls and boys (n=1,296)

	Girls (n=658)	**Boys (n=638)**
NMES as % of Energy*	14.5 (7.7)	15.8 (8.2)
Saturated Fat as % of Energy	12.5 (3.5)	12.6 (3.2)
Vitamin C (mg)*	60.9 (59.7)	66.7 (67.8)
Fibre (g)**	10.4 (4.4)	12.1 (5.2)
Folate (µg)**	175.5 (87.2)	212.9 (113.2)
Calcium (mg)**	649.4 (333.1)	861.8 (458.5)
Iron (mg)**	8.2 (3.7)	10.4 (4.7)

* Statistically significant difference between girls and boys p < .01
** Statistically significant differences between girls and boys p < .001

Firstly, a Mann Whitney test was carried out to test the difference in the mean daily percentage of energy from NMES consumed between girls and boys. The mean daily percentage of energy from NMES of girls (Mdn 14.5) does differ significantly from boys (Mdn 15.8), U = 189897.0, Z = -2.970, p = .003. Boys consume a higher percentage of energy from NMES on average per day than girls. A second Mann Whitney test was carried out to test the difference in the mean daily

percentage of energy from saturated fat consumed between girls and boys. The percentage of energy from saturated fat of girls (Mdn 12.5) does not differ significantly from boys (Mdn 12.6), U = 202031.0, Z = -1.168, p >.05. The third Mann Whitney test was carried out to test the difference in the mean daily amount of vitamin C (micrograms) consumed between girls and boys. The mean vitamin C consumed by girls (Mdn 60.9) does differ significantly from boys (Mdn 66.7), U = 188560.0, Z = -3.168, p = .002. Boys consume more vitamin C on average per day than girls.

Fourth, a Mann Whitney test was carried out to test the difference in the mean daily amount of dietary fibre (grams) consumed between girls and boys. The mean dietary fibre consumed by girls (Mdn 10.4) does differ significantly from boys (Mdn 12.1), U = 153009.5, Z = -8.446, p <.001. Boys consume more dietary fibre on average per day than girls. A fifth Mann Whitney test was carried out to test the difference in the mean daily amount of folate (micrograms) consumed between girls and boys. The mean folate consumed by girls (Mdn 175.5) does differ significantly from boys (Mdn 212.9), U = 147718.0, Z = -9.232, p <.001. Boys consume more folate on average per day than girls. The sixth Mann Whitney test was carried out to test the difference in the mean daily amount of calcium (micrograms) consumed per day between girls and boys. The mean calcium consumed by girls (Mdn 649.4) does differ significantly from boys (Mdn 861.8), U = 127598.0, Z = -12.219, p <.001. Boys consume more calcium on average per day than girls. Lastly, the final Mann Whitney test was carried out to test the difference in the mean daily amount of iron (grams) consumed between girls and boys. The mean amount iron consumed by girls (Mdn 8.2) does differ significantly from boys (Mdn 10.4), U = 130298.0, Z = -11.818, p <.001. Boys consume more iron on average per day than girls.

This analysis suggests that the predictive influence of young people's sex on their DQI percentage score evident in the regression analysis prior is not likely to be due to the different recommendations of calcium and iron intake for girls and boys. Boys have a higher intake on average per day then girls for six of the seven nutrition components included in the DQI including: percentage of energy from NMES; dietary fibre; vitamin C; folate; calcium; and iron.

4.4 Summary and Discussion

This secondary quantitative analyses of the NDNS dataset show that very few young people aged 11 – 16 years (7.7%) are consuming at least five portions of fruit and vegetables per day and are therefore not achieving the government's '5-a-day' recommendations (NHS, 2019). On average, in this study, young people are only consuming 2.7 portions per day. These findings are considerably lower in comparison to other analyses. For example, analysis from Health Survey for England (HSE; 2018b) show that in 2017, 19 per cent of young people aged 11 – 12 years and 16 per cent of young people aged 13 – 15 years ate at least five portions of fruit and vegetables per day. Young people aged 11 – 12 years and 13 – 15 years consumed on average 3.1 and 3.2 portions of fruit and vegetables per day respectively. However, as with comparisons with the LFS before, it is important to note that HSE is a representative survey of England whereas

the analysis of the NDNS in this study is not representative of the population and includes households in Scotland, Wales and Northern Ireland.

There are no differences between girls' and boys' consumption of fruit and vegetable portions, contrary to previous findings from analysis of the Health Behaviour in School-aged Children (HBSC) study. Simon and colleagues' (2017) analysis of HBSC data found that a higher proportion of girls than boys consume fruit five or six times per week or more. Similarly, analysis of the Low-Income Diet and Nutrition Survey (LIDNS; Nelson et al., 2007) show that on average girls (2 portions) consume more portions of fruit and vegetables per day than boys (1.6 portions).

In the regression analysis of young people's dietary intake, as measured by fruit and vegetable portion consumption, there is a positive association with equivalised income decile, whereby young people in higher income deciles consume more portions of fruit and vegetables on average than those in lower income deciles. However, there were also other factors included in the analysis that influence young people's dietary intake. Young people in the highest income deciles are also more likely to consume at least five portions per day, meeting the '5-a-day' recommendation. However, the average daily portions consumed do not reach or exceed five portions for any income decile group. Similar associations between dietary intake and income have been observed in other studies in the UK. For example, Craig and colleagues (2010) found significant relationships between income and dietary patterns of Scottish young people aged 12 to 17 years. After adjusting for deprivation and parental education, household income quintile was positively associated with boys vegetable consumption and negatively associated with both boys and girls consumption of desserts.

In the regression analysis, social class is also associated with fruit and vegetable consumption, but this association is relatively small and the strength of this association is the weakest in comparison to other factors. In their analysis of HBSC data, Simon and colleagues' (2017) examined fruit and vegetable consumption in relation to low and medium/high family affluence as measured using the Family Affluence Scale (FAS). A higher proportion of young people (aged 11 – 15 years) from high or medium affluence families stated that they eat fruit and vegetables five to six times per week or more when compared to young people from low affluence families across all three survey years (2005, 2009 and 2014). This association was statistically significant. A study of Norwegian adolescents (aged 13 – 14 years; Skårdal, Western, Ask, & Øverby, 2014) also suggests that young people from lower SES families consume less healthy food (e.g. vegetables and fish) and more unhealthy food (e.g. sugary drinks and 'fast food') when compared to young people from higher SES families.

Food purchasing practices at home and other related food and eating practices appear to be salient factors when examining young people's dietary intake. In particular the regularity that parents purchase fruit and vegetables at home and the availability of fresh fruit at home are both positively associated with fruit and vegetable portion consumption. The regularity that takeaways are consumed at home has a negative association. The strength of this association is also the strongest in comparison to the other factors. This confirms findings from previous reviews arguing

that the home environment and in particular the availability of fruit and vegetables are associated with young people's fruit and vegetable consumption (Pearson, Biddle, & Gorely, 2009; Story, Neumark-Sztainer, & French, 2002; Zarnowiecki, Dollman, & Parletta, 2014). In a cross-sectional study of young people aged 11 – 12 years in the UK, Pearson and colleagues (2017) examined the factors associated with dietary intake. Greater availability of fruit and vegetables was associated with higher frequency of fruit and vegetable consumption. Greater accessibility of fruit and vegetables and less accessibility of 'energy-dense' snacks were also associated with a higher frequency of fruit consumption.

A young person's vegetarian/veganism is positively associated with young people's fruit and vegetable consumption, which supports previous findings. Robinson-O'Brien and colleagues (2009) analysed the dietary intake of vegetarians, former vegetarians and those who had never been vegetarians between the ages of 15 and 23 years in Minnesota, USA. Similarly, they found that there was a statistically significant difference in fruit and vegetable consumption for young people aged 15 – 18 years. In particular, younger vegetarians (aged 15 – 18 years) consumed more fruit and vegetable portions per day on average in comparison to former and non-vegetarians.

Previous studies predominantly examine the impact of consuming school meals at lunch on obesity or the nutritional quality of school meals. However, this study sought to examine whether school meal consumption is associated with overall dietary intake. This is not an analysis of the quality of meals consumed at school, but instead examines overall diet. Despite legislation to improve school meals, my analysis found that the consumption of school meals at lunchtime was not associated with fruit and vegetable consumption when socioeconomic and demographic factors were controlled for. School meals are discussed later in this section.

Young people's overall diet quality, as measured by the DQI percentage score (Simon et al., 2012), is also generally inadequate, with an average DQI percentage score of 46.4 (out of a possible 100). Few young people are meeting UK nutrient intake recommendations for their age or sex. Similarly, Tek and colleagues (2011) examined young people's (aged 14 – 18 years) diet quality using the Healthy Eating Index-2005 (HEI) in Turkey. HEI scores also range from 0 – 100 and the average score was 51.5. Their findings indicated that over half (57.2%) of young people's diets required improvement and 42.8 per cent had a poor diet quality.

In the regression analysis of young people's overall diet quality there is a positive association with equivalised income decile, whereby overall diet quality increases as income decile increases. Young people in the lowest-income deciles on average are consuming a lesser proportion of nutrients in-line with UK dietary recommendations, in comparison to young people in higher-income deciles. However, young people in higher-income deciles still, on average, have inadequate dietary intakes. Income was not the only factor associated with young people's DQI percentage score.

The young person's sex is significantly associated with their overall diet quality. Boys on average have a higher DQI percentage score than girls. Boys also have a significantly higher intake of all DQI nutrient components (percentage of energy from NMES, dietary fibre, vitamin C, folate, calcium and iron), with the exception of percentage of energy from saturated fat. The strength of this association is also the strongest in comparison to other factors. In contrast, Tek and colleagues (2011) found no differences between the HEI scores of Turkish boys and girls aged 14 – 18 years. Unlike for fruit and vegetable portion consumption, age group comparisons are possible for DQI percentage scores. This analysis suggests that diet quality decreases with age, whereby younger children have a significantly better diet quality than adolescent-aged young people. To compare with similar cross-sectional analyses, these findings are consistent with for example Banfield and colleagues' (2016) analysis of American children and young people's diet quality using the HEI-10 across three age groups (4 – 8 years, 9 – 13 years and 14 – 18 years). They found that there was a statistically significant difference in overall diet quality across all three age groups, whereby the youngest age group (aged 4 – 8 years) had the highest overall diet quality and the oldest age group (aged 14 – 18 years) had the lowest overall diet quality. In the regression analysis in this study, only 11 – 16 years old young people were included and age was not significantly associated with diet quality, suggesting that this difference is between younger children (aged 1.5 – 10 years) and adolescent-aged young people (aged 11 – 16 years), rather than between younger and older adolescent-aged young people.

Mother's paid employment is negatively associated with young people's diet quality, whereby it has a detrimental effect. However, the strength of this association is the weakest in comparison to other associated factors. As discussed in the literature review (chapter 2, section 2.5), the mechanisms are complex and the evidence is inconsistent. Employment leads to increased income, especially if both parents are employed in a dual parent household. Li and colleagues (2012) examined the association between maternal working hours and children's diets longitudinally from ages 2 – 5 years and 8 – 14 years. Their findings show that at age 14 years children whose mothers worked part-time (less than 35 hours per week) or not at all when they were aged one year had higher average diet quality scores in comparison to young people with mothers who worked full-time (35 or more hours per week) when aged one year. However, in contrast to the findings of this study, Li and colleagues (2012) found no significant overall association between maternal working hours and diet quality at ages 8 or 14 years. O'Connell & Brannen (2016) suggest that other socioeconomic factors are important for children's diets, such as education. The findings from this study contribute to the discussion.

Similarly to fruit and vegetable consumption, food purchasing practices at home also appear to be salient factors when examining young people's overall diet quality. In particular the regularity that parents purchase fruit and vegetables at home and the availability of fresh fruit at home are both positively associated with overall diet quality. The regularity that takeaways are consumed at home has a negative association. However, the strength of these associations are weaker in comparison to income. The findings in this study support other recent analysis of young people

aged 11 – 18 years in the NDNS (Taher et al., 2019). Low and moderate takeaway consumers had significantly better diet qualities when compared to frequent takeaway consumers, even after adjusting for age, sex and household income. However, these findings were not replicated when examining the association between eating meals out and diet quality (Taher et al., 2019).

A vegetarian or vegan diet was not found to be associated with young people's diet quality, which contradicts existing evidence. For example, a systematic review (Parker & Vadiveloo, 2019) examining the diet quality of adult vegan/vegetarians in comparison to non-vegan/vegetarians found that vegetarian/vegans scored significantly better on measures of diet quality in the majority of studies reviewed. However, most of the studies reviewed measured diet quality using the HEI or variations of this measure. The HEI (Guenther et al., 2013; Guenther, Reedy, & Krebs-Smith, 2008; Krebs-Smith et al., 2018) was developed using American dietary recommendations. It comprises of food groups as well as some key nutrients and is calculated in relation to the calories consumed for age and sex.[58] Whereas the DQI is based on UK dietary recommendations and is calculated on the basis of average daily intake of key nutrients by sex and age group. The differences between the measures might explain the contrasting findings. In addition, this is a study of young people, not adults.

Similarly to fruit and vegetable portion consumption, consumption of school meals are not associated with overall diet quality. However, the NDNS data in this study was collected over a period of time when school food standards have changed (2008/09 – 2013-14). Legislation for nutrient based standards in secondary schools were introduced in 2011 and further changes to school food standards were introduced in 2015 based on food groups.[59] Therefore this analysis may not be reflective of more recent improvements to school food standards. In addition, the dietary data only covers a four day period, in which at least one of those days would have occurred on a non-school day, but it is still important to understand how school meals might impact overall diet.

Similar findings are presented by Spence and colleagues (2014). They examined the associations between school lunch type (school meal vs. packed lunch) and the overall dietary intake of young people (aged 11 – 12 years), including dietary changes that have occurred between 1999-2000 and 2009-10. Although young people's overall diets improved between 1999-2000 and 2009-10, they found limited evidence that school lunch type was associated with young people's overall dietary intake. However, young people who consumed school meals when compared to those who consumed packed lunches had a significantly lower percentage of energy from saturated fat and lower intakes of sodium and calcium.

The analyses in this chapter suggest that young people's diets require improvement and that although income is important, there are other factors unaccounted for that are associated with

[58] The latest version of the HEI-2015 includes the following food groups and nutrients: total fruits; whole fruits; total vegetables; greens and beans; whole grains; dairy; total protein foods; seafood and plant proteins; fatty acids; refined grains; sodium; added sugars and saturated fats.
[59] School food standards are discussed in detail in chapter six.

young people's diets. These factors might include access to transport, the cooking facilities available in the home or the type of food outlets available where they live. Food purchasing practices at home also appear to be relevant, such as the availability of fruit and vegetables for young people to consume at home. It is unlikely that young people have control over these particular types of food practices, but the findings demonstrate the importance of family and home food practices, as opposed to the individual practices of young people, for young people's diets. This illustrates the need to move away from interventions that focus on individual behaviours and frameworks of choice, and towards a more holistic approach of young people's diets which considers young people's food environment, family practices and socioeconomic factors together. In addition, given the significant differences between income decile and some of these home food practices, it suggests a complex web of interrelated factors when examining young people's diets. Furthermore, the differences between the associated factors with fruit and vegetable consumption and diet quality suggest that the way in which young people's diets are measured is important when examining what factors are relevant for understanding young people's diets. What is also revealing is the sex differences between girls' and boys' diet quality as measured by DQI percentage score, suggesting what and how girls and boys eat differs. However, as discussed in chapter three, quantitative analysis alone cannot easily explore the lived realities of young people's food and eating practices in the same way that qualitative methods can. Qualitative research may illuminate social processes and practices that are important for understanding patterns of food and eating which are difficult to account for in the quantitative analysis. This is the focus of the next two chapters.

Chapter Five: How and why do young people eat as they do at home? Evidence from the qualitative analysis

In the previous chapter (chapter 4), analysis of young people's diets in the National Diet and Nutrition Survey (NDNS) showed that young people in higher-income deciles have better quality diets and dietary intake. But, although income is important for explaining young people's dietary intake and diet quality, other explanatory factors were just as salient. The analysis demonstrated the importance of family and home food practices, for example, the purchasing of fruit and vegetables and the consumption of takeaways at home. In this chapter, I move from the quantitative analysis of the NDNS and analyse the cases collected in the qualitative study to understand how and why young people (aged 11 – 16 years) eat as they do at home.

This chapter will address the first and second research questions: (1) To what extent do young people's diets vary by income and other factors? To what extent is family income related to the dietary intake and food and eating practices of young people? What other factors (e.g. age, sex, and ethnicity) also appear to be related to young people's dietary intake? (2) How do young people's parents influence their food and eating practices? In what ways does family income appear to make a difference to what young people eat at home and what other factors seem to be important in understanding differences? The analysis will address these research questions by focussing on 42 cases of young people from higher and lower-income families.

The chapter begins by introducing the qualitative data used in this analysis. The section then provides a descriptive overview of lower and higher-income young people's food and eating practices at home. I then describe the healthiness of diets (good, mixed, and poor) of the young people in the qualitative sample based on the methodology described in chapter three (section 3.6). Diet quality is then analysed in relation to family income groups; lower-income and higher-income. I then analyse and compare two cases of young people with 'good' quality diets; one from a lower-income and one from a higher-income family. This is followed by a comparison of two cases of young people with a 'mixed' quality diet from a lower and higher-income family. I then analyse one case of a young person with a 'poor' quality diet from a lower-income family. This case is not compared to that of a higher-income young person because no higher-income young people were found to have a 'poor' quality diet according to the criteria used. The chapter ends with a discussion of the findings.

5.1 Young People's Food and Eating Practices at Home: The Qualitative Data

To explore young people's food and eating practices at home, this chapter analyses the qualitative data from this doctoral study and the linked Families and Food in Hard Times (FFHT) study. The

qualitative data used in this chapter include: in-depth semi-structured interviews, Eating Habits Questionnaire (EHQ), photo-elicitation interviews (PEI) and kitchen tours. Forty-two young people from 36 families were selected for analysis. Six young people are from higher-income families (from the doctoral study) and thirty-six are from lower-income families (from FFHT).[60] All young people live in the same inner London borough. In each family, both the young person and their parent were interviewed. During interviews, young people and one of their parents were asked about what the young person ate on the last school day and last non-school day they could remember and the typicality of the food eaten. Both interviews included questions about the young person's food and eating practices at home such as: family meals, cooking and preparing food, food related rules and takeaway consumption.

Most higher-income young people say that they regularly (or always) eat their evening meals together with their parents. For the one young person who does not regularly eat with their parents, their parent says that this is because meals are 'quite restricted as in he's quite fussy' in terms of the food he will usually eat. His tastes are considerably different to that of his parents. In comparison, less than half of lower-income young people say that they regularly eat their evening meals together with their parents.

A busy work schedule is one reason some lower-income young people do not eat with the rest of their family, in addition to occasionally needing space away from other family members: 'There's times where we've had enough of each other, something else is going on, so then we're on trays, we have trays on the table – there's two tables, two rooms so…' A lack of formal eating space also prevents some lower-income young people from eating together with their parents, as few have adequate space. Most have either no designated eating space (e.g. they eat on the sofa in the living room or at a desk) or they have limited/inadequate space consisting of a small table in the kitchen or living room that is not big enough to seat all family members: 'Like there might be a couple of times but our table's really small, so not all of us can sit at the table. In contrast, all of the higher-income young people have space to eat meals together, either in a separate dining room or in a kitchen diner with a large dining table. In some extreme cases, lower-income parents state that they do not eat an evening meal together with their children because they cannot afford a meal for themselves, only for their children.

The majority of both lower and higher-income young people say that they cook or prepare meals for themselves or others in their household; mostly breakfast and/or snacks. It is predominantly the parents that prepare the evening meals. Some higher-income young people say they also help either by heating pre-prepared meals or occasionally cooking a full evening meal when asked to by their parents. However, when they prepare these evening meals, it is for their household, not just for themselves. One higher-income young person says that her parents think she should cook at home more, but she doesn't agree: 'Like I don't mind it that much but I have a lot to do during the week like homework and stuff.' Another states that they want to help cook evening

[60] In six lower-income family cases, two young people were interviewed. For this chapter's analysis, both young people have been included from these family cases.

meals, but their mother won't let them: 'I wouldn't actually mind cooking… I mean I don't know whether she [mother] likes it… Yeah if my mum was like can you cook the meal tonight I'd be like yeah sure.' The young people that do cook, cook a variety of food, including snacks such as fried egg and toast or pesto pasta and evening meals such as vegetable stir-fry and pasta carbonara.

Although lower-income young people typically consume the evening meals prepared by their parents, unlike higher-income young people, some say they also cook evening meals for themselves. This is either because they do not want or like the evening meal their parent has prepared or because they are hungry after the evening meal they have already eaten: 'If I'm hungry after the meal I'll usually go cook myself something else, which is all the time.' However, these young people are typically older and those with younger siblings who have different tastes: 'Yeah they [siblings] like chips in the oven, and I don't like chips in the oven I only like them fried. They like pizzas in the microwave and I only like them in the oven'. They state that they often prepare 'simple' meals such as burgers, pizza, noodles, pasta or 'oven food'. In addition, some lower-income young people living with a single-parent (usually their mother) with a disability or chronic illness, say they prepare meals for their younger siblings or parent too.

To a large extent, what young people eat is predominantly restricted by the food that their parents purchase and provide at home. Both lower and higher-income young people say there are restrictions on the type of snacks they can eat at home. For instance, restrictions include parents purchasing less 'unhealthy snacks' such as crisps or only purchasing snacks they deem appropriate such as fruit. Parents say that this is mostly to limit their child's access to 'tempting' snacks or 'junk food': '…so I think that the answer is just don't have it in the house so like the biscuits, and the fruit juices and the juices and the fizzy drinks they're just not in the house. So it doesn't mean we don't eat them when we're out and about but they're not here because they're just too tempting aren't they.' Some of the higher-income young people complain about this to their parents, without success: 'I always tell my parents but they get annoyed with me… It's really annoying sometimes like when I come home from school and I'm really hungry.'

Whilst all higher-income young people say that their food and eating practices are restricted in some way, a quarter of lower-income young people say that their parents do not limit what or when they can eat. For instance, they do not require permission to eat snacks and their parents purchase biscuits, crisps and/or sweets for them. However, over half of the lower-income parents state that a lack of money limits what food they can provide for their child, which limits their child's choices at home: '…they don't get what they want, yeah they don't get… Because if something they ask me, we need this, I say there is no money you have to manage because nothing coming.' Some of those parents also say they have to rely on the food provided to them by charities, church or food banks. This further limits the choice available to them and their child. This is a stark contrast to that of higher-income young people whose choices are restricted by rules, rather than by a lack of money.

Lastly, approximately half of all young people and/or their parents say that they consume takeaways at least a few times per month. Most consume, pizza, Indian curry or Chinese.

However, there are some differences in the type of takeaways consumed by lower and higher-income young people. For instance, 'chicken and chips' is a common takeaway meal for lower-income young people. Whereas higher-income young people say they consume chips from the 'chip shop', Vietnamese and Turkish. Friday night is a typical time that both lower and higher-income families say they purchase takeaway meals, but chicken and chips are also a common purchase after school for some lower-income young people (discussed in chapter 6).

Lower-income young people and their parents state various reasons for purchasing or not purchasing takeaway meals. Similarly to higher-income parents, some lower-income parents say that a lack of time to cook food at home or feeling 'tired' after working are some of the reasons they purchase takeaways: 'For me I think my main problem is time… And then the easiest option let's just get a take-away tonight.' The opportunity to socialise with friends appears to be an important reason for lower-income young people to purchase takeaway after school (discussed in chapter 6). Whereas higher-income young people say they rarely (if ever) consume takeaways with their friends after school. They typically only consume takeaways with their family or on special occasions. For some lower-income young people, takeaway meals are readily available and inexpensive where they live. Chicken and chips in particular are cheap and affordable, costing approximately £1.50 - £2.50 per portion. However, others say that takeaways are too expensive and that a lack of money is the reason they rarely consume them: 'Kebab, pizza … but very rarely cos it's expensive.

The following section describes young people's diet quality and takes a case approach to examine and compare lower and higher-income young people's diets.

5.2 Young People's Diet Quality: The Qualitative Data

In this section I describe young people's diet quality in relation to family income from the qualitative data. Using a combination of the qualitative methods 'food menus' were created for each young person to represent typical food they eat for main meals, snacks and takeaways, as described in chapter three (section 3.6). The food menus, along with the other qualitative methods were used to assess and categorise young people's diets as either 'good', 'mixed' or 'poor' quality. The food menus of the cases included in the analysis of this chapter are detailed throughout. A summary of the qualitative cases can be found in Appendix 10 and all young people's food menus can be found in Appendix 11.

Table 5.1 shows how the three diet quality categories are distributed by family income group. Less than a fifth (7/42) of young people were categorised as having a 'good' quality diet and just over half of these young people are from higher-income families (4/7). In comparison almost half (19/42) of young people were categorised as having a 'mixed' diet with two cases from higher-income families (2/19). Almost two fifths of young people (16/42) were categorised as having 'poor' diets, all from lower-income families (16/16). This overall pattern reflects the quantitative evidence (chapter 4) that most young people are not eating healthy or good quality diets.

Table 5.1: The quality of young people's diets from the qualitative data by income (n=42).

	Good Diet	Mixed Diet	Poor Diet
Lower-Income (n=36)	3	17	16
Higher-Income (n=6)	4	2	0
Total	7	19	16

Similar to the quantitative analysis of the NDNS, in the case analysis diet quality decreases as median monthly equivalised household income decreases. Table 5.2 shows that the median equivalised household income for young people with a good quality diet is £1,176 per month, £854 per month for young people with mixed quality diet and £663 per month for young people with poor quality diet. There is also a higher proportion of young people with 'good' (4/7) or 'mixed' (10/19) diets as opposed to 'poor' (6/16) diets who are female. Young people with good or mixed quality diet are also more likely to live in dual parent households (6/7 and 9/19 respectively) than those with poor diets (0/16). Young people with good diets are also more likely to have a mother in paid employment (6/7) in comparison to those with mixed (7/19) or poor diets (7/16).

Table 5.2: Description of young people with 'good', 'mixed' and 'poor' diets (n=42).

	Good Diet (n=7)	Mixed Diet (n=19)	Poor Diet (n=16)	Total
Age (M (S.D.))	13.7 (1.6)	13.0 (1.3)	13.4 (1.7)	13.3 (1.5)
Female (N)	4	10	6	20
Dual Parent (N)	6	9	0	15
Mother in Paid Employment (N)	6	7	7	20
Median Equivalised Household Income (£/m)	£1,176	£854	£663	£789

In the following sections, I move on to analyse five cases of young people categorised as having a good, mixed and poor quality diet including: two young people with a good quality diet, two with a mixed quality diet and one with a poor quality diet. Comparisons between lower and higher-income young people are examined for those with a good and mixed quality diet. A comparison was not possible for young people with a poor quality diet because there were no higher-income cases categorised as having a poor quality diet.

A 'Good' Quality Diet

Four higher-income and three lower-income young people were categorised as having a 'good' quality diet. Two cases were selected in order to compare a lower and higher-income young

person. The following cases presented here are those of Sally (lower-income) and Olivia (higher-income). These specific cases were selected for their similarities, as well as differences. For instance, both Sally and Olivia are female with two siblings and white British mothers. In terms of their differences, other than income, Sally lives in a one parent family whereas Olivia's father is present. Further, Sally participates in after-school activities and Olivia's food and eating practices at home are influenced by customary cuisines and family food practices linked to her father's ethnicity. Sally and Olivia are categorised as having a 'good' quality diet because their diets (as per their food menus) include a variety of different fruit and vegetables and limited consumption of takeaways or processed food and meat.

A Case of a Good Quality Diet in a Lower-Income Family: Sally

Sally, is a lower-income white British girl aged 12 years. She lives with her mother and two brothers (aged 10 and 16 years) in a three bedroom flat that is rented from the local authority. Sally attends a selective private school with a fully paid scholarship. Her mother is part-time self-employed and has a variety of different jobs, including dog walker, alternative therapist (massage and reflexology) and personal trainer. Prior to this she was a gymnastics coach. Her occupational social class is therefore (5) semi-routine (chapter 3, section 3.6). She left school with GCSEs and has since completed several courses as an adult-learner. Their monthly income is £867 which, when equivalised after housing costs (AHC), is £597 per month (income decile 1) from employment, working tax credit (WTC) and child benefit.

Sally's mother, being the only parent, is the main food provider in the household and prepares the majority of meals. She spends approximately £100 per week on food for the family, which is half of her total weekly income. Sally's mother says that she prioritises 'good' food but also that 'food's so expensive, I mean really its expensive'. She does her food shopping on a weekly basis (every Monday) and prefers to buy cheaper food (e.g. lentils) but cannot because the children are 'quite fussy'. She sees herself as a good manager and says she manages to feed her family on a low income by being 'organised', planning ahead and purchasing only what is needed: 'I'm organised, I plan what we're going to eat, I buy what we're going to eat. I don't sort of go crazy and buy tons of rubbish.' When there is less money due to an unexpected bill for example, the family eats more pasta and she cuts back on expensive food such as 'exotic fruit' like pomegranates and raspberries.

In the mornings before school, Sally says that her mother wakes her up, prepares and brings her breakfast, usually 'a bowl of cereal and pitta bread. Sometimes a bagel.' Most days during the week, Sally comes straight home after school and normally gets home 'around about 5' which she says doesn't leave her much time to snack before dinner which is usually at 6pm. Her mother prepares evening meals for Sally and her siblings during the week. Evening meals are quite varied and include a range of cuisines, such as Thai Green chicken curry, vegetable and noodle stir-fry and turkey fajitas. Sally's food menu can be found in table 5.3.

Although there is a dining table in the flat, the family usually eats their evening meal together in the living room at the coffee table. However, twice per week, Sally's climbing lessons after school mean that she doesn't get home until after dinner, so she and her mother have established a routine that means she can still eat before her lesson. On her way home from school, Sally's mother meets her at the train station to 'swap bags'; she gives her school bag to her mother and takes her climbing bag which 'normally [has] a snack, like a bagel, some cucumber and banana.' She goes straight to her climbing lesson with her mother before returning home in the evening when she has 'something quick like mashed potato'. These busy evenings also determine what they have for dinner: 'Tuesdays and Thursdays it's normally pasta or something like that, because we're back late.' However it isn't clear if everyone still eats together, but later in the evening.

Table 5.3: A typical school day food menu for Sally (female aged 12; good quality diet).

EHQ Frequency of Fruit	Once every day
EHQ Frequency of Vegetables	Once every day
Breakfast	Cereal and pitta bread or bagel
School Break	Waffles; pain au chocolate; bread
School Lunch	Snack box with crackers, cheese and grapes; fruit; sandwiches; fish and chips.
Evening Meal	Thai green chicken curry; pesto chicken with noodles; vegetable and noodle stir-fry; turkey fajitas; pesto pasta; roast vegetable pasta; spaghetti bolognaise; jacket potato with cheese and salad; omelette and chips; Quorn curry and rice; roast dinner with vegetables and cauliflower cheese.
Snacks	Cucumber bagel; fruit;
Takeaways	Never. Sometimes eats out (e.g. Costa)

There is little difference in what food the family eats for evening meals at the weekend in comparison to the working week and they eat together as a family. However the household routine differs at the weekend which gives Sally some additional independence with regards to breakfast and lunch. Unlike during the week, at the weekend 'it's normally make your own breakfast when you're awake' because her mother sometimes goes out in the morning. Sally also prepares her own lunch of chicken nuggets, eggs or baked beans on toast. When preparing her own meals, she prefers food that is quick and easy to make, particularly if she is busy with climbing or friends:

> *'I have a lot of baked beans, because they're quite quick. So I'll have them normally when I get back from climbing. And like if I'm going out somewhere I'll have… and I'm just having a quick lunch.' (Sally, female aged 12).*

Other than at the weekend, Sally isn't given much choice about what she has to eat although she says that she is 'sometimes' allowed to request a particular meal but this is dependent on whether they've 'got the right stuff at home.' Her mother does take Sally's tastes and preferences into consideration. Sally specifically says that they do not eat much fish for their meals because she doesn't like it: 'It just smells not nice and tastes fishy… and not nice.' On the rare occasions her family does eat fish, she has a different meal. However the meal is simply what everyone else is eating, without the fish. Still, she views this difference as making things difficult for her mother:

> *'They do sometimes have it [fish], but not often. Cause otherwise it means that I'm having something different and that's quite a lot of hassle… it would either be I would just have what they're having, but without the fish.' (Sally, female aged 12)*

Sally's mother is restrictive with regard to food, particularly about 'junk things' according to her mother. When asked if there is food Sally wants her mother to purchase, that she doesn't currently, Sally says it would be 'sugary foods… my mum won't buy them. She'll get maybe a pudding or something. But we're not really into like every day a pudding.' This is confirmed by her mother who says she doesn't have 'sort of junk things' in the house and describes biscuits as 'a treat that would be considered a pudding' or 'something [they'd] do at the weekend.' (Sally's mother). She also admits to hiding food in her children's meals by using flavours and spices, but Sally did not indicate that she is ever aware of her mother doing this. In this particular instance, it was due to cost:

> *'And the turkey is cheaper than the chicken and I've not used it before and I'm not going to tell them it's turkey… And it's going to be so highly spiced they won't know. I don't really like turkey… So I'm hoping it's going to work.' (Sally's mother)*

Sally is not permitted to take snack food without permission, unless it's fruit: '…if we're hungry we are always allowed to take like an apple or an orange or a banana.' But the rules are relaxed slightly at the weekends when she is allowed to make herself some toast if she's hungry. Her mother does not purchase takeaways or take her children to fast food places to eat: 'We never go to places like McDonald's, I've never taken them to McDonald's.' Her mother is particularly critical of McDonald's, which has clearly influenced Sally's views of fast food restaurants: 'My mum says it's [McDonald's] not very good, so I don't have it very often.' When she is out with her friends, Sally says that she only 'occasionally' purchases fast food, but even so will never purchase a full meal, only chips: 'Do occasionally go there [McDonald's], but I just find if I'm going to McDonalds', I don't really have a reason to go there like I never need to go there'. She describes her mother as having 'better self-control' than herself. But despite the rules, she is still occasionally able to convince her to buy treats, cakes or pastries.

A Case of a Good Quality Diet in a Higher-Income Family: Olivia

The second case is of Olivia, a higher-income white British girl aged 15 years. Her father is Portuguese. Olivia lives with them both and her two brothers (aged 10 and 17 years). They live in a four bedroom terraced house that they own with a mortgage. Her mother works full-time at a research institute and her father is a full-time self-employed consultant meaning that their occupational class is (1) higher managerial, administrative and professional. Both her parents are educated to doctoral level. Their monthly income is £7,300 which, when equivalised is £3,456 per month (AHC; income decile 9).

Olivia's parents take equal responsibility as the food providers in the household, both purchasing and preparing food. Her mother and younger brother are both pescetarian, meaning they eat fish but no other meat. They spend approximately £170 per week on food, which is ten per cent of their total weekly income. They shop at large supermarkets and local independent food outlets and predominantly do their food shopping on a daily basis, sometimes multiple times per day. Olivia's mother says 'I try and buy local as much as I can… local grocers… And I try and get it from Britain.' Olivia's parents might purchase food on the way home from work or ask Olivia or her older brother to go with a list for their evening meal. They do not experience periods of shortage in their food budget.

Figure 5.1 *A photograph taken by Olivia of her breakfast that she prepared herself before school. Toast with butter and marmite and a hot chocolate.*

In the mornings before school, Olivia says that she prepares her own breakfast which is usually toast with marmite and butter and a hot chocolate (figure 5.1). Occasionally her mother prepares eggs if she is awake in time. After school, Olivia has a snack 'every day' which is 'normally just a piece of toast or a pita bread or whatever kinda thing we have' due to a dislike of the food at school. Her parents both prepare evening meals throughout the week and include a variety of food, including both meat and vegetarian dishes, for example a tofu stir-fry. Olivia's food menu is presented in table 5.4.

Table 5.4: A typical school day food menu for Olivia (female aged 15; good quality diet).

EHQ Frequency of Fruit	5 -6 days per week
EHQ Frequency of Vegetables	Every day or more
Breakfast	Hot chocolate; toast; pitta bread; toasted bagel; marmite and butter
School Break	Pain au chocolate
School Lunch	Hot meals; chicken and rice
Evening Meal	Vegetable soup; tofu stir-fry; pasta; salad; fish
Snacks	Sandwiches; toast; pitta bread; fruit
Takeaways	Fish and chips

Olivia says that 'every meal [they] have is as a family… other than when [they're] at school' and meals are eaten at the large dining table in the kitchen/diner, including lunch at the weekend. It' is rare that evening meals are not eaten together as a whole family, unless there is the odd occasion where Olivia's eldest brother may not be available due to babysitting or her parents are eating out. According to Olivia's mother, her father feels it is just as important to eat together as a family at the weekend because 'he wants us all to eat lunch as like a proper meal'.

Although both parents equally share household food and cooking responsibilities, the father's cultural heritage is identified by Olivia and her mother as a key influence on the customary cuisines and food practices of the family. Olivia's mother says that because he is Portuguese, food and ensuring the children 'eat really well' is 'really particularly important to him'. This Portuguese influence is certainly something that Olivia is aware of as she describes her family's evening meal practices:

> *'So I think… we always have a hot meal and then we might and we always have fruit, that's a big thing that's often argued in this household but it's like after dinner okay fruit now and then we used to have a lot more soup and I'm not sure why but kinda in the last few years we've stopped having so much soup but we still have a fair bit of soup before and I think it's because my Dad's Portuguese so it's kind of his, what, cause in Portugal they obviously have this soup, meal, dessert, so that's kind of his so we have soup meal dessert.' (Olivia, female aged 15).*

However, as Olivia says, it is not just the practice of eating together as a family that is important to him, but also what constitutes a meal. In Portuguese culture, evening meals often consist of three courses; soup starter, main and dessert. Occasionally they have soup as a starter before their evening meal, depending on what vegetables they have, but fruit is of vital importance to Olivia's father and this often leads to arguments because her siblings do not always want to eat fruit. For Olivia, this isn't really an issue as she enjoys fruit and is given a choice about what fruit

she would like to eat (figure 5.2). However this causes tensions between her father and brothers and usually leads to negotiations about whether they have to eat their fruit or not. She says that occasionally her father concedes and her mother says he is more relaxed about this during the weekend after lunch. Olivia describes these negotiations between her father and brothers:

> *'My older brother really hates fruit a lot like a lot a lot so there's often arguments like 'I've already had my five a day' 'oh I'll eat more salad instead of fruit'. I don't know why but it often just leads to and I'm kind of like it doesn't really matter.' (Olivia, female aged 15).*

Figure 5.2 *A photograph taken by Olivia of an apple eaten after an evening meal.*

Olivia doesn't have any after school or weekend activities. Her parents' work schedules are arranged around childcare. This flexibility allows them to organise evening meals around their working schedules, although not without some difficulties. For three days per week, one of her parents is home by 3:30pm and he or she will be responsible for preparing the evening meal. The other two days of the week Olivia's grandparents are there as carers when both or one of Olivia's parents are home later from work, they typically arrive at 7pm. On Tuesday's her grandparents bring a selection of sandwiches to eat as a snack after school (figure 5.3). On the evenings when both of Olivia's parents are home late, they usually prepare something quick and easy to compensate. Despite this, they always manage to sit at the table for a family meal in the evening:

> *'No we always just sit at the table and I think if like my older brother often has babysitting jobs or if he goes out to a party or something he won't be here but the rest of us will still.' (Olivia, female aged 15).*

Figure 5.3 *A photograph taken by Olivia of a selection of sandwiches that her grandparents bought for an after-school snack on a Tuesday.*

There is little choice or negotiation for Olivia when it comes to evening meals or lunch. She thinks eating together as a family is important because 'you can talk about what your day has been like'. However, she stresses that she doesn't always enjoy it and that 'sometimes it's just a bit too much', wanting to be able to eat her meal at a time she feels like. In particular, she has mixed feelings about having to eat together at lunchtime during the weekend. She describes it as 'nice' but adding that she also finds it 'annoying' because it is disruptive to her day: '…it's just a bit annoying if I'm in the middle of something and then it's lunchtime, it's lunchtime but it'd be nice to be able to finish what I'm doing, go downstairs and have a sandwich and go back.' Even in cases where her younger brother has football practice on Saturday mornings, they wait and eat lunch as a family when he returns.

Other than the expectations with regard to evening meals, there are very few other rules regarding food. Olivia says that she does not require permission to make herself food and can snack when she wants, other than before their evening meal. However, she has little say with regard to the household food shopping and her parents very rarely buy 'junk' or snack type food like crisps, sweets or chocolate. They do have a biscuit tin but according to Olivia her parents only buy biscuits 'once every week, once every two weeks'. And when there are biscuits she says that her parents tell her not to eat them too quickly. Occasionally her father buys a share bag of crisps, but this is usually as an accompaniment to a lunchtime meal. The family only occasionally purchases fish and chips from their local chip shop. Olivia also does not appear to consume any takeaway meals outside of the home and rarely eats out with friends. In addition, her school have prohibited students from purchasing fast food on the way to and from school, meaning there is little opportunity to purchase takeaway meals or fast food when she is away from home. Despite being allowed to prepare her own food, Olivia doesn't cook or prepare her own food very often, if at all. Cooking and preparing food is not something that excites her and it requires 'too much effort'. Any food preparation appears to be out of necessity:

'Yeah if I'm hungry I might go and see if we have any biscuits but I don't really make myself toast because that involves too much effort and I'm not normally hungry enough to warrant making myself something proper.' (Olivia, female aged 15).

Comparison of Cases

Sally's and Olivia's families are at very different ends of the household income spectrum (a monthly household equivalised income of £597 and £3,456 respectively) and consequently their budgets for food differ, although not in proportion to their income: approximately £100 and £170 respectively. However, both sets of parents have similar preferences with regard to food, for example preferences for food such as dahl and/or organic produce and meals of varying cuisines from around the world prepared at home such as Thai, Indian and Chinese. Both food menus are also relatively similar. For instance both girls say they eat pitta bread or bagels for breakfast, fruit as a snack and a range of meat and non-meat based evening meals alongside fish, stir-fry and salads.

Neither Sally nor Olivia prepare their own evening meals; their parents do the work. In both cases, evening meals are predominantly eaten together with family and what they eat rarely differs from what their parents are eating. However, eating together as a family is more of a priority for Olivia's family, especially for her father whose Portuguese culture is a key factor. In both households, evening meals are also scheduled according to weekly routines, which differ throughout the week. For Sally, this is her own after-school activities, but in Olivia's case it is her parents working schedules. These schedules to an extent also determine what is eaten as well as when, preferring something quick and easy on evenings that are busier than others. However, weekend lunchtimes differ. Sally is given slightly more autonomy to choose and prepare her own meals whereas Olivia is expected to eat lunch together with her family, like evening meals during the working week. This may be explained by cultural differences and the importance her father places on eating together as a family, again due to Olivia's father being Portuguese.

Both Sally's and Olivia's parents are restrictive about the food they make available in the home for the girls to eat. This limits their choice. 'Junk' food is limited in both homes and fruit is available and the preferred snack. Sally's mother tells her to eat fruit if she wants a snack and Olivia's father tells her to eat fruit as a dessert after her evening meals. Both girls would prefer to have more 'junk' food available at home, such as biscuits. Neither Sally nor Olivia are given much choice about what they eat for their evening meals. But this may be because their parents are aware of their preferences and tastes without feeling the need to ask them. Occasionally Sally's mother asks Sally what she would like for her evening meal. In addition, Sally and Olivia rarely eat takeaway meals or fast food. Sally only consumes fast food on a rare occasion when she is out with friends and takeaways are not permitted at home. Olivia's family consume the occasional fish and chip takeaway meal at home. But because she rarely eats out with friends and the rules

at Olivia's school prohibit her from purchasing fast food, she rarely consumes takeaway meals or fast food away from home.

A 'Mixed' Quality Diet

Two higher-income and 17 lower-income young people were categorised as having a mixed quality diet. As with the previous analysis of those with a good quality diet, two cases were selected in order to compare lower and higher-income young people with a mixed quality diet. The following cases presented here are those of Piotr (lower-income) and Charlie (higher-income). These cases were selected to provide a comparison of two boys of a similar age, but with differing incomes. Much like Olivia in the previous section, Piotr's food and eating practices at home reflect his parents' customary cuisines and food practices linked to their ethnicity. Piotr and Charlie are categorised as having 'mixed' quality diets because, in comparison to other young people with 'good' quality diets, Piotr and Charlie do not appear to consume many portions of fruit and/or vegetables every day and there is little variety in the fruit and vegetables they eat.

A Case of a Mixed Quality Diet from a Lower-Income Family: Piotr

Piotr, a lower-income white Polish boy aged 12 years, lives with his mother and father. His older brother (aged 18 years) is currently living away whilst a student at University. They live in a three bedroom terraced house, which is owned by his parents with a mortgage. His father is a full-time self-employed builder and his mother is a full-time residential carer; however she is currently on sick leave for cancer treatment. The family's occupational class is (3) small employers & own account workers. They both have qualifications from Poland, his mother the equivalent of A-levels and his father the equivalent of a postgraduate degree. Their monthly income is £2,400 which when equivalised is £1,167 per month (AHC; income decile 3).

Piotr's mother is the main food provider as she does all the food shopping and cooking. She says they spend approximately £80 per week on food, which is 14 per cent of their total income. The family has a preference for home grown fresh organic produce. The mother purchases food from numerous shops, including supermarkets, wholesalers, markets and independent Polish shops, depending on what she is purchasing: 'we're buying veg with one place, meat with another place'. She shops around to save money and says that she knows how much food costs in the different supermarkets. Although the family has a reduced income since Piotr's mother has been on sick leave, they have not reduced the food budget. Instead, they have reduced spending on other items, like clothes.

On school days, Piotr says that he eats toast or cereal with hot chocolate for breakfast which his mother prepares for him, even though he would prefer to do this himself: 'Like sometimes I feel like not eating this but then eating it the next day. So I don't know, I just prefer doing… making what I kind of feel eating.' However it is not a subject he argues with his mother about, he 'just

eat[s] it' and eats his preferred choice the following day. Occasionally he has a snack when he gets home from school, usually homemade soup, depending on whether his school lunch has filled him or not. His mother prepares the evening meal for 6pm, which he likes and describes her as 'a really good cook'. She typically prepares 'Polish stuff' but also cooks other international foods such as Chinese or Mexican dishes. Very occasionally (once per month) his mother makes cake which they have for dessert after dinner and sometimes Piotr has a yoghurt before bed as a snack. Piotr's food menu is reported in table 5.5.

Piotr's mother says that although they do not eat breakfast together during the week, they do at the weekend. She also says that although they have tried to eat 'supper [dinner]' together at the dining table over the last few years it is not always possible, although they manage this most of the time: 'I don't want to say every day we're eating together, but 90% we're having together.' She explains that since the grandmother has moved back to Poland it is much easier for her to prepare one meal for everyone to eat, rather than separate meals at different times, which the grandmother would do for them. She also prepares soup every day, which she says is for Piotr if he is hungry before dinner.

Table 5.5: A typical school day food menu for Piotr (male aged 12; mixed quality diet).

EHQ Frequency of Fruit	5 -6 days per week
EHQ Frequency of Vegetables	Once every day
Breakfast	Cereal; toast; hot chocolate
School Break	N/a
School Lunch	Chinese noodles; spring rolls; biryani
Evening Meal	Vegetable or chicken soup; stew; gnocchi; dumplings; goulash; curry; salads; kugel; Chinese; Mexican
Snacks	Fruit; yoghurt; homemade soup; homemade cake
Takeaways	N/a

The family's Polish identity is reflected in their food and eating practices at home. Soup is described by Piotr's mother as a starter, not just a snack: '…soup is the first dish, and we do it main course… I don't cook dessert.' She compares the food in Poland to that of the UK, describing the organic fruit and vegetables they grew in the village she lived in in Poland: 'you know we don't have to be bothered going to the shop – go into the garden and pick up whatever it's on season, and cooking'. And although she has tried the organic food in UK supermarkets, they do not taste the same to her. Polish food is also a large part of Piotr's life and he thinks very highly of it, preferring Polish food to 'English'. He has fond memories of the Polish food his grandmother would prepare for him when they lived together. This is clearly important to him as he talks about

food as being ‘traditional’ and cooking as something that is ‘in the family’ as well as food being cultural not just for him but for other families who are from different countries:

> *‘As a kid I think… I’ve been eating Polish food like since a kid. So I think I’m kind of used to it. Like most people… I mean if you give a person, say me, a choice of Polish food and like for example Chinese food, obviously I’d choose Polish food. If a Chinese person had a choice between Chinese food and Polish obviously they’d choose Chinese food cause they’re used to eating it, and I think they’ve eaten it all their life. Cause for example my friends they’re Vietnamese and I asked them what kind of food they eat, and they say their parent are like Vietnamese, full Vietnamese, so at home they eat Vietnamese food. Not like English food, they eat traditional Vietnamese food. So I think… you know I prefer tradition.’ (Piotr, male aged 12).*

Every Friday after school Piotr goes to ‘Polish school’ where he learns to speak Polish and about Polish history. Occasionally he learns about Polish traditions such as Christmas meals, but this is rare and there is little, if any, focus on Polish food or cooking. However, neither he nor his mother say whether this activity interferes with their usual schedule or evening meals. Time is an important resource to his mother, more so than money. She says that she prefers to spend time rather than money on the food she makes: ‘I don’t want to cost us a lot of money, but it costs me a lot of time for cooking.’ Before taking sick leave for her treatment, her manager allowed her to work during the school hours (8am – 4pm) rather than shifts which she specifically asked for ‘because [she’s] got kids… it’s difficult when you have kids.’ It is unclear whether she would still choose to cook the same if she was working shifts instead. Due to her sick leave, however, this has meant that Piotr’s father is working longer hours during the day, and 6 days per week to compensate financially. This also means they do not always get to eat together as a family in the evening.

It isn’t clear how often Piotr consumes takeaway meals or fast food. However, when asked if he has developed a taste for fast food he says that he prefers Polish food: ‘If I had a choice between McDonald’s and Polish food, I’d definitely choose Polish food. I just feel like it’s more healthier and it’s just nicer like.’ Piotr doesn’t say whether he has to ask permission to take food or not. However, snacking is largely restricted for health rather than cost reasons ‘because they [Piotr] don’t need it, too much junk food, they don’t need it.’ (Piotr’s mother). Not only does she not regularly buy this type of food for the house, but these restrictions are quite explicit when Piotr wants to eat a snack. Piotr says that his mother tries to limit and influence his intake of snacks, for instance if he is hungry she probes him and asks whether he is really hungry or not. If he does want to eat something she prepares dinner earlier or suggests eating fruit instead:

'My mum always like reminds me not to eat like… say I want to eat a sweet, she's not like 'Oh don't eat so much' she's like 'Take one…' or instead of eating a sweet take a fruit, take like a banana or an apple instead of eating like a sweet' (Piotr, male aged 12).

A Case of a Mixed Quality Diet from a Higher Income Family: Charlie

This second case is of Charlie. Charlie is a higher-income white British boy aged 11 years, and about to start secondary school. He lives with his mother, father and younger brother (aged 8 years) in a four bedroom mortgaged end of terrace house. His father and his mother's parents are Scottish. His mother is a full-time freelance television director with qualifications from college (further education) and gained additional media training throughout her employment. His father is a full-time architect and studied for seven years to qualify to the equivalent of postgraduate. Their occupational class is (1) higher managerial, administrative and professional. Their monthly income is £8,250 which when equivalised is £5,286 per month (AHC; income decile 10). They both also own two additional properties that they rent privately to tenants (not included in their equivalised household income calculations).

Charlie's mother is the main food provider in the household as she does the household food shopping and prepares the majority of meals. They spend approximately £180 per week on food, which is 9% of their total weekly income. Charlie's mother has a preference for organic produce and purchases her food from more expensive supermarkets (e.g. Waitrose and online from Ocado) which she jokingly describes as 'middle-class'. She purchases her main food shopping online and has it delivered to her house every two weeks. Between each main shop she will go to a smaller express supermarket nearby or the local corner shop: 'There's, nearly every day there's something run out or something, it might just be milk, it might be bread it might be you know.' She does not go to other supermarkets to find offers or discounts because of her busy schedule: 'My mum bless her she's always like 'oh if you go to Asda they've got two for the price of one or if you go to Tesco's they've got one pound off this' and I'm like 'mum I haven't got time to go to fifteen different supermarkets', I can't do that you know.'

According to Charlie's mother he 'always' has breakfast in the morning, usually Weetabix and honey but says she has to 'force him a bit' and 'make him have a banana with it'. He prepares this himself and sometimes goes to the corner shop to get milk for himself and younger brother when there is none in the morning. Charlie comes straight home from school, which can be seen from his house. When he gets home he typically only snacks if there is an after-school activity, like football, usually a piece of fruit. He says that even if he wants a snack 'there's nothing really to have for snacks' so will just wait for his dinner. But occasionally he has toast, cheese and crackers or fruit: 'Sometimes toast erm… cheese and crackers or something. Erm… erm that's about it sometimes my mum when I say I'm hungry she gives me an apple, banana and then yeah that's about it yeah.' Once a week, Charlie's grandmother prepares their evening meal, which is always breaded fish or chicken, oven chips and baked beans (figure 5.4). His mother prepares

the rest of his evening meals, typically chilli con carne, baked potato and beans or pasta. Charlie's food menu is presented in table 5.6.

Figure 5.4 *A photograph taken by Charlie of a typical evening meal his grandmother prepares; breaded fish, oven chips, baked beans and ketchup.*

Table 5.6: A typical school day food menu for Charlie (male aged 11; mixed quality diet).

EHQ Frequency of Fruit	5 – 6 days per week
EHQ Frequency of Vegetables	5 – 6 days per week
Breakfast	Weetabix with honest; cornflakes with sugar and a banana; boiled eggs and toast soldiers
School Break	N/a
School Lunch	Hot school meal
Evening Meal	Breaded fish or chicken and oven chips; chilli con carne; chicken schnitzel; baked potato with beans; chicken pasta; chicken Kiev; chicken nuggets; spaghetti bolognaise
Snacks	Toast; cheese and crackers; fruit; crisps; Ribena; sweets on Friday
Takeaways	Fish and chips; McDonalds; Five Guy's.

Typically, Charlie and his younger brother eat together in the kitchen at the breakfast bar without their parents. Charlie also usually eats something different than his parents. There are two main reasons for this. Firstly, Charlie's father does not get home from work until later, too late for Charlie and his brother to eat. Secondly, Charlie is described by both his mother and himself as being 'fussy' about what he eats. His mother states that his tastes and preferences make it difficult for them all to eat the same meals which means she prepares two meals most evenings. And

although his younger brother is not 'fussy' she still finds this difficult: 'I'm trying to negotiate their two different tastes.' Occasionally Charlie helps his mother or father prepare main meals but this is rare, which is not surprising given his age.

Charlie plays football several days a week after school during the football season, with matches on Saturdays, but this doesn't appear to cause any issues with regard to meal times. However, his parents are very busy with regards to working schedules. As a freelancer, his mother's work is variable but she often works from home. However, she doesn't appear to have much flexibility and so will 'bulk' cook food to help her save time throughout the week. Occasionally she has to work abroad. When she does she typically cooks beforehand and freezes food for her family to heat up whilst she is away. Her own mother usually helps with the childcare.

Although Charlie's mother states she has to 'negotiate' her children's varied tastes and clearly goes to great lengths to tailor meals to his tastes, Charlie says that he is rarely asked what he would like to eat 'cause usually she [mother] has something planned already so there's not much point.' However, he says that sometimes she gives them 'two options of something. Rarely though.' Fruit and vegetables are particularly problematic and is something both parents actively encourage him to eat. For instance, Charlie says that 'I don't really enjoy eating fruit'. This is something his mother confirms. She also says that 'he's not brilliant at eating erm, loads of veg and stuff like that he's quite reticent at trying new things but equally he won't drink fizzy drink.' However, he does understand the importance of eating fruit and vegetables and although he doesn't like them he makes a conscious effort to eat them: 'Yeah cause it's good for me. And yeah. And I don't like being ill and stuff. But I'm ill a lot so I just try to eat as healthy as I can.'

Due to the 'picky' nature (according to Charlie) of his eating practices, this has clearly led to his parents exerting different strategies and methods to increase the amount of fruit and vegetables he eats. For instance, Charlie says that his father regularly 'nags' him about eating his vegetables, more specifically his green beans, with his Sunday roast dinner. In addition, when he is hungry, his mother gives him fruit to eat, even though he does not like it: 'I don't really enjoy eating any fruit.' At which point, his mother also states that she has to 'peel and slice an apple before he'll eat it.' Something which his father does not do and vehemently protests against.

Generally, his parents are encouraging and try to negotiate with or persuade him to try new foods or vegetables. Snacks such as biscuits and crisps are limited at home and there is little choice except for fruit, yoghurt and crackers, as described by Charlie's mother: 'we don't have crisps or sweets in the house. We just don't… but no we're not big snacky people.' (Charlie's mother). She openly describes herself as 'Gruppenführer' with regards to the consumption of sweets. However, despite this, she says that they have what she calls 'sweetie Friday' whereby she gives Charlie and his brother some money each Friday to buy sweets from the corner shop. And they usually purchase fish and chips to eat at home on a Friday evening because it is Charlie's favourite takeaway (figure 5.5). On a Monday when his grandmother cares for them after school, she brings sweets and chocolate with her, which can occasionally cause some tension between her and his mother:

I *'And on a Monday when your grandma comes around does erm, does your mum is your mum okay that she brings chocolate and stuff?'*

TC *'Yeah most of the time unless it's, unless she lets us get- cause she stays overnight and she's she gets a bit annoyed when she gets us stuff on Tuesday as well so yeah. Mostly she's fine with it though.' (Charlie, male aged 11).*

Whilst she says she does not try to force him to eat food he does not want to, his mother admits that she hides vegetables in his meals: 'I have to sort of hide food'. She describes using a blender to discretely hide roasted vegetables in pasta sauces and chilli or finely chopping other vegetables like onions and grating carrots. This is as a response to Charlie being 'a bit picky… he's not one of these kids that will eat loads of veg.' Her motivations do not appear to be about controlling Charlie, but more to do with ensuring that he has a healthy nutritious diet, given his dislike for these types of foods: 'I do the healthiest version of everything I can.'

Figure 5.5 *A photograph taken by Charlie of his favourite meal; takeaway fish and chips with baked beans.*

Comparison of Cases

Although Charlie and Piotr have a mixed quality diet, there are large differences in household income (a monthly equivalised household income of £5,286 and £1,086 respectively) and a large discrepancy between their respective food budgets (£180 and £80 respectively). Both of their parents have similar food preferences that includes a preference for organic fresh produce. In terms of their food menus, both eat cereal for breakfast but the rest differs considerably. Charlie eats a less varied diet, mostly consisting of breaded chicken, beans, potatoes or pasta and a weekly fish and chips takeaway meal. Piotr, on the other hand, eats a variety of different dishes for evening meals, including goulash, curry, Chinese and Mexican dishes and does not appear to consume takeaway meals. There are further differences in terms of evening meals. For instance,

Charlie typically eats earlier with his younger brother, without his parents, and usually eats a different meal to his parents. Although part of the reason is due to his father's long working hours, and Charlie's age (he is younger than Piotr), it is also the consequence of Charlie's tastes being different and more limited in comparison to the other family members. In contrast, Piotr eats with his parents most of the time and they eat the same meal because his mother finds eating the same meal at the same time easier to prepare. It also helps that Piotr enjoys the food his mother cooks.

The families' different ethnicities are consequential. Charlie's father and mother's family are Scottish, but there does not seem to be any explicit Scottish influence on the type of food Charlie eats at home. And although he enjoys food that is typically considered British, such as fish and chips, ethnic and cultural identity is not something Charlie specifically mentions. Britishness is assumed to be beyond mention despite the diversity of the area in which he lives. In contrast, Piotr explicitly talks about his Polish identity as a matter of pride which is reflected in his food preferences and customary Polish cuisine and meal patterns at home. For instance, his mother prepares soup regularly, as a 'starter', and Piotr often eats this as a snack when hungry. As a migrant, unsurprisingly he thinks of the family's food in relation to his family's culture, explaining the different foods eaten by families he knows with different cultures to those of the UK. These food practices are symbolic of his cultural and ethnic identity (conscious or unconscious) in a country that does not have similar cultural culinary practices to his own.

Charlie and Piotr's mothers both restrict the food available at home for health reasons. For instance, Charlie's mother and father tell him to eat his vegetables and when he is hungry they give him fruit to eat and limit access to 'junk' food like crisps or biscuits at home. Charlie's mother also covertly hides vegetables in his meals, such as pasta sauces or chilli con carne because he does not like vegetables. Piotr's mother does not appear to do this. If Piotr says he is hungry, much like Charlie's mother, Piotr's mother suggests he eats fruit and asks if he is really hungry. 'Junk' food is also restricted in his home. However, their diet can be regarded as of 'mixed' quality because they do not consume fruit and/or vegetable every day and there is little variety in the fruit and vegetables they eat.

A 'Poor' Quality Diet

Sixteen lower-income young people were categorised as having a poor quality diet. Unlike for 'good' and 'mixed' quality diet, there are no cases of higher-income young people with a 'poor' quality diet among the families I interviewed. This is despite the quantitative analysis suggesting higher-income young people with 'poor' diets do exist (chapter 4), unsurprisingly I did not recruit any among the six higher income cases due to the small number of cases recruited. The following case is that of a lower-income young person with a poor quality diet, Kiyana. Kiyana was categorised as having a 'poor' quality diet because of the lack of portions and variety of fruit and vegetables as well as a reliance on convenience food and regular takeaway consumption.

A Case of a Poor Quality Diet from a Lower-Income Family: Kiyana

Kiyana is a black British girl aged 12 years from a lower-income family. She lives with her mother and step-sister (aged 7 years) in a flat rented from the local authority on a large housing estate. Her mother is a full-time care worker, working sixty hours per week meaning her mother's occupational status is (5) semi-routine and routine. Her mother has an NVQ in Childcare and Health and Social Care. Their monthly income is £1,083 which when equivalised is £646 per month (AHC; income decile 1) from employment, child tax credits, child benefit and child maintenance.

Kiyana's mother is a lone-parent, but her partner (Kiyana's step father) routinely helps with childcare and meal preparation, although he does not live with them. Kiyana's mother spends approximately £65 per week on food, which is 25% of her total weekly income. She purchases her food from numerous shops. Her main shop is at a large supermarket (Tesco), but she also purchases food from other supermarkets if there are offers or when she knows food is cheaper. In addition, she purchases her fish, meat and some fruit and vegetables from the local street market. However, she finds budgeting difficult: 'It is harder than what it used to be, doing shopping, buying food. Um… and I do find myself having to budget and going for things that are less money these days.' She also says that it is 'more expensive' to feed the children during the school holidays because they eat more at home, whereas during school term time they are entitled to a free school meal.[61] The variety and quality of food are compromised due to their low income. She worries about her daughter's diet and says that she tries to buy fresh fruit and vegetables but that the main thing that would improve the quality of the food they purchase is 'money, definitely'.

Kiyana doesn't always eat breakfast, although sometimes she may eat at home or at school in the morning. Her mother tries to encourage her to at least have a hot drink before leaving for school during the week: 'She does have breakfast, not every day. But I tell her to make sure she has a hot drink you know, a cup of tea or chocolate, you know whatever.' Kiyana comes home after school straight away, occasionally travelling via her mother's work to pick her mobile phone up, which she is not allowed at school. She often has a snack when she gets home from school, usually biscuits or crisps.

Kiyana's mother says that 'the family eating together' is important 'because that's what [she's] used to from being young' but they only manage this twice a week. Most evenings Kiyana will eat with her step-sister and step-father whilst her mother eats later when she returns from work. They (not including her mother) usually eat together at the same time in the living room and sometimes she will eat in the kitchen. They do not, however, all eat the same food. Kiyana explains that her step-father 'doesn't like meat, so like if [they] have meat he will have fish or chicken or something.' In addition, Kiyana's mother has had 'the gastric' operation, which means she has to be very

[61] Kiyana is not entitled to free school meals under national rules and eligibility criteria because her mother is in full-time employment and not claiming an eligible state benefit. All students at Kiyana's school are given a free school meal which the school pays for from their own budget, regardless of eligibility.

conscious about eating nutritious food, and in small amounts. Kiyana on the other hand eats what her mother calls 'kid's stuff' which Kiyana describes as 'oven food… Say like we have chicken wings that are frozen and then like you just put them in the oven and it cooks it and stuff, and we have chips or sometimes we have fish.' Her mother also prepares a roast dinner or traditional 'West Indian' food on a Sunday evening, which consists of chicken with rice and peas, flavoured with kidney beans. Kiyana's food menu is presented in table 5.7.

Table 5.7: A typical school day food menu for Kiyana (female aged 12; poor quality diet).

EHQ Frequency of Fruit	2 -4 days per week
EHQ Frequency of Vegetables	Once every day
Breakfast	Hot drink
School Break	Muffin and a drink
School Lunch	Free school meal; fish and chips; sandwiches
Evening Meal	Meatballs and rice; fish; chicken with rice and peas; chicken wings; chips; oven food; roast dinner
Snacks	Noodle; crisps; biscuits; sweets
Takeaways	Chicken and chips; McDonalds

Not only are Kiyana's tastes catered to in terms of main meals, but also in terms of snacks and there do not appear to be any specific rules with regards to food. Both Kiyana and her mother confirm that Kiyana is allowed to help herself to food at home including crisps, biscuits and sweets. Kiyana says that occasionally when she is helping her mother with the food shopping, she asks for additional food items for the house generally but also for herself. For instance, she asks for things within the confines of what she knows her mother already tends to buy. But she also asks for additional items that she wants for herself, such as soup. This isn't always successful:

> *'Like usually if I like know things that mum will usually buy, I'll ask her if she's going to buy it and I'll go and get it. And I'll ask her things that I want sometimes and that… Sometimes she says yes nd sometimes she says no.' (Kiyana, female aged 12).*

Occasionally Kiyana cooks for herself, and others. Although her stepfather cooks much of her main meals, she says that she cooks food such as noodles and that 'one time [she] made pasta for everyone.' She describes other food she makes for herself as 'oven food'. Kiyana also regularly helps out with the household shopping by going to the local store to pick up essential food and non-food items: 'Like this morning I went to the shop to get like toilet paper.' Kiyana occasionally consumes takeaways or fast food. On her way home from school if she has money,

she purchases chicken and chips with her friends. And when her mother purchases a takeaway meal at home, this is usually on a Friday: 'But on Fridays sometimes we buy chicken and chips or like takeaway food.' Chinese takeaway is her favourite. However, her mother says that she does not purchase takeaway meals often due to the cost: 'No not often, no, I can't really afford takeaways.' (Kiyana's mother). Although, she says that chicken and chips 'isn't really expensive' in comparison to other takeaway meals and confirms what Kiyana says '…maybe on a Friday like [Kiyana] will like chicken and chips.' (Kiyana's mother).

Kiyana's diet is of 'poor quality' because, although she says that she eats vegetables every day, there is little evidence of any fruit in her diet and her snacks are mostly of biscuits, crisps and sweets. Furthermore, her main meals typically consist of what her mother calls 'kid's stuff', including convenience food and the occasional takeaway such as chicken and chips. Her mother has a busy working schedule, and relies on Kiyana's step-father (who does not live with them) to prepare evening meals for the children, meaning convenience is a priority. Cost is also a factor affecting the quality and quantity of fruit and vegetables available at home, according to Kiyana's mother.

5.3 Summary and Discussion

Given the small number of cases and few higher-income cases in particular, it is not possible nor is it the point to generalise from this analysis. However, while the cases suggest variability in young people's diets, on balance the evidence is that young people in higher-income families tended towards having a good quality diet. Higher-income young people were disproportionately situated in the good quality diet category as opposed to mixed or poor. In contrast there were no higher-income young people in the poor quality diet category. However, there were still lower-income young people with a good quality diet. As with the secondary analysis of the NDNS (chapter 4), median monthly equivalised household income increased as diet quality also increased.

With regard to understanding poor quality diet, there are several influential factors in Kiyana's case. Firstly, her diet quality is constrained by their low family income. Food budgets are typically the first to suffer when income is reduced because it is one of the most flexible parts of the household budget (Dowler, 2008). Families may economise by buying food that is higher in energy but lower in nutritional quality, often with long term consequences for their family's health (Dowler, 2008; Hossain et al., 2011). Her mother economises on the quality of fresh fruit, vegetables and meat. Increasing her income is something she feels would help improve the quantity and quality of the food she purchases. A reliance on quick convenient food and occasional consumption of fast food and takeaway meals at home are also detrimental to her diet. This is consistent with the analysis of the NDNS (chapter 4) which suggests that a lower income, less availability of fresh fruit at home and not purchasing fresh fruit and vegetables regularly are significantly associated with a poorer quality diet for young people. However, there were low-

income young people whose diet quality was rated as good. And some young people with diets rated as good consume takeaway meals. In addition, for Piotr (mixed quality diet) and Sally (good quality diet), whose families are lower-income with constrained budgets, their parents are still in a position to prioritise food, reducing expenditure on other household items, like spending on clothes.

Kiyana's diet quality may also be negatively affected by her mother's long working hours (60 hours per week) as well as by low income. Although it was not possible to examine the working hours of mothers in the NDNS dataset (chapter 4), the quantitative analysis suggests that maternal employment (part or full-time) is negatively associated with young people's diet quality (as measured by the Diet Quality Index (DQI)). Kiyana's mother says that her long working hours mean the family often relies on quick and convenient meals that Kiyana's step-father is willing to prepare because she is not there in the evenings to do it herself. However, other mothers of young people with good and mixed quality diet were also in full-time employment. But unlike the other cases, Kiyana's mother works very long hours and her working schedule is also not flexible like for some of the other mothers in the other 35 families. In addition, Kiyana's mother does not appear to share the same food preferences of the other families presented here in which young people's diets were rated as mixed or good quality. Whilst Kiyana's mother tries to cook food that is nutritious and customary, linked to her African Caribbean background, she manages this only on some weekends. It is possible that Kiyana's diet quality is due to a combination of being on a low income and long inflexible working hours, as suggested by O'Connell and Brannen (2016).

Few of these young people were categorised as having a good diet. This is unsurprising given that the latest findings from the NDNS (PHE, 2016) of young people aged 11 – 18 years in England suggests that young people are not meeting government nutrition recommendations and less than one in ten consume five portions of fruit and/or vegetables per day. In addition, the Health Behaviour in School-aged Children (Brooks et al., 2020) national survey of 11, 13 and 15 year olds in England found that 44 per cent of young people reported that they consume at least five portions of fruit and vegetables per day. The patterns regarding income are also supported by previous suggestions that poorer dietary behaviours are associated with lower income, socioeconomic status and poverty (McNeill et al., 2017; Noonan, 2018; Ntouva et al., 2013).

In addition to income, in the cases analysed, family food preferences including customary cuisines and food practices, also appear important in shaping young people's diets. Kiyana is an exception, where low income combined with the mothers long working hours and children's preferences constrain both the quality and quantity of family food purchases. In four cases (Sally, Olivia, Charlie and Piotr), the parents have similar food preferences, based on a preference for fresh fruit and vegetables, organic, free-range and Fairtrade foods, that they purchase from more expensive supermarkets or independent food outlets (e.g. butchers).

Customary cuisines and family food practices linked to parental ethnicity seem especially important in two specific cases; Piotr a white Polish boy and Olivia a white British girl who has a Portuguese father. Food has a significant cultural role in both these families but in different ways.

Rabikowska (2010) argues that food is particularly important for recent migrants because 'food making and food consumption projects the concept of 'home', understood as a state of normalcy to be regained in face of the destabilized conditions of life on emigration' (p. 378). Home is a space in which Piotr's family can engage with their Polish identity; one expression of this is via food (Bell & Valentine, 1997). Piotr's mother habitually prepares traditional Polish vegetable soup every day so that Piotr can have this as a starter or a snack. In Olivia's family, eating together and consuming fruit after a main meal and ensuring the children 'eat really well' is, according to Olivia's mother, particularly important to her father because he is Portuguese. In both of these cases, Piotr and Olivia, these specific practices contribute to both their diets positively by increasing their consumption of fruit and vegetables.

The analysis of particular cases suggests only partial consistency with the analysis of the NDNS (chapter 4) whereby income was significantly associated with young people's diets. The purchasing of fruit and vegetables and its availability at home appeared to be as important as income for young people's diets in the quantitative analysis. This finding is consistent with the qualitative analysis in this chapter whereby the cases of young people with good and mixed diets have parents with a preference for fresh fruit and vegetables and organic produce. These families are also in financial positions that allows them to prioritise the food budget or prioritise the time spent on preparing meals, where income is low. For those with poor diets, in particular for Kiyana, the same priorities are made more difficult by a constrained income and her mother's long inflexible working hours. Analysis of the NDNS suggested that mothers' employment is negatively associated with young people's diet quality (as measured by the DQI). In the qualitative analysis of this chapter, mothers' employment alone does not appear to be detrimental to young people's diets. However, in combination with low income and inflexible working hours, employment does appear to constrain food at home and particular meals.

In contrast to the analysis of the NDNS, the qualitative analysis discussed here suggests particular customary cuisines and family food practices that reflect parents' ethnicities can be significant for young people's food practices at home. In addition, young people with good diets consumed takeaways, albeit rarely. Those with mixed diets consumed takeaway meals at home more often than young people with good diets. Those with poor diets said that they consumed takeaways less often, often due to unaffordability. This somewhat contradicts the quantitative findings that regular takeaway consumption is associated with poorer diet quality. However, the term 'takeaway' in the qualitative analysis was based on what the young person or parent defined as a 'takeaway' meal and therefore may cover a wide range of foods that are not reflective of actual takeaway consumption.

There are of course other settings in which young people eat, in particular at school, where young people consume a third of their daily dietary intake (Nelson et al., 2004). School is the focus of the next chapter to understand how this setting not only contributes to young people's overall diets but also how it might influence young people's food and eating practices at home.

Chapter Six: How and why do young people eat as they do at secondary school? Evidence from the qualitative analysis

In chapter four, analysis of young people's diets in the National Diet and Nutrition Survey (NDNS) suggests that the consumption of school meals at lunchtime is not associated with young people's overall dietary intake. However, the complexity of multiple interrelated factors is difficult to examine quantitatively because it is not accounted for in the NDNS dataset. In the previous chapter (chapter 5), I focused on young people's food and eating practices at home. In this chapter, I use case analysis of the qualitative data to describe and compare young people's food and eating practices at school and their experiences of contrasting school food policies.

This chapter will address the following research questions: (3) How do school food policies and/or practices and young people's access to money influence their experience of eating at school? In what way do school food polices and/or practices influence what young people eat at home? The analysis will address these questions by focussing on cases of young people from families with high and low incomes. The chapter begins with a brief discussion of English school food standards and the English school food regulatory system. It then goes on to discuss free school meals (FSM): who is eligible to receive them and recent changes to the eligibility criteria. It then compares what young people from higher and lower-income families said about school food policies and/or practices and school meals. Finally, it analyses and compares four young people's experiences of their school lunchtimes from two schools with different lunch policies to explore the influence of contrasting school food environments on young people's experience of school lunch and lunchtimes and how this experience might influence what they eat at home and why.

6.1 School Food Standards in England

Given that a third of children and young people's dietary intake come from food eaten at school (Nelson et al., 2004), it is no surprise that school mealtimes are often seen as an opportunity for public health interventions to improve the diet quality of children and young people. However there is some criticism that this approach to school food policies does not account for children's own experiences or autonomy (Mcneish & Gill, 2006). It is suggested that trends in school food policy have 'a commitment to safeguarding the future health of the population and aims of tackling health inequalities but despite reference to the involvement of pupils, a vision of children in the present is absent' (Daniel & Gustafsson, 2010, p. 267). It is therefore important to consider how school food policies influence young people's experience of school lunchtimes and their eating practices. Nevertheless, over the last two decades the changes to English school food standards discussed below have been shown to improve children's eating habits at school (Nelson, 2011). Figure 6.1 presents a brief overview of the changes to English school food standards that have occurred over four decades (1980 – 2015).

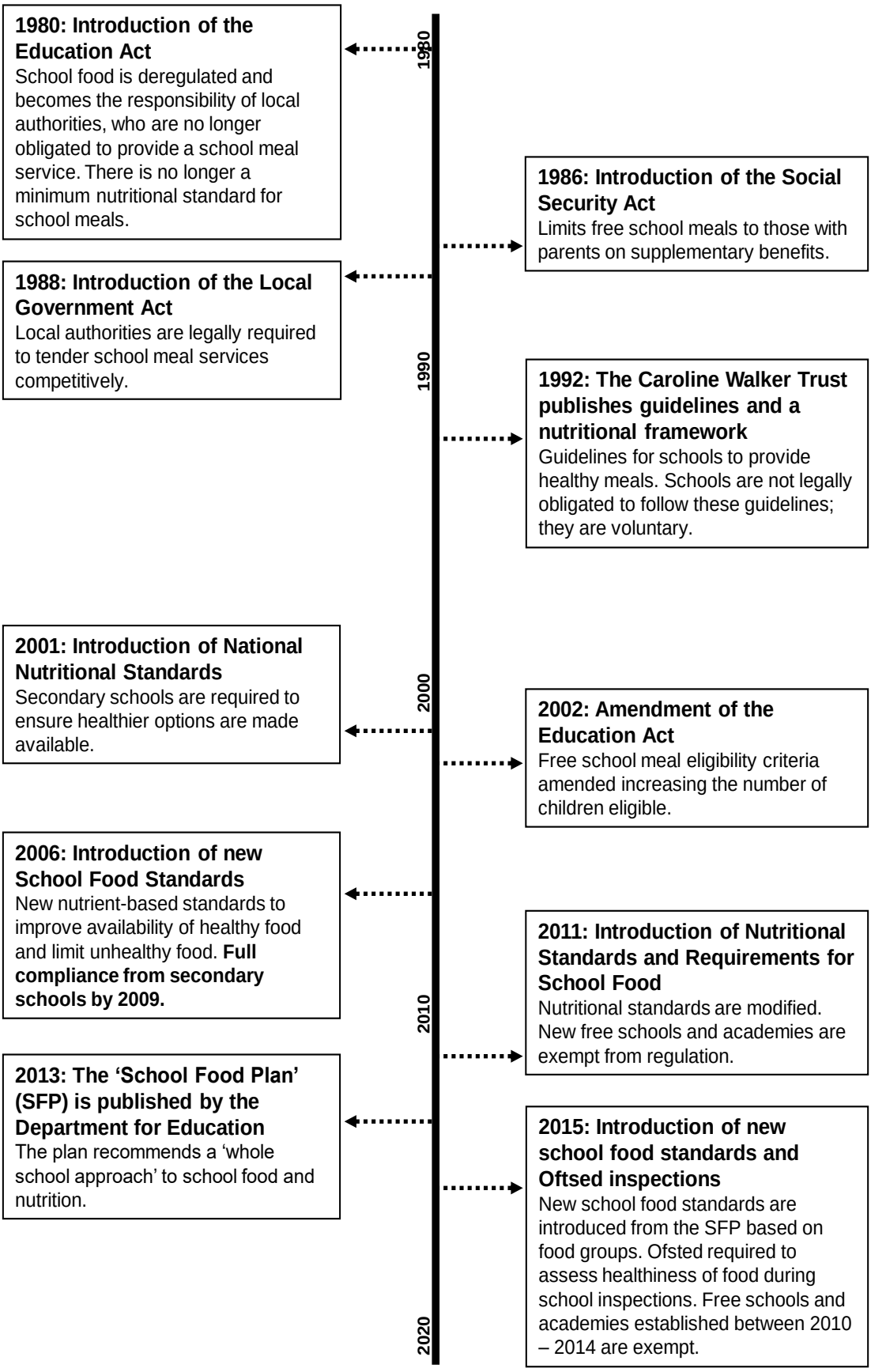

Figure 6.1 *Four decades of English school food standards (1980 - 2015).*

In 1980, the government deregulated school food and in 1988 local education authorities were required to tender for school meal services. This gradually led to a reduction in the quality of school meals and a reduction in uptake (Nelson, 2011). The Caroline Walker Trust published nutritional guidelines for schools to provide healthy meals in 1992, but the guidelines were voluntary. In 2001, England (as well as Scotland, Wales and Northern Ireland)[62] re-introduced regulatory standards for school meals, making it a statutory requirement for schools to provide 'healthier options'.[63] However, it did not limit pupils' access to 'unhealthier options', such as crisps, sweets and soft drinks. After numerous reviews, in 2006 the Department for Education (DfE; 2007, 2008) released new school food standards that would improve the availability of healthier food, prohibit unhealthy food and provide a nutritional framework for all food available within schools. Secondary schools were expected to comply with the new framework by 2009. In 2011, with a new Coalition Government of Conservative and Liberal Democrats, school food standards were modified again. However, new academy schools and free schools were exempt from the regulations (DfE, 2011, 2012).[64]

In 2013, the DfE published a review of school food in England called 'The School Food Plan' (SFP; Dimbleby & Vincent, 2013) that takes a 'whole school approach' to school food and children's nutrition. The plan does not just advocate for changes to the food and nutritional quality of meals, but also changes to the school food environment such as the dining hall, reducing queues, adjusting prices and encouraging socialisation. As well as recommendations for individual schools, the SFP also makes recommendations to government such as extending FSM eligibility to more children; including cooking as a mandatory lesson on the curriculum; funding breakfast clubs; providing universal free school meals (UFSM) for all primary school children; and including the dining behaviour and culture in Ofsted inspections.[65] Following some of the recommendations from the plan, in January 2015, the government implemented UFSM for the first three years of primary school and introduced assessments of school food during Ofsted inspections. Schools assessed as 'good' or 'outstanding' must 'provide a healthy diet' and 'give clear and consistent messages to children that support healthy choice around food, rest, exercise and screen time.' (Ofsted, 2019, p. 39).

Due to the recommendations in the SFP, academies and free schools are also no longer exempt from school food standards, unless they were established between September 2010 and June 2014. Although, those that were established during this period are encouraged to follow them on a voluntary basis. Current school food standards state that all state-funded schools (with exemptions, as stated) must provide the following: high-quality meat, poultry or oily fish; fruit and vegetables; bread, other cereals and potatoes. Schools cannot provide the following: drinks with

[62] School meal standards are devolved. Each nation of the UK is responsible for their own school food regulations.
[63] At least two of the following items must be made available to students every day: starchy foods; both vegetables and fruit; milk and dairy foods; meat, fish and alternative (non-dairy) sources of protein.
[64] Traditionally, state schools are funded and controlled by the local authority. However, academies and free schools are funded by the central government, independent of the local authority and given more freedom to set their own policies.
[65] Ofsted, or the Office for Standards in Education, Children's Services and Skills, are a non-ministerial department responsible for inspecting and regulating children's services, including schools.

added sugar, crisps, chocolate or sweets in school meals or vending machines; or more than two portions of deep-fried, battered or breaded food per week.

Free School Meals Eligibility

Some children are also entitled to receive FSM. FSM are a statutory benefit for children attending a state-funded primary or secondary school in the UK that entitles them to a free school lunch. Typically, students' school accounts are credited with a daily allowance to spend in the school canteen. However, the credit does not 'rollover' or accumulate if unspent. FSM can also be distributed as a school meal, rather than individual credit, depending on the type of lunchtime service provided at the school, which is discussed later. They are a means-tested benefit on the basis of the parents' or guardians' income and/or any benefits that they already receive from the government (DfE, 2018a).[66] There is no automatic enrolment and, in order for a student to receive FSM, the parent/guardian must apply to the school and provide evidence of their entitlement. As stated above, from September 2014, children attending reception class, year 1 and year 2 (aged 4 – 7 years) at a state-funded primary school are entitled to UFSM, regardless of their family income or entitlement to state assistance.

The most recent DfE (2019b) statistics state that 15.8 per cent of primary school students and 14.1 per cent of secondary school students in England were eligible for and claiming FSM in 2019, an increase from 2018. However, the proportion differs across schools and local authorities. The proportion of students eligible and claiming has been decreasing since 2013, which the DfE (2018b) states is the result of the reduction in the number of parents claiming the relevant benefits that would make their children eligible for FSM. This is despite the Institute for Fiscal Studies reporting that relative child poverty (after housing costs) has increased from 27 per cent in 2011/12 to 30 per cent in 2016/17 (Cribb, Keiller, & Waters, 2018). In addition, in April 2018 the eligibility criteria were amended to include a new income threshold of £7,400 for Universal Credit (UC) claimants, which The Children's Society (2018) estimated would lead to one million fewer children receiving FSM. But, even without the changes due to UC, it is estimated that around a third of children living in poverty are not eligible for FSM (Royston et al., 2012).

[66] Eligibility differs across the devolved UK nations. In England students are entitled to FSM if they or their parent/guardian are in receipt of at least one of the following state benefits: Universal Credit with earnings no more than £7,400 per year; Income support; Income-based Jobseeker's Allowance; Income-related Employment and Support Allowance; Support under Part VI of the Immigration and Asylum Act 1999; the guarantee element of Pension Credit; Child Tax Credit, provided not entitled to Working Tax Credit (WTC) with an income no more than £16,190 per year; and WTC run-on (four weeks after disqualification from WTC).

6.2 Young People's Food Practices at School: Analysis of the Qualitative Data

To explore young people's food and eating practices at school, I analyse the semi-structured interviews carried out with 37 young people and their parents or guardians from 32 family cases (5 higher-income families and 27 lower-income families).[67] All 37 young people were attending secondary school at the time of the interviews. Five young people (5/42) were excluded from the analysis because they were not yet attending secondary school at the time of the interviews.[68] Of the 37 young people, five are from higher-income families and 32 are from lower-income families. All young people live within the same inner London borough.

Both the young person and their parent in each family were interviewed about the young person's food and eating practices at school. Specifically, both the young person and their parent were asked about food practices on a typical school day and the young person's experiences of school lunchtimes, including the cost, choice, enjoyment and availability of food in the canteen, how much money they have to spend and whether they receive FSM. Each young person was also asked what school they attend so that their experiences could be grounded in the context of their particular schools.

The young people in this study attend 16 different secondary schools (table 6.1), including pre-2010 Academies (3/16), post-2010 Academies (4/16), Community schools (4/16), voluntary aided schools (3/16), a free school (1/16) and an independent school (1/16). Most young people attend a community school (15/37) or an Academy (15/37). Not all schools are within the inner London Borough where they live; some are in a different London borough (6/16) and one was further afield (1/16). Of the four post-2010 Academies that are exempt from having to follow the School Food Standards, only one states that they voluntarily follow the standards.

Table 6.1: School status and the number of young people from this study who attend by income group (n=37).

	No. of Schools	No. of Lower-Income Students	No. of Higher-Income Students	Total Students
Academy pre-2010	3	7	2	9
Academy post-2010	4	5	1	6
Community School	4	14	1	15
Free School	1	1	0	1
Independent School	1	1	0	1
Voluntary Aided School	3	4	1	5

[67] In five of the lower-income family cases included in this chapter's analysis, two young people were interviewed. Both young people have been included from these family cases.
[68] Students can attend secondary school if they are aged 11 years before 1st September of the new academic year. Four of these young people are from lower-income families and one is from a higher-income family. Whilst these young people were aged 11 years, the new academic year had not begun and therefore they had yet to attend secondary school.

Three schools (3/16) have a 'family meal service' at lunchtime, meaning that all students are given a hot school meal and packed lunches are not permitted. These schools also require students to adopt a table service role, such as collecting or serving the food or clearing the table.[69] One school provides UFSM for all students, ensuring that all children receive a full meal during the school day regardless of FSM eligibility or family income. None of the higher-income young people attend this particular school. All schools use some form of electronic payment service which requires parents to 'top-up' their child's account electronically with money to spend at lunch or students can put money into their account using dedicated machines at school. Students then pay using an electronic card or their fingerprint. Accounts are automatically credited for those students in receipt of FSM. However, some schools have lunchtime practices that stigmatise those on FSM, whereby students receiving FSM are restricted to purchasing certain foods, for example only being allowed to select some smaller sandwiches but not others due to the higher cost of larger ones. In some instances, young people said that they had been sent back to return food items that were 'too expensive' and to select something that is affordable within their FSM allowance. Some schools also restrict the use of FSM allowances to lunchtimes only and students have to bring additional cash if they wish to purchase food during their mid-morning break. Young people also stated that a handful of schools separate those who consume a school meal from those who consume a packed lunch meaning there are restrictions on who they can socialise with whilst eating their lunch.

None of the young people from higher-income families (0/5) are eligible to receive FSM (table 6.2). Almost half of the young people from lower-income families (14/32) do receive FSM. For seven lower-income young people their immigration status means that they have no recourse to public funds (NRPF) which includes FSM. However, for three of these young people (3/7) their school has chosen to provide them with a FSM despite their immigration status. Another young person does not meet the eligibility criteria for FSM but, they attend an independent school with a scholarship that entitles them to free meals as part of that scholarship. Of the 14 young people who do receive FSM, six (6/14) say they often take additional money with them to school. This is to buy food at breaktime, to be able to buy more food at lunchtime or additional food at food outlets outside of the school. Fourteen young people (14/32) from lower-income families are not eligible or claiming FSM despite their family's low income. This is because they are in receipt of a benefit that means they are ineligible or are above the income threshold.

Table 6.2: Number of young people receiving free school meals (n=37).

	Lower-Income	**Higher-Income**
FSM	14[70]	0
No FSM	14	5
NRPF & No FSM	4	0

[69] In one of these schools, the 'family meal service' is only applicable for year 7 students, not year 8 – 11 students.
[70] Three young people who receive FSM have NRPF, but are provided with a FSM at the discretion of their school. One young person receives FSM as part of their private school scholarship.

Following a short thematic overview of children's accounts of school eating experiences, four young people who attend two different schools are selected for the qualitative case analysis. Firstly, Ben a lower-income young person and Michael a higher-income young person who both attend Fieldview Community School.[71] Secondly, Fahad a lower-income young person and Olivia a higher-income young person who both attend Lakeside Academy. These young people were selected on the basis that they attend schools with contrasting school lunchtime policies and to compare the experiences of young people from higher-income and lower-income families within these schools. Fieldview is a community school that allows older students to leave the premises at lunchtimes and provides a range of hot or cold food options in the canteen. Lakeside Academy is an academy with compulsory school meals, which is inclusive in its approach to providing school lunch for students. Both schools and their lunchtime food policies are also analysed based on the accounts of young people, their parents and upon further investigation of policies on school websites. This provides the context in which the young people experience their school lunchtimes.

Next, young people's food and eating practices at school from higher and lower-income families are analysed and compared. Secondly, two higher-income and two lower-income cases from two schools with contrasting school meal systems are selected in order to compare their experiences of school lunchtime.

6.3 Young People's Experiences of Eating at School

Young people from higher-income families vary in terms of what they said about their enjoyment of the food available at school. Some describe their school food as 'really good', 'nice' and 'really tasty'. But others said the food looks 'really dodgy' and even among those who enjoy their school food, this is dependent on the day of the week, as the menu changes each day.[72] Similarly, young people from lower-income families also vary in terms of their enjoyment of the food available at school, with some describing the food as 'nice' or 'good' whilst others describe theirs as 'nasty'. Most higher and lower-income young people know, approximately, what days they do or do not enjoy the lunch menu. Friday is particularly popular among both income groups, because fish and chips are usually served. On days where the food is not as enjoyable, some young people buy their food at break time, rather than at lunchtimes, or, where permitted, buy food from the outlets away from the school premises. Others choose not to eat anything on the days they do not enjoy what is available and therefore eat more food at home.

Both higher and lower-income young people state that, where permitted, they buy food and drink from supermarkets and/or corner shops on their way to and from school. For some, this is because the food from these outlets is more affordable and/or enjoyable compared to what is available at school. The affordability of school food in comparison to the food available at local outlets is a

[71] School names have been changed for the purposes of anonymity.
[72] This was often on a bi-weekly or tri-weekly basis. Although the same food does appear to be available at breaktime each day.

common complaint among young people from lower-income families because the school food is more expensive. It is also a way to socialise with friends. Even young people who cannot afford to purchase from food outlets see this as an opportunity to socialise. But in many cases it also leads to social isolation and embarrassment, particularly in instances whereby food is shared and the young person cannot afford to join in or reciprocate. One young person from a lower-income family said that they had, in the past, made money (and got into trouble for) selling 'unhealthy' prohibited food that they had bought from other food outlets to their peers in school, such as crisps, chocolates, sweets, and fizzy drinks.

Typically, higher-income young people seem aware of the costs of particular food items at school, but did not comment on whether they thought it was affordable or not, except from one young person who describes their school's hot meals as 'quite cheap'. However in contrast, the adequacy and affordability of school food appears to be more salient for young people from lower-income families. The FSM allowance and/or limited money given to them by their parents is often inadequate to purchase as much food as they would like, leaving them hungry because they cannot afford enough food or the food itself isn't filling enough. Often, they say they do not have enough money to afford food at both breaktime and lunchtime, therefore limiting their choices. However, in instances of the most materially deprived children with a FSM, school meals are clearly vital when there is little food available at home.

Aside from the food, young people from higher-income families tend to say they have a negative social experience of their school lunchtime. Most commented on the rushed and busy nature of the canteen or the long queues both at breaktime and lunchtime, and how this often discourages them from buying food: 'I would go pretty much lunch every day but like, I mean apart from some days but it's hard to get in [to the canteen] unless you're prepared to queue for like 20 minutes.' (Henry, aged 12 years). As stated earlier, some young people from lower-income families say that schools restrict what young people with FSM can choose or their allowance is not sufficient enough to purchase more expensive food items. Some notice that their hunger affects their concentration at school and makes them feel 'weak' or 'tired'. They also report feeling embarrassed or stigmatised or say it is obvious which students are eligible for FSM. However, this is not the case in schools where school meals are compulsory and all students eat the same meal, such as those with 'family service'.

The following sections take a case approach to examine how young people experience different school meal polices and/or practices. As outlined earlier, four young people's experiences are discussed. Two young people attend Fieldview School; Ben from a lower-income and Michael from a higher-income family. And two young people attend Lakeside Academy; Fahad from a lower-income and Olivia from a higher-income family. Both schools and their lunchtime food policies are also analysed.

Fieldview School: Non-Compulsory School Meals and Few Restrictions

Fieldview School is a community secondary school that complies with the School Food Standards. It allows older students to leave the premises at lunchtimes and provides a range of hot or cold food options in the canteen. School meals are not compulsory and students can bring food from home if they wish. The canteen is 'cafeteria style' with a selection of differently priced hot meals, sandwiches, baguettes, salads and snacks. Students are not expected to sit formally at a table to eat their lunch. The school uses a cashless systems whereby students can either top-up their account with money at school or parents can do this at home online. Students cannot purchase food 'on credit' if they do not have any money on their account. Year 11 and sixth form students are permitted to leave the premises at lunchtime to eat at home or purchase food from the local food outlets. There is also a breakfast club which costs 80p or is free for students claiming FSM.

A Case from a Lower-Income Family: Ben

The first case from Fieldview School is Ben, a white British boy aged 15 years in year 11. He lives with his mother in a flat rented from the local authority. He has an older sister but she lives away from home at University. His mother is unemployed due to redundancy but was previously a secondary school teacher. His family are lower-income and their monthly income is £719 which, when equivalised after housing costs (AHC) is £680 per month, meaning they are in the lowest income decile (decile 1).[73] Ben receives a FSM allowance of £2 per day. His mother used to give him some extra money, but she cannot afford to do so anymore.

In the morning before school, Ben says he does not eat breakfast because he does not have enough time and it makes him feel unwell: 'It makes me feel sick if I eat in the morning… And because I wake up quite late, I don't get time to eat.' At school, Ben says his FSM allowance can be used at both mid-morning break and lunchtime. However, because he says he cannot afford to do both, he has to decide whether he will buy food at break or not, because if he does he will then not be able to buy food at lunchtime: 'Because we don't have enough money I can only get… either I get a sandwich at break or I get a sandwich at lunch.' In addition, because Ben's FSM allowance is only £2 per day, this excludes him from buying some of the food available at school: '…sandwiches cost like £1.80 and I've only got £2 on my card… The baguettes they [the school] have are like £2.36.' Unfortunately, the FSM allowance does not carry over either, meaning Ben cannot save up throughout the week to be able to afford the more expensive food. For example, if he bought sandwiches for two days, he would then have a surplus of 40 pence to afford a baguette on day three.

Ben always comes home at lunchtime, regardless of whether or not he has eaten something at break time, mostly because he is hungry since he says the food is not very filling and he doesn't like the food at school: '…the school food's not very nice or there's not that much of it. So even if I eat food at school I'm still hungry. And then I come back, have like some noodles or something.'

[73] Details regarding the calculation of equivalised household income and income deciles are in chapter 3, section 3.6.

He prefers to eat food that is ‘quick like noodles or a snack’. This does not necessarily mean that there is always something at home for him to eat. Due to his mother’s low income, he says he often finds that there is no food at home to eat for lunch (figure 6.2). This is dependent on whether his mother has been paid and how much. He explains that even when there is food to eat, it is never enough and he is usually left feeling hungry:

> *‘… when my mum’s been paid there’s food in the house, when she hasn’t been paid there’s no food in the house… I just see what’s in the house, look in the fridge, look in the cupboard. Look in the fridge again, hoping more food’s just appeared… There’s usually something to eat but very like, not a lot. So even if I do get food it’s not like a sufficient amount, so I’d still be hungry after I eat it. Especially as I’ve got a fast metabolism as well, I just like to eat.’* (Ben, male aged 15, Fieldview School).

Figure 6.2 *A photograph taken by the researcher of the inside of Ben's fridge. Ben's mother said she had not purchased food for a week when this photograph was taken.*

From Ben’s food menu (table 6.3), it shows a lack of variety in his diet and does not appear very nutritious. This is because of the limited food budget at home due to his mother’s low income and because of a limited FSM allowance at school, meaning he is left feeling hungry for most of the school day. Previously, Ben’s mother would ‘top-up’ his FSM allowance by giving him an additional £2 per day so that he could eat with friends for lunch at the food outlets outside of the school. However, she had to stop this, because she cannot afford to do so anymore: ‘…but the lunch time them being adult-ish you know, the school let them out and they want to go out and

buy takeaways, go to the café and have a chicken panini and things that cost 3 quid'. This is exacerbated because 'his friends have got money… they've got money, he hasn't.' Although she also thinks that one of the reasons he comes home at lunchtime is because 'he just wants to get out of school.' Occasionally she is able to give Ben £1 when he asks when he gets home after school so that he can buy chips or a burger. If she doesn't have any money to give him she feels guilty: '…when I have it I give it to him. I do yeah. I give it to him more you know yeah. He'll say have you got £1 mum? I'm happy when I've got £1 in my purse... And when I have it, I mean it almost induces a bit of guilt when I don't.'

Table 6.3: A typical school day food menu for Ben (male aged 15 years; poor diet quality; Fieldview School).

EHQ Frequency of Fruit	Every day or more
EHQ Frequency of Vegetables	2 – 4 days per week
Breakfast	None. Bacon sandwich on weekends
School Break	Sandwiches.
School Lunch	Noodles; pasta.
Evening Meal	Frozen burgers; pasta; noodles.
Snacks	Toast with chocolate spread; Weetabix dry or with milk.
Takeaways	Chicken and chips.

A Case from a Higher-Income Family: Michael

The second case from Fieldview School is Michael. He is a white British boy aged 14 years and is in year 10. He lives in a higher-income family with his mother, father and older sister (aged 16 years) in a terraced house that they own with a mortgage. His mother is a full-time director in research and development and his father is a full-time director of a marketing agency. Their monthly income is £7,750 which, when equivalised is £3,016 per month (AHC) meaning they are in one of the highest income deciles (decile 9). Michael does not receive FSM. His parents top-up his online payment card periodically and from this he spends approximately £3 at school per day. His father also gives him an additional £2 per day in cash and he takes additional prepared food from home to eat at school.

Michael's father prepares breakfast for him and his sister in the morning, so it is ready to eat when he comes down from his bedroom (figure 6.3). He says he eats breakfast every morning before school which usually consists of 'a boiled egg with like three strips of toast… some honeydew melon… then usually a glass of orange juice and a cup of tea.' With the extra £2 his father gives him in the morning, on his way to school he buys a packet of gum from a newsagents and

sometimes a packet of crisps and a drink to eat later at break. Michael's dad also prepares a bottle of water and a ham roll for him to eat at break time.

Figure 6.3 *A photograph taken by Michael of his breakfast before school, prepared by his father; toast soldiers, boiled egg, honeydew melon and a cup of tea.*

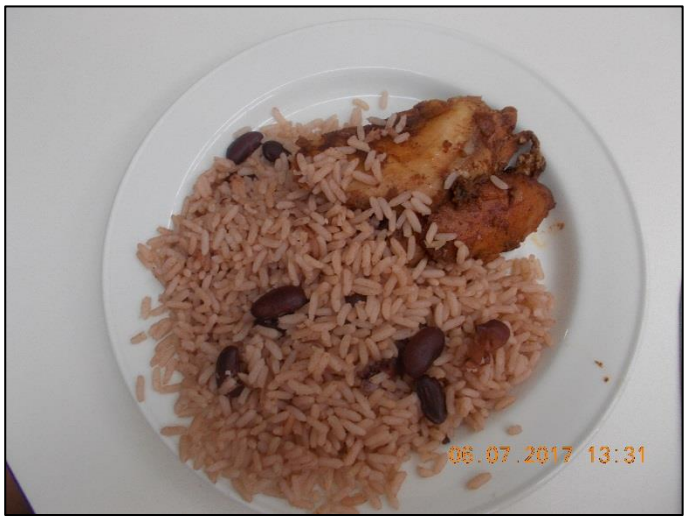

Figure 6.4 *A photograph taken by Michael of a school meal; rice, kidney beans and seasoned chicken.*

Figure 6.4 presents a photograph of a school meal Michael typically eats for lunch at school. At lunchtime, Michael says he usually eats 'whatever the school lunch is… either a hot meal or a sandwich.' However, he also says that he no longer likes the sandwiches because 'they tend to add a lot of like tomatoes and cucumber in it and it, lots of the juices from those get out and it makes the bread a bit soggy.' Furthermore, there are some days where he says he doesn't eat as much because there is nothing on offer that he likes. For instance, on a Monday he will 'always just have a fruit salad just cause the food they do on Mondays isn't that pleasant or whatever is

not too nice.' This means that on the days where he eats little at lunchtime he tends to eat more at home after school: 'then I'll probably end up eating more when I get home or something.' He also tends to have money left over from the morning, so 'a lot of the time' he buys sweets or crisps and a drink from a newsagents with his friends on his way home from school. Michael's food menu is presented in table 6.4, showing that he appears to eat much more throughout the day, as well as a more varied and nutritious diet, in comparison to Ben.

Table 6.4: A typical school day food menu for Michael (male aged 14; good diet quality; Fieldview School).

EHQ Frequency of Fruit	Every day, more than once.
EHQ Frequency of Vegetables	Every day, more than once.
Breakfast	Boiled egg, toast soldiers, honeydew melon, orange juice and cup of tea.
School Break	Water and ham roll.
School Lunch	Hot meal or sandwich; Fruit salad and Muller yoghurt; Rice and chicken.
Evening Meal	Pasta; stir-fry; roast dinner; sausage, mash potatoes and vegetables; chicken and salad.
Snacks	Toast; fried egg; fruit; oatcakes; sweets; crisps.
Takeaways	Indian curry; Pizza.

Michael is 'part of the student council' and explains that their role is to 'listen… and to actually change stuff'. However, when asked if he thought this was an effective method he says 'no, like no not at all... things rarely get changed.' His role as a student representative on the school council is seen as a way to miss lessons or to find out about what is happening in the school. Michael is pessimistic and says that even when students complain about the school food, often there is no compromise or solution. But he also doesn't seem to think there is much that the teachers themselves can do either: '… they're [the teachers] quite blunt about it when you talk to them, they're not like, there's no compromise. I guess in a way it's fair enough there isn't, there probably isn't like an easy one.'

Not only does Michael have complaints about the food itself, but also about the systems in place in the school canteen. He explains that, previously, paying for his lunch was quicker because the canteen 'used to have two queues' and 'there used to be a fast route on one of them [queues]'. However, they have now removed this system, which means he spends more time queuing at lunchtime: 'I end up probably spending like, ten minutes just like waiting in a line just for a bottle of water… it takes a long time just to get something that shouldn't.'

Comparison of Cases: Fieldview School

Although Ben and Michael attend the same school their experiences of school lunchtime differ, predominantly due to the financial circumstances of their families. Ben is a case of a young person in a lower-income family (income decile 1) who receives a FSM allowance of £2 per day, whereas Michael comes from a higher-income family (income decile 9). Typically he spends £3 per day at school, with an additional £2 to spend in newsagents. This is more than twice as much as Ben has to spend on food on a school day.

Although Ben is more critical of the food on offer at lunchtime, Michael does not appear to be particularly fond of it either. However, unlike Ben, Michael has choices as well as resources that Ben doesn't have, which is beneficial on the days that the food at school is unappealing. Firstly, Michael knows that there will be food at home when he returns from school; therefore he can forgo lunch or eat less on the days when the food in the school canteen doesn't appeal to him. This is not necessarily the case for Ben because he cannot always be certain there will be enough food at home to eat if he is hungry. Secondly, Michael has financial flexibility because his parents top-up his payment card as and when they need to meaning he is not limited to the £2 FSM allowance that Ben is. Being limited to £2 per day means some of the food options, such as baguettes, are out of financial reach for Ben. Thirdly, the additional money Michael receives from his father means he can buy snacks and food on the way to and from school. Ben's mother cannot afford to do this every day, leading to further social exclusion because he cannot afford to eat in food outlets with his friends.

Lakeside Academy: Compulsory School Meals

Lakeside is an academy that opened before September 2010, and must therefore comply with England's School Food Standards. It is inclusive in its approach to providing school lunch for students. School meals are compulsory, that is, every student has a hot school meal for lunch and all students must eat the same meal. This is regardless of FSM eligibility. Packed lunches and snacks brought from home are prohibited and are confiscated from students if found. The school has implemented a 'family style' service meaning that at the beginning of each academic year, students are allocated to a group with five other students with whom they are expected to sit with at lunch throughout the academic year. Students from different year groups can be grouped together and some students may not know each other. Each member of this group has a role to fulfil at lunchtime such as setting the table, serving the food and clearing the table. These roles rotate every half term. Main meals are accompanied by freshly baked bread, salads and a dessert or fresh fruit. Students in years 10 and 11 have 'Freedom Friday' which means they can sit with whoever they choose at lunchtime, rather than with their allocated group on a Friday.

Students are also not allowed to take money with them to school and they are prohibited from buying food from food outlets on the way to and from school. Lunch is paid for via a monthly direct

debit of £2.20 per day per child but additional money can be added to a student's account to pay for snacks at break. Parents also have access to a smart phone app that allows them to see their child's homework, attendance and the snacks they buy at break. The school has a breakfast club with some free options.

A Case from a Lower-Income Family: Fahad

Fahad is a British Asian boy aged 13 years and is in year 8. He lives with his mother and five siblings (aged 2, 3, 14, 16 and 17 years) in a terraced house rented from the local authority. His mother is employed part-time at an estate agents and also has her own business selling organic food and beauty products from home. Their monthly income is £1,950 which, when equivalised is £332 per month (AHC), which means they are in the lowest income decile (decile 1). Despite his family's low income, Fahad is not eligible for FSM and his mother must pay the school £2.20 per day for his meals at lunchtime, which she pays by monthly direct debit[74]. Fahad describes his school as 'really strict' and explains that students cannot take money or mobile phones with them to school.

In the mornings on a school day, Fahad says he seldom eats breakfast either at home or school. He says he's 'not really bothered to wake up even earlier' so that he can eat breakfast at home and says that if he were to eat breakfast in the morning, it would be food he could make the night before and 'have it in the morning on the way to school.' He is also not able to buy food from outlets on the way to school. Firstly, because his mother cannot afford to give him extra money. Secondly, because his school prohibits students from taking physical money to school, and if any student is seen buying food from outlets on the way to and from school '[they]'ll get a detention… they [the school] said it doesn't look professional.' His school does have a breakfast club that provides what Fahad describes as 'limited stuff' that doesn't cost money, such as porridge and cereal. '[T]here's stuff like croissants, chocolate buns [but] those kinds of stuff costs.' He rarely eats at the breakfast club due to lack of time and money: 'If I'm early to school I will just chill there with my friends. Like maybe I would get like one of the free stuff, but not really'.

At mid-morning break there is a school tuck shop available for the students to buy snacks from but he says that he '[doesn't] really get anything from there because the lines are always too long.' This often means that by lunchtime, he has eaten little and is hungry. However, as school meals are compulsory at Lakeside Academy and all students are served the same meal, Fahad has little choice about what to eat at lunchtimes. Fahad typically does not eat the food that is served because he does not like it. There is 'specific stuff' that he enjoys once or twice per week but even so, he still has complaints about these meals:

[74] Meals are £2.20 per day per child. The cost presented here is for Fahad only and does not include the cost for his siblings who also attend the same school.

'When I get to school there's only specific stuff that I like. Like only on Fridays they'll do fish and chips, on Wednesdays they do potatoes and chicken, but every other day… even on Wednesdays and Fridays, sometimes it's cold, or sometimes it just like doesn't really taste good, so I don't really have anything at school.' (Fahad, male aged 13, Lakeside Academy).

Figure 6.5 *A photograph taken by Fahad of some fruit he ate as a snack; orange and strawberries.*

When Fahad returns home from school, he is usually hungry and eats snacks, including fruit (figure 6.5): 'But when I get home that's really the main reason why I snack, cause the school food's not really good.' His mother says that Fahad and his siblings, who also attend the same school, 'come home most days really hungry' and that 'the first thing they do is come in and they're starving because they don't like the school food.' This adds to the food budget because she has to spend more money on food, such as bread, at home: 'It's just got ridiculous… we're on like a loaf a day.' Fahad's food menu from a typical school day is presented in table 6.5, clearly showing the little he eats throughout the school day until he gets home.

Fahad thinks that the school meals would taste better if the school consulted students and included them in decisions about the menu. He explains that there had recently been a student consultation whereby a 'visitor came in and asked [him]… about the food and stuff and they said how they were going to change it.' However, he has a pessimistic view of the process and does not think that this will change or improve the school meals: 'But everyone knew that he wasn't changing it because he was just a visitor and he never really wrote down anything we said, he just spoke to us about it… They always say they will improve the food but they never really do.'

Table 6.5: A typical school day food menu for Fahad (male aged 13; mixed diet quality; Lakeside Academy).

EHQ Frequency of Fruit	Did not complete EHQ
EHQ Frequency of Vegetables	Did not complete EHQ
Breakfast	None.
School Break	None.
School Lunch	Compulsory school meals: Fish and chips; chicken and potatoes.
Evening Meal	Chicken and rice; shepherd's pie; spaghetti bolognaise.
Snacks	Fruit; crisps.
Takeaways	Chicken and chips; Donner kebab and chips.

Despite the fact that Fahad often does not eat his school lunch, his mother still has to pay £2.20 per day to the school. This is something she resents and is actively challenging. She thinks that paying for school lunches that are not eaten is a waste of money:

> *'Yeah. That's what's killing me as well, because… with the school meals, but I'm arguing the case that my kids don't eat them. They literally sit there at the table and they don't touch their food, so why am I having to pay £12 a week per child for something that goes in the bin? So I'm still arguing that case.' (Fahad's Mother, Lakeside Academy).*

A Case from a Higher-Income Family: Olivia

The second case from Lakeside Academy is Olivia (also presented in chapter 5). Olivia is a white British girl in a higher-income family. She is aged 15 years and in year 11. She lives with her mother, father and two brothers (aged 10 and 17 years) in a four-bedroom terraced house that they own with a mortgage. Her mother is employed full-time at a research institute and her father is a self-employed consultant. Their monthly income is £7,300 which, when equivalised is £3,456 per month (AHC), which means her family are in income decile 9. Like Fahad she is not eligible for FSM and her parents pay £2.20 per day for her school meals as a monthly direct debit. Like Fahad, Olivia describes her school as 'very strict'.

Every morning before school Olivia states that she eats breakfast of toast or pitta bread with marmite spread, butter and a hot chocolate. She prepares this herself. At mid-morning break, there is somewhere that she can buy 'little snacks' but says that she doesn't usually buy anything because 'there's normally a really long queue and just… I'd rather have my break.' Although she does occasionally buy pastries such as pain au chocolate.

Figure 6.6 *A photograph taken by Olivia of a typical after-school snack; a bagel with marmite and butter.*

Like Fahad, Olivia is not complimentary about the taste of the food served at lunch. She thinks that having a 'bigger variety' of food to choose from at lunchtime would improve her lunchtime experience because 'if you don't like it then it's all you get so, even if, it can still be healthy options just having an option would be nice'. She does not like the taste of most meals at school and often doesn't eat anything. When she returns home from school she usually eats a snack of pitta bread, toast, a bagel or a sandwich because she doesn't eat much food at school (figure 6.6): 'I have something to eat every day… Because I don't eat a lot at school, cause I don't really like the school food. So then I just get really hungry.' This is confirmed by her mother who says that their conversations about school are usually about how 'disgusting' the food at lunch is. However her mother thinks this system is 'brilliant' and feels that Olivia has 'got to learn to just eat what's available and otherwise go hungry.' Olivia's food menu can be found in table 6.6.

Table 6.6: A typical school day food menu for Olivia (female aged 15; good diet quality; Lakeside Academy).

EHQ Frequency of Fruit	5 -6 days per week
EHQ Frequency of Vegetables	Every day or more
Breakfast	Hot chocolate; toast; pitta bread; toasted bagel; with marmite and butter
School Break	Pain au chocolate
School Lunch	Hot meals; chicken and rice
Evening Meal	Vegetable soup; tofu stir-fry; pasta; salad; fish
Snacks	Sandwiches; toast; pitta bread; fruit
Takeaways	Fish and chips

Because school meals are compulsory at Lakeside Academy and pupils are allocated to tables at the beginning of each academic year, this decides who will sit with who at lunch. Olivia thinks the system is 'okay' but this seems to be dependent on who she is allocated to sit with: '…one year I had a really bad table and I really hated it but this year I'm on a table with one of my friends and other people I don't really mind so, it could be a lot worse.' Because Olivia is in year 11 she has 'Freedom Friday' whereby she is allowed to sit with her friends at lunch on a Friday, rather than her allocated table. This is something she 'really enjoy[s]… cause it's just a bit of a break from the normal table seating.' When asked why she thought the school had these rules she says it is a combination of control, equality and to ensure the students are eating healthily:

> *'I think they like to be, it's a very strict school and they like to be organised and they like to have control over everyone, so I think everyone eating the same thing somehow makes everyone equal. And they want us to eat healthily and I guess that's the best way they can, that's the best thing they can do to ensure everyone eats healthily.'* (Olivia, female aged 15, Lakeside Academy).

Comparison of Cases: Lakeside Academy

Although the incomes of Fahad and Olivia's families are hugely discrepant (£682 and £3,456 per month AHC respectively), both young people share similar views about their school and the school food. They both describe their school as 'strict' and dislike much of the food at lunchtime. Their dislike of school food and the long queues at break time means that they eat little throughout the school day and both snack at home every day after school because they are hungry. Both young people also say that the long queues mean they rarely, if ever, buy food at mid-morning break. Fahad is pessimistic of the pseudo-consultation that occurs at school and doesn't think anything will change. Although Olivia does not discuss this she says that they should be allowed to have a choice about what to eat at lunchtime, but also understands the need for schools to provide healthy meals.

The differences between the families' incomes means that for Fahad's mother, there is not only the cost of school meals, that largely go uneaten, but also the cost of the large amount of snacks Fahad consumes when he gets home because he is feeling very hungry. Fahad's mother also talks about the financial waste of paying for school meals her son doesn't eat, a cost which she says is 'killing' her financially. In comparison, Olivia's mother does not appear to worry about the financial waste and instead sees this as an opportunity for her daughter to broaden her tastes, saying Olivia should just eat the food regardless of whether she likes it or not or else 'go hungry' – which of course will be fleeting, as there is plenty of food at home.

On the surface, the approach of Lakeside Academy is designed to address some of the shortcomings of the 'cafeteria' style approach to school meals that Fieldview School adopts. In theory, the egalitarian and inclusive 'family service' approach to school meals challenges the social inequalities that mark British society. However, because it operates in a national context in

which half of low-income children are not eligible for FSM, it is inadvertently making a difficult situation worse for those families. The lack of choice – about whether to have a school meal and what to eat - and dislike of the school food also leads to the unintended consequence that some children are going home hungry, regardless of their families' income.

6.4 Summary and Discussion

Young people spend a large proportion of their lives in school, meaning schools are potentially important influences on their dietary intake and food preferences. Overall, in this study, young people appear to have mixed views of school food, regardless of income. Their views appear to depend mostly on the way the food looks and tastes and on the social aspects of school meals, such as queuing and seating. The taste of school food is prioritised over the (un)healthiness of the food. For instance, Olivia says that she would like the taste and quality of her school's food to improve irrespective of whether this would mean the meals would be healthier or not. This reflects the findings from other studies that also suggest that taste is an important factor for young people when deciding what and where to eat during the school day (Janhonen, Mäkelä, & Palojoki, 2016; Wills et al., 2019).

Family income and the money made available by parents from higher-income families to young people provide them with options that few lower-income young people in this study had. In instances where the school food was said to not be enjoyable, young people from higher-income families supplemented school food by purchasing food from other food outlets or eating more when they are home. For example, Michael (higher-income, Fieldview School) purchased food from newsagents on his way home from school. In Olivia's case, she was prohibited from purchasing from food outlets on her way home, but eats more when she gets home. All of the young people from higher-income families in this study stated that they eat food when they get home. Not only does this give these young people options, but the additional cost did not appear to be a concern to their parents.

This was not always the case for young people from lower-income families. For those who did not have access to additional money, the FSM allowance was considered to be inadequate (approximately £2.20 per day) and, although it was vital for those most disadvantaged and deprived children, it was not enough to purchase a sufficient amount of food to prevent hunger throughout the school day. Previous findings from a survey of teachers and young people conducted by The Children's Society (2014), states that the way in which some schools deliver school meals at lunchtime leave young people feeling embarrassed. In this study, the way in which children on FSM were made publically visible in some schools stigmatises those young people, in particular when they are sent away to reselect cheaper food items in front of their peers, entrenching feelings of social exclusion. For instance, Ben (lower-income, Fieldview School) could only purchase items which are affordable within his FSM allowance. Other young people from lower-income families also said that they are restricted due to having FSM: 'But like the

sandwich boxes, the triangle sandwich boxes, one's black and one's brown, and I'm allowed the brown one, not the black one.'

Although some school practices were 'inclusionary', for example electronic payments and the 'family meal service' at lunchtime removed this stigma (O'Connell, Knight, et al., 2019), neither of the two schools discussed in this chapter had implemented school food practices that eradicated major inequalities by giving all children the same right to a school meal. On the surface, Lakeside Academy (with a lunchtime family meal service) was egalitarian and tried to foster a more equal environment for the students. It is not clear which students have FSM and all students are served the same meal. In fact, Olivia (higher-income, Lakeside Academy) said that she thinks that equality is one of the reasons for the implementation of a 'family meal service': 'I think everyone eating the same thing somehow makes everyone equal'.

However, the compulsory aspect of a 'family meal service' model can create other problems. In the case of Lakeside Academy, compulsory school meals presented low-income parents whose children are ineligible for FSM with extra costs. For example, this practice made it more difficult for Fahad's mother at home and Fahad is left hungry due to his dislike of the food. The affordability of school meals was a particular point of contention for Fahad's mother who feels it is a waste of money when her child does not eat the food at school that she is obliged to pay for. In contrast, the affordability of school meals at the same school was not a concern for Olivia's mother who can afford to pay for compulsory school meals, even though Olivia, like Fahad, also did not enjoy or eat the meals. School meals are seen here as a way of broadening the palette – an aspect of 'feeding children' that is widely encouraged but entails wasted food and hence additional costs. The cost of a school meal is an issue for low-income families even if meals are not compulsory. The Children's Society (2014) found that half of the low-income parents that they interviewed struggle to afford the cost of school meals and 21 per cent of children stated that they had missed a school meal because they did not have enough money.

In contrast, there were no clear practices at Fieldview School that seem to tackle inequalities, although the school did use a payment system that means it is less obvious who is in receipt of FSM. The students at Fieldview School had choices about the food they ate, unlike at Lakeside, but neither Ben (lower-income, Fieldview School) nor Michael (higher-income, Fieldview School) seemed enthusiastic about the food available. For Ben, however, the cost of the food on offer was clearly an issue because of limited FSM allowance.

Whilst schools may try to address social inequalities, they are constrained in doing so by national FSM policies. There are clear shortcomings in the system of means testing and current FSM eligibility criteria. Firstly, low-income families whose children are ineligible for FSM (those in receipt of specific state benefits) struggle to afford school meals and food at home as was the case for some of the families in this study. Secondly, the amount of allowance that children eligible for FSM have to spend on food throughout the school day is insufficient. In many cases, young people were excluded from purchasing food items that are more expensive than their FSM allowance. In addition, children were having to make difficult choices about when they choose to

eat at school – at break time or at lunchtime. Wills and colleagues (2018) state that for those young people whose families cannot afford to give them extra money 'they are not only socially excluded from participating in important lunchtime practices that contribute to social capital, they are [also] going through the school day on an empty stomach.' (p. 204). This was clearly the case for both Ben and Fahad in this study; Ben, due to an insufficient FSM allowance and Fahad due to the inadequate system and criteria for mean-testing FSM eligibility.

To conclude, school food policies and access to money from parents influence young people's experience of eating at school by restricting what young people can choose to eat and who with. A compulsory school meals system implemented by some schools does not necessarily mean that young people enjoy the meals. Even in schools where young people can choose from a menu, choices are still restricted where these options are not affordable for lower-income young people or those eligible for FSM, leading to negative and sometimes stigmatising experiences. The additional cash available to young people from higher-income families gives them more choice. In addition, the way in which systems and mealtimes are organised, such as the queuing system or having to sit at allocated tables, means young people spend less time socialising with their friends. Lastly, when the food is not enjoyable or does not taste nice it often means young people eat more food at home, which for lower-income families adds to the family food budgets. These issues are all compounded by national policies that not only provide an inadequate FSM allowance but also mean some children from low-income families are ineligible for FSM altogether, causing additional financial strain for families.

Chapter Seven: Discussion and Conclusion

The overall aim of this thesis was to examine the influence of family income on young people's (aged 11 – 16 years) food and eating practices using a mixed method approach. As discussed in chapter three (Concepts, Methodology and Research Design), in this thesis food and eating are conceptualised as practices, that is as activities that are embedded in and reflective of everyday lives and social circumstances (S. Scott, 2009). Food practices are also symbolic, personal and cultural. But these meanings are also contingent, that is, they can change over time and are dependent on where and who one is with (Mckendrick, 2004). 'We do not only function as individuals; practices and decisions about practices are relational, dynamic, negotiated and maintained within wider social structures and within everyday family lives' (Phoenix et al., 2017, p. 26).

The research questions I set out to address in this thesis are as follows:

1. To what extent do young people's diets vary by income and other factors? To what extent is family income related to the dietary intake and food and eating practices of young people? What other factors (e.g. age, sex, and ethnicity) also appear to be related to young people's dietary intake?

2. How do young people's parents influence their food and eating practices? In what ways does family income appear to make a difference to what young people eat at home and what other factors seem to be important in understanding differences?

3. How do school food policies and/or practices and young people's access to money influence their experience of eating at school? In what way do school food polices and/or practices influence what young people eat at home?

In chapter four, to address the first research question that sought to examine the patterns and variation of young people's dietary intake in relation to family income and other factors, the study carried out secondary quantitative analysis of the National Diet and Nutrition Survey waves 1 – 6 (NDNS; 2008/09 – 2013/14). Dietary intake was measured as fruit and vegetable portion consumption and overall diet quality was measured using the Diet Quality Index (DQI) percentage score. The second research question concerns how parents and family income influence young people's food and eating practices at home. The third question concerns how school food policies and/or practices and young people's access to money influence their experience and food and eating practices at school, and the ways these intersect with eating at home. However, because quantitative analyses of the NDNS cannot address the 'how' or 'why' of young people's food and eating practices, qualitative methods were used to address the second and third research questions. The qualitative analyses took a case study approach, drawing on in-depth interviews and visual methods with 36 lower and six higher-income young people and their parents (from 36 families) from an inner London borough. In chapter five, to address the first and second research

questions, I examined five in-depth cases of young people categorised as having ‘good’, ‘mixed’ and ‘poor’ diet quality; two from higher-income families and three from lower-income families. In chapter six, to address the third research question, I examined four cases of young people (two higher and two lower-income) from two secondary schools with different school food policies.

First, this chapter summarises the key findings from this study and discusses the contributions the findings make to the literature, including: young people’s food and eating practices in relation to family income; what other factors influence young people’s food and eating practices; and young people’s food and eating practices at secondary school in higher and lower-income families. I also look at how the quantitative and qualitative analyses ‘mesh’ (Brannen, 2005b). Second, I reflect on the methodology, research design employed in this doctoral study and the use of a practice theory lens to understand young people’s diets. I then discuss some of the strengths and limitations. Third, the chapter discusses the implications the findings may have for policy and practice in the UK, followed by a summary of some future directions for research.

7.1 Summary of Key Findings and Contributions to the Literature

This section summarises the main findings from this doctoral study and integrates the quantitative and qualitative analyses of chapters four, five and six. I show that the findings from the quantitative and qualitative analyses have in some ways corroborated and contradicted each other. Together, the quantitative and qualitative data provide a broader understanding of young people’s food and eating practices whilst contributing to the existing literature.

In summary, the findings from the secondary analyses of the NDNS indicate that variation in young people’s diets is associated with family income. Analysis of the qualitative data in chapter five showed how a low family income constrains parents’ ability to purchase adequate quantities of quality fresh fruit and vegetables that are recommended for a good quality diet. In addition to family income, other factors influenced young people’s food and eating practices at home, including: the parameters set by parents at home; customary cuisines and family food practices related to parents’ ethnicity; and mother’s paid employment. The qualitative findings from chapter six suggest that family income, free school meal (FSM) eligibility and school food policies influence young people’s experience of school lunchtimes as well as what they eat at school and at home.

Young People’s Food and Eating Practices in Relation to Family Income

Findings from the secondary analyses of the NDNS show that only 7.7% of young people in the NDNS sample consumed at least five portions of fruit and vegetables per day and the average daily portions consumed was 2.7. Few young people had an adequate diet quality (as measured by DQI percentage score). In addition, there have been no dietary improvements over-time (2008

– 2014). The fact that few young people in the NDNS met dietary recommendations is unsurprising, given the evidence from the existing literature that in the general population, young people's diets are largely inadequate. For example, analysis of the NDNS from Public Health England (PHE, 2018) shows that only five per cent of young people (aged 11 – 18 years) in the general population are meeting the government recommendation of no more than five per cent of total daily energy intake from Non-Milk Extrinsic Sugars (NMES). In addition, only 8 per cent consume at least five portions of fruit and vegetables per day and a higher proportion of this age group report intakes of nutrients below recommended levels in comparison to younger children and adults (PHE, 2016).

With regards to differences by family income, analyses of the NDNS indicated that family income is statistically associated with young people's diets. Family income was positively associated with both fruit and vegetable portion consumption and DQI percentage score, suggesting that diet quality increases as family income increases. Existing research suggests that young people from lower-income families are more likely to have diets that are considered unhealthy. For example, PHE analyses of NDNS waves 1 – 4 (2008/09 - 2011/12; PHE, 2014a) show that young people's (aged 11 – 18 years) fruit and vegetable portion consumption in income quintile 1 (lowest) is significantly lower than in income quintile 5 (highest). In addition, young people in lower-income quintiles are more likely to consume takeaways more often than those in higher-income quintiles (Taher et al., 2019). A higher proportion of young people from lower-income families exceed recommendations for NMES intake in comparison to the general population (Ntouva et al., 2013). Whilst some researchers have found improvements in young people's dietary intake over-time, a socio-economic gradients still persist (McNeill et al., 2017).

The quantitative analyses of the NDNS also showed that the purchase of fruit and vegetables was positively associated with young people's dietary intake and quality, whereby on average more regular fruit and vegetable purchasing increased young people's fruit and vegetables portion consumption and diet quality. In addition, the availability of fresh fruit in the home was positively associated with young people's fruit and vegetable portion consumption and diet quality. The more often fresh fruit was available in the home the better quality young people's diets were, for both measures of diet. These findings support existing research, suggesting that greater availability of fruit and vegetables (and less accessibility of 'energy-dense snacks') is associated with increased consumption of fruit and vegetables (Pearson et al., 2017).

There are similarities between the quantitative and qualitative findings. For instance, the qualitative findings presented in chapter five also suggest that young people's diets are varied in terms of their quality and few meet dietary recommendations (e.g. fruit and vegetable consumption). Only seven (7/42) had diets that were categorised at 'good' quality, as opposed to 'mixed' (19/42) or 'poor' quality (16/42). Less than half of all cases said that they consumed fruit (13/42) or vegetables (20/42) at least once per day. In terms of the differences by family income, there was a disproportionately high number of higher-income young people assessed as having a good diet quality (4/7), as opposed to a mixed (2/19) or poor (0/16) diet quality. There were no

higher-income young people with poor quality diets. However, there were some lower-income young people with good quality diets (3/7). Similarly to the quantitative analyses, median family income also increased as diet quality increased.

Unlike the quantitative analyses, the qualitative analysis further elaborates on how and why family income might influence young people's food and eating practices. Of the five in-depth cases of young people examined in chapter five, there was some similarity and variation of food and eating practices within and across income groups (lower and higher). For those young people from lower-income families, in Kiyana's case (aged 12 years, lower-income, poor quality diet) low income acted as a constraint on the family food budget, leading to economies in the quality and quantity of fresh food, such as fruit and vegetables. This also links to the findings in the quantitative analyses with regards to the positive associations between the purchase and availability of fruit and vegetables in the home and young people's diet quality (on both measures).

For Sally (aged 12 years, lower-income, good quality diet) and Piotr (aged 12 years, lower-income, mixed quality diet), whose diets were categorised as good and mixed quality (respectively), although family food budgets were constrained, their families were in a financial position to prioritise the food budget, reducing the expenditure of other budgets such as for clothes. Of those young people from higher-income families (Olivia, aged 15 years, good quality diet; and Charlie, aged 11 years, mixed quality diet), their high family incomes meant that their family food budgets were less constrained and were therefore able to purchase an adequate quantity of quality fresh fruit and vegetables from a variety of food outlets, for example, from more expensive supermarkets and local independent outlets. The parents of young people with good or mixed diet quality (Sally, Olivia, Charlie and Piotr) showed a preference for fresh fruit and vegetables and were able to prioritise their spending as such.

The existing literature indicates that healthier and more nutritious food is significantly more expensive than less nutritious food (Jones et al., 2014), meaning it is more difficult for low income families to meet government nutritional guidelines (C. Scott et al., 2018). Cutting the cost of food is also an immediate way to cut family expenditure in low-income households. However, as this study has also found, this often leads to compromises in the food available to purchase and, moreover, can have lasting consequences on overall health and social well-being (Dowler, 2014; Hossain et al., 2011; O'Connell, Knight, et al., 2019). The qualitative findings from this study support the existing literature by further highlighting the compromises that low-income families have to make when purchasing food and the consequences this can have for their family's diet quality.

Young People's Food and Eating Practices in Relation to other Factors

The analyses of the NDNS in chapter four and qualitative cases in chapter five suggest that there are other factors, in addition to family income, that influence young people's food and eating

practices such as: the young person's sex, takeaway consumption, mother's paid employment, the parameters set by parents at home; and customary cuisines and family food practices that reflect parents' ethnicity.

Analysis of the NDNS indicated that the young person's sex was significantly associated with young people's diet quality, whereby boys on average had a better diet quality than girls, and had consumed a higher proportion of their recommended nutrient intake (as measured by the DQI).[75] Boys consumed significantly more NMES as a percentage of energy, vitamin C, fibre, folate, calcium and iron than girls. This supports findings from PHE (2016) analysis of the NDNS waves 5 – 6 (2012/13 – 2013/14) that a lower proportion of boys consume nutrients below recommended levels in comparison to girls aged 11 – 18 years for iron, calcium and folate. But, PHE (2016) did not conduct further tests to examine if the differences were statistically significant.

In addition, in contrast to the DQI, there was no statistically significant association between sex and fruit and vegetable portion consumption in the analysis of the NDNS. This contradicts the existing literature. Simon and colleagues' (2017) analysis of HBSC data suggests that a higher proportion of girls than boys consume fruit five or six times per week or more. Similarly, Nelson and colleagues' (2007) analysis of Low Income Diet and Nutrition Survey (LIDNS) data showed that on average, girls consume more portions of fruit and vegetables than boys (2 and 1.6 portions respectively).

The qualitative analyses in chapter five did not support the quantitative analyses in relation to DQI percentage score. There was little variation between girls and boys in terms of how their diets were categorised; good, mixed or poor. It is not clear why a difference only exists for DQI percentage score. Mothers often spoke about 'hungry teenaged boys' during qualitative interviews. It may be that adolescent boys are consuming more food overall than girls, meaning more opportunities for boys to increase their nutrient intake, without necessarily increasing their fruit and vegetables portion consumption.

The analysis of the NDNS also suggested that regular consumption of takeaway meals at home is negatively associated with overall the dietary intake and diet quality of young people. This confirms similar secondary analysis of the NDNS. For example, Taher and colleagues (2019) suggest that low and moderate takeaway consumers (aged 11 – 18 years) have significantly better diet quality than more frequent takeaway consumers. The qualitative analyses in chapter five did not necessarily corroborate these findings. The young people categorised as having a 'good' diet quality (7/42; 4 higher and 3 lower-income) consumed takeaways, albeit rarely. Those with a 'mixed' diet quality (19/42; 2 higher and 17 lower-income) stated that they consumed takeaways more often, sometimes more than once per week. But those with 'poor' diet qualities (16/42; all lower-income) said that they consumed takeaways less often, somewhat contradicting the quantitative findings. However, the term 'takeaway' may cover a wide range of food and was

[75] DQI nutrients include NMES as % of energy; Saturated fat as % of energy; Vitamin C; Fibre; Folate; Calcium; and Iron.

based on what the young person or parent defined as a ‘takeaway’ meal, so may not be reflective of actual takeaway consumption.

The four young people (presented in chapter five) with diets categorised as good or mixed said that takeaway consumption was largely restricted by their parents at home, which their parents also confirmed. In contrast, the lower-income young person categorised as having a poor diet quality said that she only very occasionally consumed takeaway meals, and her mother stated that this was due to takeaways being unaffordable on their low family income. These young people who were categorised as having a ‘poor’ diet quality (16/42) typically had very low family incomes, so it is unlikely that these families were able to afford to eat takeaways on a regular basis. These findings, in part, support those of Turrell and Giskes (2008). Their multilevel analysis of the relationship between households’ socioeconomic position and their takeaway consumption in Brisbane, Australia, indicates that higher-income households purchased and consumed takeaway meals more regularly than lower-income households. They argue that this finding ‘challenges the notion that the procurement and consumption of takeaway food is more common among the socioeconomically disadvantaged.’ (Turrell & Giskes, 2008, p. 78).

The analysis of the NDNS suggested that, although mothers’ employment (full or part-time) was not statistically associated with young people’s fruit and vegetable consumption, it was associated with their overall diet quality, whereby it had a detrimental effect. Although this was a weak relationship. These findings contradict those of existing studies. For example, Sweeting and West’s (2005) analysis of a survey of young people aged 11 years living in the West of Scotland showed that young people with employed mothers were less likely to eat unhealthily, the inverse of the findings from this study. However, unhealthy eating was more likely if young people lived in deprived areas or had a mother with lower or no qualifications, suggesting that other socioeconomic factors are more important. Furthermore, Li and colleagues’ (2017) analysis of an Australian cohort study found that maternal working hours was not associated with young people’s diet quality at ages 8 and 14 years. Other studies predominantly focus on younger children or the influence of maternal employment on BMI, rather than dietary intake.

Of the qualitative data in this study, there did not appear to be any difference in the diet quality of young people amongst those with mothers who were or were not employed. However, parents’ employment did influence young people’s food and eating practices more generally, as opposed to just their dietary intake. Of the five young people (2 higher and 3 lower-income) presented in chapter five, four had a mother in part or full-time employment. The schedules and routines that were established in households in relation to parents’ working schedules influenced what and when young people ate as well as who with, regardless of young people’s diet quality. For instance, parents said that they prepared quicker meals if they were home from work later in the evening, or young people said that they would eat only with their siblings, rather than with their parents. But, in Kiyana’s case (lower-income and poor diet quality), whose mother worked particularly long hours, this did have a detrimental impact on her diet due to the nutritional quality of the food that was prepared for convenience by her father and constrained by low income.

In addition, the young people from families where both parents were employed, having additional support from other family members to care for the children was beneficial and could be a protective factor. For example, it meant there was an adult present to prepare food for the children and little reliance on nutritionally poor processed convenience food. In addition, two young people (Olivia and Kiyana; higher and lower-income respectively) said that in some instances they would heat meals that were pre-prepared by their parents and as instructed by their parents for their evening meal when their parents' working schedules were particularly busy.

As Slater and colleagues (2012) found in their interviews with eleven middle-class Canadian mothers who were employed with children aged 5 – 12 years, employed mothers who are responsible for family food provision face difficulties. For instance, mothers stated that they often relied on processed convenience food or takeaway meals to feed their children due to the busy and chaotic schedules of work and family life. Similarly in this doctoral study, Kiyana's mother relied on convenience food. In addition, existing studies with younger children also highlight how eating practices are organised around the working schedules of parents, similar to what some young people in this study experienced. For example, O'Connell and Brannen's (2016) interviews with employed mothers with younger children at two time points: first when the child was aged 2 – 12 years (n=48) and then two years later (n=33). They found that parents scheduled meals around their working hours, synchronising work, family activities and children's extra-curricular activities. However, O'Connell and Brannen (2016) concluded that 'mothers' working hours per se were not critical', but that other socioeconomic factors are likely to be more important for children's food and eating practices (p.76).

Although the quantitative analysis of the NDNS suggests that maternal employment is detrimental for young people's diet quality, this was only the case for one young person (Kiyana) included in the qualitative study (chapter five). However, given her food preferences and the highly constrained food budget, attributing cause to the mother's employment seems unreasonable. The families of the other young people with employed mothers organised their food and eating routines around their working schedules without compromising the quality of the food they were consuming. The quantitative and qualitative analyses in combination suggest that it may not necessarily be mothers' employment that is detrimental, but long working hours, coupled with low income that could be detrimental for young people's diets, as was the case for Kiyana.

The parameters established by parents within which young people were able to exercise their autonomy was also important for their food and eating practices, as illustrated by analysis of the qualitative cases (chapter five), for example, the food and drink purchased for the home by parents and the meals they prepared for their children. Young people described how parents established rules about what and when they could eat at home. However, the extent of the parameters varied. For instance, young people said that they had some autonomy at home when choosing what to eat, but could only choose from what their parents had already purchased for the home. And in these cases, they said that their parents did not purchase snacks such as crisps, chocolate, sweets or biscuits often, if at all, for health reasons. Others said that they experienced

further restrictions. For example, Piotr (aged 12 years, lower-income) and Sally (aged 12 years, lower-income) said that they were offered fruit as a snack and Piotr's mother stated that she questions him about whether he is actually hungry or not before he takes food. However, in the case illustrating a young person with a 'poor' diet quality, Kiyana, there was little or no evidence of restrictions on what snacks were available or when they could be eaten.

Evidence from this study that family and parents influence young people's food and eating practices is similar to Backett-Milburn and colleagues' (2010) comparative qualitative study of working and middle-class young people (aged 13 – 15 years) in Scotland. They found that although working-class young people were granted more autonomy than middle-class young people, both groups were restricted by the food that parents purchased for the home, with restrictions on less healthy food (e.g. sugary drinks, sweets and crisps) and requiring permission to eat snacks.

Ethnicity was not statistically associated with dietary intake or diet quality in the analyses of the NDNS (chapter four). These findings contradict the existing literature suggesting that there are differences in the diets of young people of different ethnicities. For example, Fuller's (2006) analyses of Health Survey England (HSE) data suggests that a larger proportion of ethnic minority children (aged 5 – 15 years) consume five or more portions of fruit and vegetables per day when compared with children in the general population.

However, in the analysis of the qualitative cases (chapter five), particular customary cuisines and food practices were identified by children and parents as related to parental ethnicity. These appeared to influence the parameters around young people's food and eating practices at home. First, Olivia's (aged 15 years, higher-income, good diet quality) father who is Portuguese insisted that Olivia and her siblings consumed fruit as a dessert after their evening meal. Both Olivia and her mother stated that this was linked to his Portuguese ethnicity. Second, Piotr's (aged 12 years, lower-income, mixed diet quality) family are Polish and said his mother encouraged him to consume vegetable soup (a Polish daily staple) as a snack rather than eating 'unhealthy' snacks. These food and eating practices established parameters for young people that other young people did not experience. These practices contributed positively to the young people's diets by increasing the likelihood of eating fruit and vegetables. The qualitative findings regarding customary cuisines and food practices linked to parental ethnicity provide new insights because there are no existing qualitative studies examining the influence of parents' ethnicity on adolescent-aged young people's food and eating practices in the UK.

In summary, even during adolescence, a period whereby young people seek and negotiate more autonomy, parents still have a considerable influence over their children's food and eating practices at home. This is not just on the basis of the food that parents purchase and make available in the home for young people to eat. Parents' working schedules appear to have a significant influence on what and when young people eat, often dependent on the amount of time parents have available to cook and prepare evening meals. In addition, the rules and restrictions which young people are expected to (or not) abide by also influence their food and eating

practices, including what, when and where young people can eat and whether they can prepare their own meals. Lastly, the customary cuisines and food practices related to parental ethnicity may also influence these rules and restrictions, as well as the types of meals consumed at home. All of these factors appear to influence young people's food and eating practices in some way, including on the quality of their diets.

Young People's Food and Eating Practices at Secondary School

In chapter six, the qualitative analysis of 37 young people attending secondary school addressed the third research question, which is concerned with how school food policies and practices, and young people's access to money, relate to their experience of eating at school and home. This included the enjoyment of school meals and young people's experience of the food environment. Irrespective of family income, young people predominantly said that the healthiness of school meals was not important to them. Their enjoyment of school food and the social aspects at break and lunchtimes were more important. Young people, both higher and lower-income, in this study also complained about the social environment within the school canteen. Typically, the canteen was described as noisy and rushed, with long queues and an inadequate amount of seating or time to consume food and drink whilst socialising with friends. This supports the findings from Baines' and Blatchford's (2019) national survey, which suggests that socialising during break and lunchtime is important to young people. But time for socialising is too short in secondary schools, especially at lunchtime.

Affordability of school food was particularly salient for young people from lower-income families. For example, some young people complained about the high cost of some food items on the menu, mainly in comparison to the food and drink bought from other outlets and takeaways outside of school. Going to takeaway or fast food outlets after school was not only for the purpose of purchasing food, but also for socialising with friends, regardless of family income. However, in practice this led to social isolation or embarrassment for some lower-income young people when they did not have enough money to reciprocate or purchase food with their friends. Regardless, they still frequented these outlets to socialise with friends after school.

School Lunchtime Policies and Social Inclusion/Exclusion

In the qualitative cases, it appeared that family income and school food policies combined to influence some young people's experience of eating both at school and at home. School food policies varied and some were more inclusive than others. For example, Lakeside Academy had compulsory school meals, meaning all students ate the same hot meal for the same price at lunchtime. Although Lakeside appeared to try to implement a more equal school food policy at lunchtime, inequalities still persisted and the compulsory aspect further entrenched financial difficulties for lower-income families and young people who were not eligible for FSM. For example, Fahad (aged 13 years, lower-income), who was not eligible for FSM, did not enjoy nor

eat the school meals available. Therefore his mother was paying for school meals her son was not eating and could not afford to do so. But, because school meals were compulsory, Fahad had no choice about what he wanted to eat at school lunchtimes and his mother had to continue paying. Although Lakeside was trying to implement a more equal approach to school meals, the national FSM policy and eligibility criteria limited the school's ability to fulfil this goal.

The comparison school, Fieldview, had a cafeteria style canteen, with a selection of different hot meals, sandwiches, salads and snacks for students to choose from. However, the Fieldview model also created problems for lower-income families. Although Ben (aged 15 years, lower-income) was eligible for FSM, he said the allowance was not enough for him to purchase larger baguettes or enough food to stop him feeling hungry. He had no additional money to purchase food from outlets outside the school with his friends at lunchtime and he said that there was often not enough food at home when he was hungry. Whereas Michael (aged 14 years, higher-income) said that when there was nothing he liked in the school canteen, he bought snacks from the shop with the additional money given to him by his parents and he said that he ate more food after school at home.

Higher-income young people tended to have access to additional money to spend on food at school. By contrast, some lower-income young people experienced social exclusion because they could not afford to purchase food from food outlets outside the school with their friends during lunchtimes or after school. Their choices at lunchtime were also limited, particularly if they were eligible for FSM.

Fourteen young people from lower-income families (14/32) were not eligible for FSM under the current eligibility criteria and some of them went hungry throughout the school day. In some cases this was because their parents were not in receipt of specific benefits or within the income threshold.[76] However, seven young people were going through the asylum process, meaning their families had no recourse to public funds (NRPF), including FSM, as also evidenced by the Families and Food in Hard Times (FFHT) study with which this doctoral study is linked (O'Connell, Knight, et al., 2019).[77] Where young people were eligible for FSM (14/37), the allowance was often not sufficient enough for the school day, such as in the case of Ben, meaning the young person would go hungry. They also had to choose whether to purchase food at mid-morning break or lunchtime because they could not afford to do both. However, in some cases, young people's FSM allowance was supplemented with additional money from their parents which meant they could also afford to purchase food at both.

The daily FSM allowance that young people said they received varied in this doctoral study depending on the school they attended. The FSM allowance does not roll-over or accumulate,

[76] Eligibility differs across the UK nations. However, in England students are entitled to FSM if they or their parent/guardian are in receipt of at least one of the following: UC with earnings no more than £7,400; Income support; Income-based Jobseeker's Allowance; Income-related Employment and Support Allowance; Support under Part VI of the Immigration and Asylum Act 1999; the guarantee element of Pension Credit; Child Tax Credit, provided not entitled to WTC with an income no more than £16,190; and WTC run-on (four weeks after disqualification from WTC).

[77] During the asylum process individuals are not permitted to apply for state benefits, including FSM, or seek paid employment.

meaning that if some of the daily allowance is unspent, this does not remain on the young person's account to be used the following day. This was a particular issue for Ben (aged 15 years, lower-income), whose FSM allowance was £2 per day, with sandwiches costing £1.80 and baguettes costing £2.36, meaning he could not accumulate enough allowance to be able to purchase a baguette once or twice per week. Despite some of these inadequacies of the FSM eligibility criteria and allowance, FSM were clearly essential for young people from lower-income families.

Similarly, focus groups with parents conducted by The Children's Society (Royston et al., 2012) indicate that young people often require additional money to supplement their FSM allowance because it is not enough to purchase food throughout the school day. In addition, a survey of over one thousand young people (aged 11 – 15 years) and focus groups with 13 young people (aged 14 – 18 years) conducted by Child Poverty Action Group (CPAG, 2012) suggests that the FSM allowance is not sufficient to purchase a full meal at school.

A handful of schools also stigmatised FSM recipients and had restrictions on what young people could or could not buy with their FSM allowance at lunchtimes. Some young people eligible for FSM who queued to pay for the 'wrong' item, were sent back to select a 'correct' item. This left them feeling embarrassed and also made it clear who was or was not eligible for FSM.

The restrictions implemented by schools and the inadequacies of the FSM allowance meant that lower-income young people's choices were further limited in comparison to those of higher-income young people. For instance, on days where the food on the menu was not enjoyable, higher-income young people could either purchase food at school, on the way home from school or eat at home, knowing there will be food there. Michael (aged 14 years, higher-income) said that he typically purchased something small (e.g. a fruit salad) and ate more food at home on days where the school food was not something he liked. But, lower-income young people like Ben said he could not be certain that food would be available at home, nor did he have the additional money from his mother to purchase food from school or other food outlets.

Contributions to the Literature

Although the use of a case-study approach in this doctoral study cannot provide generalisations, the cases do provide an in-depth account of some young people's food and eating practices. This builds on previous findings from surveys, focus groups and other qualitative studies in the UK, as discussed in the literature review (for example, see the following: Baines & Blatchford, 2019; Harvey, 2016; Knight, O'Connell, et al., 2018; Laverty, 2019; O'Connell & Brannen, 2016; Wills et al., 2011). The use of a mixed methods research has meant that this study has highlighted some of the important statistical patterns in young people's diets, as well as being able to illuminate the nuances of young people's food and eating practices that cannot be reflected by quantitative analyses alone. One particular contribution of this study to the existing literature is the comparison between young people from lower and higher-income families. To my knowledge,

there are no recent mixed methods studies that have compared the diet quality of these two groups of young people in the UK. In addition, the analyses of young people's experiences of food and eating practices in relation to family income is limited (Harvey, 2016). Qualitative studies examining the influence of income on young people typically rely on accounts from parents, rather than the young person (Harvey, 2016; Hossain et al., 2011). This study focused on the food and eating practices of young people largely from their own perspective, rather from the perspective of their parents.

7.2 Methodological Reflections

In this section, I reflect on the methods used in this doctoral study, including some of the strengths and limitations. First, I discuss the value of using a practice theory approach to examine young people's diets. Second, I reflect on the secondary analyses of the NDNS dataset to examine the statistical patterns of young people's dietary intake and diet quality in relation to family income. I then reflect on the use of a qualitative case study approach consisting of interviews and visual methods and secondary analysis of interviews drawn from the linked FFHT study. This is followed by a reflection on the linkage with the FFHT study. Finally, I discuss the merits of using a mixed methods approach and data integration.

As discussed in chapter three (section 3.2), a practice theory approach not only focuses on what food people eat, but also how this relates to what they say about what they do, their social relationships and other related practices. It recognises that food's symbolic dimensions are intertwined with its physical value (Lupton, 1996). 'People eat food, not nutrients. That is, they generally see the substances they ingest through the lens of culture and social relationships' (McIntosh, 1996, p. 4). In this study, food and eating practices have been a lens through which to view social and income inequalities and how they relate to food. For example, school food is often discussed in terms of its nutritional (material) benefit for children. However this study has highlighted the social importance of school food for young people not only for socialising with friends but also for social inclusion (e.g. eating takeaway with friends after school). Another example is the way in which lower family income is not only a material constraint on how much and what food a household can purchase. Lower family income also interacts with other social factors (e.g. maternal employment or parental ethnicity) to further influence young people's food and eating practices in different ways. Upon reflection, this approach has been incredibly useful because it has provided a more holistic insight into young people's lives in relation to food and eating. In particular it has highlighted not only the material reality of food (nutrients) but also the meanings attached to food (symbolic, cultural and social). These are aspects of food and eating that traditional psychological approaches, for example, do not necessarily illuminate so easily.

The use of the NDNS for secondary analyses provided a large sample of young people with robust and detailed nutrition data. However, the analysis in this doctoral study was not 'weighted' and therefore the findings are not representative of the UK general population. I was not seeking to

report on the diet quality of young people in the general population, as with national PHE reports, and have not presented it as such. But, the findings in this doctoral study in relation to young people's consumption of fruit and vegetables are somewhat similar to those found in other analyses of similar datasets on dietary intake in the general population of young people in the UK.

The NDNS is a cross-sectional survey, meaning the data were collected from different individuals at discrete time points. Although it was possible to conduct analyses of general dietary trends over-time, it was difficult to determine the effects of policy changes or changes to the diets of young people on an individual basis. It was therefore not possible to take into account past dietary intake or family income when the young people were younger children. Furthermore, there were some discrepancies in the measures and questions used in the NDNS during different data waves. For example, the way in which ethnicity or nationality is derived differed from waves 1 – 4 and waves 5 – 6. Some questions included in previous waves of the data collected have also been removed in subsequent waves. For example, questions regarding organic produce were removed in wave 6. However, the NDNS is currently the most comprehensive dataset for examining young people's dietary intake in the UK.

Dietary intake and diet quality were measured using derived variables of daily fruit and vegetable portion consumption and the DQI. However, the DQI is not validated and therefore may not have been a true or accurate measure of children and young people's overall diet quality. Although there are other validated measures of dietary intake available, the DQI was developed specifically for use with the NDNS four-day food diary data in accordance with expert advice and government recommendations for children and young people's nutrient intake in the UK. Fruit and vegetable portion consumption is typically considered a representative of a healthy diet. However, there are no '5-a-day' recommendations for children aged 1.5 – 10 years, meaning age comparisons were not possible, unlike for the DQI. The DQI also considered the age and sex differences for the relevant nutrient recommendations. The inclusion of two dietary measures strengthened the quantitative analyses and the differences that may occur due to how dietary intake or diet quality are operationalised was somewhat addressed.

As discussed in chapter three (Concepts, Methodology and Research Design), the qualitative case study approach was intended to explore the 'how', 'what' and 'why' questions and to gain an 'in-depth appreciation' of particular families concerning young people's food and eating practices in relation to family income (Crowe et al., 2011, p. 11). As food and eating practices are both complex and embedded in everyday realities, it was also intended to situate these practices in the contexts of their schools as well as their families. However, the use of a case study approach with a relatively small number of cases sacrifices generalisability for depth of analysis. It is not the intention to generalise to the wider population (Brannen & Nilsen, 2011). By examining a relatively small number of cases I was able to reflect the complex nuances of particular young people's practices and how they are shaped not only by income, but also by ethnicity for example, at home and school.

Combining interviews and visual methods provided contextual insights into each young person's everyday life. For instance, young people and their parents were asked about their 'last' school and non-school day and what they did in relation to food and eating practices, how typical this was and what might change these practices (e.g. special occasion, holidays). The kitchen tours typically revealed places where food was stored, and rules about access, including food that children in the household were not permitted to eat. It also revealed some further nuances regarding the family's food and eating practices that were not always provided during the main interview. The photo elicitation interviews (PEI) with young people allowed me to contextualise and understand the flow and routine of the household with regards to food – what was eaten, as well as when, where and who with. However, the photographs were predominantly limited to images of food, such as a meal on a plate or a snack held in their hand. Few young people included images of socialising or the spaces or places they ate, prepared or purchased food for themselves. This may reflect the way in which the task was introduced; to take photographs of practices and places that relate to food in their lives. Or that for young people the explicit materiality of food is more visceral or relevant to them, as opposed to the more implicit meanings of food that may go unnoticed.

Having a doctoral study that is linked to a wider study meant that I was able to conduct secondary analysis of the qualitative data – of the 30 lower-income families in the borough – as well as contribute to the data collection for FFHT. For example, I contributed to data collection during the visual methods phase of the FFHT study with young people and their parents. In total I visited six of the 9 lower-income families included in the visual methods phase. Unlike other instances of secondary analysis, I could discuss the cases with my colleagues and those who conducted the interviews to gain further insight and clarification beyond the family case summaries. Conducting some of the interviews also gave me a broader understanding of the process and offered valuable capacity building and research experience. Although I only recruited a small number of higher-income families, they were all recruited from the same inner London borough where both the higher and lower-income families in this study and the FFHT study lived.

Research designs are shaped by research questions. In this doctoral study I sought to examine the quantitative patterns of a phenomenon alongside research questions that seek to examine the qualitative aspects of the same phenomenon, which were to do with meaning and process (Brannen, 2005a). In the case of this doctoral study, I carried out secondary analysis of a quantitative dataset (the NDNS) and analysed in-depth qualitative case studies of 42 young people and their families (from 36 families).[78] As illustrated earlier in this chapter, the use of two types of data do not simply combine together 'to produce a unitary or rounded reality' (Brannen, 2005b, p. 176). It depends on the purpose for which each analysis is used and how it relates to what the research questions are. In this study the analyses were each conducted side by side, and given equal weight in terms of their importance.

[78] Two young people were interviews in six of the families.

On reflection, the use of what can loosely be defined as a 'convergent' design (Creswell, 2015) – in this case, collecting the qualitative data whilst at the same time analysing the quantitative data – was particularly beneficial to the outcomes of this study.[79] It meant that qualitative interviews were not directly driven by the findings from the quantitative data analyses. For example, in chapter four, the secondary analyses of the NDNS suggested that ethnicity was not statistically associated with young people's dietary intake. Whereas, the qualitative analysis presented in chapter five suggested that parents and young people identified parents' ethnicity as influencing their food and eating practices by defining boundaries around food and eating, contributing positively to their dietary intake. Whereas, if the qualitative interviews were driven by the findings of the quantitative analyses, the nuances of the food and eating practices related to ethnicity may not have surfaced during the interviews.

During the interpretation phase, I used a technique called triangulation (O'Cathain et al., 2010), whereby the findings from the quantitative and the qualitative parts of this doctoral study were listed side-by-side, as described in chapter three (section 3.7). The findings were then compared as per the four potential outcomes described by Brannen (2005b): corroboration; elaboration; complementarity; and contradiction. When analysing the data in this doctoral study there was no predetermined outcome in mind. The data from the quantitative and qualitative analyses have both corroborated and contradicted. For example, there were contradictions with regard to the associations between young people's diets and ethnicity (as noted above). In addition, the qualitative findings have elaborated on the quantitative findings to provide a more nuanced description of young people's food and eating practices. For example, the qualitative analyses have corroborated the existence of an income trend in young people's diet quality, but the qualitative findings have highlighted how and why this trend might exist. This has been a useful and relatively straightforward technique that has led to valuable insights into the factors that influence young people's food and eating practices, as detailed throughout this chapter.

7.3 Implications for Policy and Practice

The findings from this doctoral study may have implications for policy and practice in the UK. In particular, the findings have illustrated the inadequacies of the existing FSM system that have implications for policy at both the national and local levels. The findings show that FSM policies require some minor and more fundamental changes to reduce inequalities and social exclusion amongst young people in secondary schools. These include, for example, a change to the eligibility criteria and increase in the FSM allowance. This has implications for the national FSM policy, which was originally introduced to tackle the health and dietary inequalities of children and young people (Acheson, 1998). In addition, it has been suggested by policy makers and campaigners that FSM are important for the diets of children's families by contributing to the food

[79] Typically, with convergent designs the quantitative and qualitative data collection would occur concurrently, but as I was secondary analysing the NDNS the quantitative data had already been collected. This is discussed in chapter 3, section 3.7.

budget (Acheson, 1998; The Children's Society, 2012). Again, the evidence from this study suggests that low-income families not eligible for FSM are experiencing financial hardship due to the burdensome costs of school meals and the fact that some low-income working families are not currently eligible. These implications are discussed.

Free School Meals: Reframing a Vital State Benefit for Children and Young People

Eligibility is currently dependent on the state benefits the child or parent is in receipt of, alongside their annual income, as discussed in chapter six. However, the annual income threshold has now changed, due to the introduction of Universal Credit (UC), which is intended to replace existing state benefits. Previously, the income threshold was £16,190 per year, excluding those in receipt of working tax credits (WTC). However, with UC replacing 'legacy' benefits such as WTC, the income threshold is now £7,400 per year for all UC claimants.[80] The Children's Society (2018) estimated that the introduction of UC and the change in income threshold for FSM eligibility would lead to one million fewer children receiving FSM than before the changes. In addition, it is estimated that one third of children living in poverty are not eligible for FSM regardless of changes to the eligibility criteria due to UC (Royston et al., 2012).

Extending the eligibility criteria to include such young people would be beneficial. However, having an income threshold that does not account for other factors, for example family size, may still lead to low-income young people remaining ineligible. In addition, any changes would also have to capture those young people with NRPF, which may be difficult given that their parents are not eligible to claim state benefits. These young people are particularly vulnerable to hunger. A similar approach to that of the Portuguese system may be beneficial. In Portugal, school meals are paid for using a three-tiered system (O'Connell, Brannen, & Knight, 2019). Young people from families with the lowest incomes receive fully subsided school meals. Those on low incomes in the mid-category pay only half of the school meal costs. The rest pay full price for meals which is capped at €1.46 per meal. All children are given the same three-course meal.

Another solution would be to introduce universal free school meals (UFSM), meaning that all children attending a state school would receive a school meal regardless of their family income and at no cost to them.[81] Such a policy would ensure that every child or young person would be entitled to a school meal each day, even those with NRPF. However, there are cost implications for such a fundamental change to the school meals system and it would require increased school funding from central government. The Department for Education (2013) piloted UFSM in primary schools (children aged 4 – 11 years) across two local authorities and an extended FSM

[80] The UC income threshold is £14,000 per year in Northern Ireland.
[81] Universal infant FSM were introduced in 2014 for children in reception and years one and two in primary schools.

entitlement model in secondary schools in one local authority.[82] The impact on diet, health and behaviour, including the potential financial costs, were evaluated.

For the local authorities piloting the UFSM model, the additional annual cost of providing FSM to those not eligible under the existing criteria was £3.8 million and £7.6 million. In the third local authority with the extended entitlement model the additional annual cost was £0.72 million.[83] The UFSM model led to minimal changes to dietary behaviours or children's BMI, but an increase in school meal uptake and improvements to educational attainment.[84] The improvements to attainment were particularly significant for those children from less affluent families.[85] There were no improvements in school absences, meaning the improvements in attainment were not due to increased attendance.

The same improvements were not observed with the extended model. However, these schools were secondary schools, which might explain some of the differences in observed outcomes between the models. But overall, the evaluation would suggest that there are benefits to introducing a universal system that are not replicated by simply extending the FSM eligibility criteria. Given the evidence from this doctoral study, some of the improvements may be linked to a reduced feeling of social exclusion by young people eligible for FSM. There was no evaluation of the social outcomes.

The second issue with FSM as the current policy stands, is the inadequacy of the allowance. The findings from this study illustrate some of the localised issues with FSM in schools and local authorities that may contribute to inequalities within and across schools. Schools should take into account the FSM allowance of their students when tendering for catering contracts to ensure that items on the menu will be affordable and/or remove the restrictions on what young people can and cannot purchase with their allowance. For instance, by not restricting the use of the FSM allowance to lunchtimes only as was the case for some young people in this study. This has the potential to reduce some of the social exclusion and stigmatisation experienced by young people eligible for FSM. Young people would also benefit from changes to how much control they have over their allowance. For instance, permitting any unspent allowance to accumulate on student's accounts. There is currently a student-led campaign called the 'Just Change' campaign (Tyne & Wear Citizens & Citizens UK, 2019). The aim of the campaign is to get schools and caterers in the UK to change their systems so that any unspent FSM allowance will accumulate on student's accounts.

[82] The income threshold for the extended model remained at £16,190 per year, but the criteria was extended to include those families in receipt of WTC.
[83] Total running cost for UFSM model: Local Authority A: £12.1m; Local Authority B: £16.6m. Total running cost for extended model: Local Authority C: £2.0m.
[84] Healthier dietary behaviours defined as eating crisps less than once per day; eating cake and/or biscuits less than once per day; and eating fruit at least twice per day.
[85] Less affluent defined as those children eligible for FSM under the existing eligibility criteria.

7.4 Directions for Future Research

A number of areas for future research have been highlighted by the existing literature and findings of this study with regards to young people's food and eating practices and school food policies in the UK. First, further studies are required to examine the relationship between parental ethnicity and young people's dietary intake. Although the findings in this study have illustrated how parental ethnicity shaped the parameters of family food practices, this was based on a small number of qualitative cases and this study was not designed to examine the influence of ethnicity. It was designed to examine the influence of family income. In addition, the existing large scale quantitative datasets that include robust dietary data are not adequate for conducting in-depth quantitative analysis of the differences across ethnic groups, due to the inconsistency in how ethnicity is grouped and the small sample of young people in different ethnic groups.

Second, it would be beneficial to extend the current analyses to include the latest NDNS data waves (waves 7 (2014/15) – 9 (2016/17)) in order to increase the available sample size. Currently there have been no analyses of income trends in relation to young people's food and eating practices of NDNS waves 1 – 9. Further examination of the factors that are statistically associated with young people's diets within income groups is also needed. This would provide further opportunities to examine young people's diets in relation to more differentiated income levels. If there are differences within income groups, then this could provide new insights for better targeted interventions that help improve the diets of low-income families and young people who are less likely to be able to afford adequate quantities and quality food (C. Scott et al., 2018).

Third, robust analyses of the contribution that school meals make to overall dietary intake is needed. This is particularly important given the significant changes to school food standards based on the recommendations of the School Food Plan (Dimbleby & Vincent, 2013). The new regulations removed nutrient based standards and replaced them with standards based on food groups (DfE, 2019a). The NDNS dataset could be extended with additional data collection specifically dedicated to the consumption and dietary intake of school food, with additional data about the school the individual attends. In addition, this level of robust data collection would also permit better recording and evaluation of the impact that changes to school food standards have over time. If linked with the main NDNS dataset, it would also permit analysis of the effects that FSM provision has on the family's dietary intake. For example, do the financial savings of not paying for a child's school meal contribute to the family's overall dietary intake at home? This seems especially important, given it was originally proposed as one of the benefits of FSM provision (Acheson, 1998).

Last, given the findings from this study and others (Rodrigues, 2012; Royston et al., 2012; The Children's Society, 2014) regarding the inadequacies of current FSM provision and eligibility criteria, a review of the policy and consultation with young people who are currently eligible for FSM is needed to determine what works, what doesn't and what requires improvement. In particular the review should focus on the following: the introduction of an eligibility criteria that is

more effective at capturing low-income young people; the inadequacies in the amount of allowance young people receive; whether the allowance should accumulate over time, rather than as a 'daily' limit; and how both national and local school policies in relation to FSM can reduce stigmatisation and social exclusion. This could also provide the opportunity for further evaluation of UFSM provision for children and young people and to assess the educational and social benefits of such a policy.

7.5 Conclusion

The overall aim of this thesis was to examine the influence of family income on young people's (aged 11 – 16 years) food and eating practices. This was addressed using a mixed methods approach, by secondary analyses of the NDNS dataset waves 1 - 6 (2008/09 – 2013/14) and qualitative analyses of 42 in-depth cases of young people and their families (6 higher-income and 36 lower-income). Together, the qualitative and quantitative findings of this thesis have contributed to the existing literature and provided new insights. To my knowledge, there are no current studies comparing the food and eating practices of young people from higher and lower-income families from the young person's perspective in the UK. The young people included in this study have inadequate diets, with few meeting government recommendations. However, family income has a positive influence on young people's diets. A lower family income constrains the household food budget, limiting access to quality fresh food typically considered as representative of a healthy diet. A higher family income means that young people's families have more choice and access to better quality food.

However, there were also other factors related to young people's food and eating practices including: the young person's sex, takeaway consumption, parental employment, parental working hours, food restrictions at home and the customary cuisines and family food practices related to parental ethnicity. Furthermore, family income, local school food policies and the national FSM policy combined to influence young people's experience of food and eating practices at school and at home. The current FSM eligibility criteria and daily FSM allowance are largely inadequate for young people's needs. Although there were some limitations as discussed, the findings have some implications for policy and practice, namely for local school food policies and the national FSM policy. The findings highlight areas for potential future research, for instance to examine the influence of family food and eating practices related to ethnicity on young people's food and eating practices in the UK.

Bibliography

Acheson, D. (1998). *Independent Inquiry into Inequalities in Health*. London, UK: The Stationery Office.

Adamson, A., Spence, S., Reed, L., Conway, R., Palmer, A., Stewart, E., … Nelson, M. (2013). School food standards in the UK: Implementation and evaluation. *Public Health Nutrition*, *16*(6), 968–981.

Albani, V., Butler, L. T., Traill, W. B., & Kennedy, O. B. (2017). Fruit and vegetable intake: Change with age across childhood and adolescence. *British Journal of Nutrition*, *117*(5), 759–765.

Allsop, J. (2013). Competing Paradigms and Health Research: Design and Process. In M. Saks & J. Allsop (Eds.), *Researching Health: Qualitative, Quantitative and Mixed Methods*. Cornwall, UK: MPG Books Group.

Atkinson, P., & Hammersley, M. (2007). *Ethnography. Principles in Practice* (3rd ed.). London, UK: Routledge.

Atkinson, W., & Deeming, C. (2015). Class and cuisine in contemporary Britain: The social space, the space of food and their homology. *Sociological Review*, *63*(4), 876–896.

Backett-Milburn, K., Wills, W. J., Roberts, M.-L., & Lawton, J. (2010). Food and family practices: Teenagers, eating and domestic life in differing socio-economic circumstances. *Children's Geographies*, *8*(3), 303–314.

Baines, E., & Blatchford, P. (2019). *School Break and Lunch Times and Young People's Social Lives: A Follow-up National Study*. London, UK: Nuffield Foundation.

Banfield, E. C., Liu, Y., Davis, J. S., Chang, S., & Frazier-Wood, A. (2016). Poor adherence to U.S. dietary guidelines for children and adolescents in the NHANES population. *Journal of the Academy of Nutrition & Dietetics*, *428*(4), 709–719.

Barton, C. (2017). *Home Ownership and Renting: Demographics. Biefing Paper No. CBP 7706*. London, UK: House of Commons Library.

Bassett, R., Chapman, G. E., & Beagan, B. L. (2008). Autonomy and control: The co-construction of adolescent food choice. *Appetite*, *50*, 325–332.

Beagan, B. L., Chapman, G. E., & Power, E. M. (2016). Cultural and symbolic capital with and without economic constraint. *Food, Culture & Society*, *19*(1), 45–70.

Belk, R. W., Bahn, K. D., & Mayer, R. N. (1982). Developmental recognition of consumption symbolism. *Journal of Consumer Research*, *9*(1), 4–17.

Bell, D., & Valentine, G. (1997). *Consuming Gerographies: We Are Where We Eat*. London, UK:

Routledge.

Benzeval, M., Bond, L., Campbell, M., Egan, M., Lorenc, T., Petticrew, M., & Popham, F. (2014). *How does Money Influence Health?* York, UK: Joseph Rowntree Foundation.

Blatchford, P. (1998). *Social Life in School. Pupils' experiences of breaktime and recess from 7 to 16*. London, UK: Routledge.

Blue, S., Shove, E., Carmona, C., & Kelly, M. P. (2016). Theories of practice and public health: understanding (un)healthy practices. *Critical Public Health*, *26*(1), 36–50.

BMA. (2015). *Food for Thought: Promoting Healthy Diets among Children and Young People*. London, UK: British Medical Association.

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgement of Taste*. London, UK: Routledge.

Bourquin, P., Cribb, J., Waters, T., & Xu, X. (2019). *Living Standrds, Poverty and Inequality in the UK: 2019*. London, UK: Institute for Fiscal Studies.

Brannen, J. (2005a). Mixed Methods Research: A discussion paper. In *NCRM Methods Review Papers, NCRM/005.*

Brannen, J. (2005b). Mixing methods: The entry of qualitative and quantitative approaches into the research process. *International Journal of Social Research Methodology*, *8*(3), 173–184.

Brannen, J., Dodd, K., Oakley, A., & Storey, P. (1994). *Young People, Health and Family Life*. Buckingham, UK: Open University Press.

Brannen, J., & Nilsen, A. (2011). Comparative biographies in case-based cross-national research: Methodological considerations. *Sociology*, *45*(4), 603–618.

Brannen, J., O'Connell, R., & Mooney, A. (2013). Families, meals and synchronicity: Eating together in British dual earner families. *Community, Work & Family*, *16*(4), 417–434.

Brooks, F., Klemera, E., Chester, K., Magnusson, J., & Spencer, N. (2020). *Health Behaviour in School-aged Children England National Report: Findings from the 2018 HBSC study for England*. Hatfield, UK: University of Hertfordshire.

Brooks, F., Magnusson, J., Klemera, E., Chester, K., Spencer, N., & Smeeton, N. (2015). *Health Behaviour in School-aged Children England National Report 2014*. Hatfield, UK: University of Hertfordshire.

Bryman, A. (2008). The End of the Paradigm Wars? In P. Alasuutari, L. Bickman, & J. Brannen (Eds.), *The SAGE Handbook of Social Research Methods*. London, UK: SAGE Publications Ltd.

Charlies, N., & Kerr, M. (1988). *Women, Food and Families*. Manchester, UK: Manchester

University Press.

Child Poverty Action Group. (2012). *Going Hungry? Young People's Experiences of Free School Meals*. London, UK: Child Poverty Action Group.

Coulthard, J. D., Palla, L., & Pot, G. K. (2017). Breakfast consumption and nutrient intakes in 4-18-year-olds: UK National Diet and Nutrition Survey Rolling Programme (2008-2012). *British Journal of Nutrition*, *118*(4), 280–290.

Coveney, J. (2000). *Food, Morals and Meaning. The Pleasure and Anxiety of Eating*. London, UK: Routledge.

Craig, L. C. A., McNeill, G., MacDiarmid, J. I., Masson, L. F., & Holmes, B. A. (2010). Dietary patterns of school-age children in Scotland: Association with socio-economic indicators, physical activity and obesity. *British Journal of Nutrition*, *103*(3), 319–334.

Craig, R., & Shelton, N. (2008). *Health Survey for England 2007 Volume 1 Healthy Lifestyles: Knowledge, Attitudes and Behaviour*. Leeds, UK: The NHS Information Centre.

Creswell, J. W. (2015). Revisiting Mixed Methods and Advancing Scientific Practices. In S. Hesse-Biber & R. B. Johnson (Eds.), *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry*. Oxford, UK: Oxford University Press.

Cribb, J., Keiller, A. N., & Waters, T. (2018). *Living Standards, Poverty and Inequality in the UK: 2018*. London, UK: Institute for Fiscal Studies.

Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., & Sheikh, A. (2011). A case study approach. *BMC Medical Research Methodology*, *11*(100).

Currie, C., Molcho, M., Boyce, W., Holstein, B., Torsheim, T., & Richter, M. (2008). Researching health inequalities in adolescents: The development of the Health Behaviour in School-Aged Children (HBSC) Family Affluence Scale. *Social Science & Medicine*, *66*(6), 1429–1436.

Daniel, P., & Gustafsson, U. (2010). School lunches: Children's services or children's spaces? *Children's Geographies*, *8*(3), 265–274.

Defra. (2010). *Family Food. A report on the 2008 Family Food Module of the Living Costs and Food Survey*. Norwich, UK: The Stationery Office.

Defra. (2019). *Family Food 2017/18*. London, UK: Defra.

Department for Education. (2011). *Statutory Instrument 2011 No. 1190. The Education (Nutritional Standards and Requirements for School Food) (England) (Amendment) Regulations*.

Department for Education. (2012). *Departmental advice for school food in England: Exemptions to the school food regulations.* London, UK: Department for Education.

Department for Education. (2013). *Evaluation of the Free School Meals Pilot. Impact Report*. London, UK: Department for Education.

Department for Education. (2018a). *Free School Meals. Guidance for local authorities, maintained schools, academies and free schools*. London, UK: Department for Education.

Department for Education. (2018b). *Schools, Pupils and their Characteristics: January 2018*. London, UK: Department for Education.

Department for Education. (2019a). School Food Standards: Resources for Schools. Retrieved November 20, 2019, from https://www.gov.uk/government/publications/school-food-standards-resources-for-schools#history

Department for Education. (2019b). *Schools, Pupils and their Characteristics: January 2019*. London, UK: Department for Education.

Department of Education & Employment. (2007). *Statutory Instrument 2007 No. 2359. Education (Nutritional Standards and Requirements for School Food) (England) Regulations*.

Department of Education & Employment. (2008). *Statutory Instrument 2008 No. 1800. The Education (Nutritional Standards and Requirements for School Food) (England) (Amendment) Regulations*.

Department of Health. (1991). *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom*. London, UK: HMSO.

Dermott, E., & Pomati, M. (2016). “Good” parenting practices: How important are poverty, education and time pressure? *Sociology*, *50*(1), 125–142.

DeVault, M. (1991). *Feeding the Family*. Chicago, US: University of Chicago Press.

Dey, I. (1993). *Qualitative Data Analysis*. London, UK: Routledge.

Dimbleby, H., & Vincent, J. (2013). *The School Food Plan*. London, UK: Department for Education.

Donin, A. S., Nightingale, C. M., Owen, C. G., Rudnicka, A. R., McNamara, M. C., Prynne, C. J., … Whincup, P. H. (2010). Nutritional composition of the diets of South Asian, black African-Caribbean and white European children in the United Kingdom: The child heart and health study in England (CHASE). *British Journal of Nutrition*, *104*(2), 276–285.

Dorling, D. (2015). The mother of underlying causes - Economic ranking and health inequality. *Social Science & Medicine*, *128*, 327–330.

Dowler, E. (2008). Food and health inequalities: The challenge for sustaining just consumption. *Local Environment*, *13*(8), 759–772.

Dowler, E. (2014). Food Banks and Food Justice in “Austerity Britain.” In G. Riches & T. Silvasti

(Eds.), *First World Hunger Revisited*. Hampshire, UK: Palgrave Macmillan.

Dowler, E., Kneafsey, M., Lambie, H., Inman, A., & Collier, R. (2011). Thinking about "food security": Engaging with UK consumers. *Critical Public Health*, *21*(4), 403–416.

Dowler, E., & O'Connor, D. (2012). Rights-based approaches to addressing food poverty and food insecurity in Ireland and UK. *Social Science & Medicine*, *74*(1), 44–51.

Doyle, L., Brady, A. M., & Byrne, G. (2016). An overview of mixed methods research – revisited. *Journal of Research in Nursing*, *21*(8), 623–635.

DWP. (2017). *Households Below Average Income: An Analysis of the UK Income Distribution: 1994/95 - 2015/16*. London, UK: Department for Work & Pensions.

DWP. (2018). *Households Below Average Income: An Analysis of the UK Income Distribution: 1994/95 - 2016/17*. London, UK: Department for Work & Pensions.

DWP. (2019a). *Households Below Average Income: An Analysis of the UK Income Distribution: 1994/95 - 2017/18*. London, UK: Department for Work & Pensions.

DWP. (2019b). *Households Below Average Income (HBAI) Quality and Methodology Information Report*. London, UK: Department for Work & Pensions.

Dwyer, L., Oh, A., Patrick, H., & Hennessy, E. (2015). Promoting family meals: a review of existing interventions and opportunities for future research. *Adolescent Health, Medicine & Therapeutics*, *6*, 115.

Elliott, R., & Wattanasuwan, K. (1998). Brands as symbolic resources for the construction of identity. *International Journal of Advertising*, *17*(2), 131–144.

Ensaff, H., Russell, J., & Barker, M. E. (2013). Meeting school food standards - Students' food choice and free school meals. *Public Health Nutrition*, *16*(12), 2162–2168.

Fabian Society. (2015). *A Recipe for Inequality*. London, UK: Fabian Society.

Feilzer, M. Y. (2010). Doing mixed methods research pragmatically: Implications for the rediscovery of pragmatism as a research paradigm. *Journal of Mixed Methods Research*, *4*(1), 6–16.

Finch, J. (2007). Displaying families. *Sociology*, *41*(1), 65–81.

Fischler, C. (1988). Food, self and identity. *Anthropology of Food*, *27*(2), 275–292.

Fischler, C. (2011). Commensality, society and culture. *Social Science Information*, *50*(3–4), 528–548.

Fitzsimons, E., & Pongiglione, B. (2019). The impact of maternal employment on children's weight: Evidence from the UK. *SSM - Population Health*, *7*, 100333.

Fletcher, A., Jamal, F., Fitzgerald-Yau, N., & Bonell, C. (2014). "We've got some underground

business selling junk food": Qualitative evidence of the unintended effects of English school food policies. *Sociology*, *48*(3), 500–517.

Friedman, M. (2015). Mother blame, fat shame, and moral panic: "obesity" and child welfare. *Fat Studies*, *4*(1), 14–27.

Fullana, J., Pallisera, M., & Vilà, M. (2014). Advancing towards inclusive social research: visual methods as opportunities for people with severe mental illness to participate in research. *International Journal of Social Research Methodology*, *17*(6), 723–738.

Fuller, E. (2006). Children's Health. In *Health Survey for England 2004: The Health of Minority Ethnic Groups*. Leeds, UK: The NHS Information Centre.

Gallagher, J. (2015, March 30). Parents "rarely spot child obesity." *BBC News*. Retrieved from https://www.bbc.co.uk/news/health-32069699

Gallegos, D., Dziurawiec, S., Fozdar, F., & Abernethie, L. (2011). Adolescent experiences of "family meals" in australia. *Journal of Sociology*, *47*(3), 243–260.

Gelman, A. (2007). Struggles with survey weighting and regression modeling. *Statistical Science*, *22*(2), 153–164.

Gibson, S., Francis, L., Newens, K., & Livingstone, B. (2016). Associations between free sugars and nutrient intakes among children and adolescents in the UK. *British Journal of Nutrition*, *116*(7), 1265–1274.

Gomm, R., Hammersley, M., & Foster, P. (2000). Case Study and Generalization. In R. Gomm, M. Hammersley, & P. Foster (Eds.), *Case Study Methods: Key Issues, Key Texts*. London, UK: SAGE Publications Ltd.

Graham, H. (2009). Health inequalities, social determinants and public health policy. *Policy & Politics*, *37*(4), 463–479.

Guenther, P. M., Casavale, K. O., Reedy, J., Kirkpatrick, S. I., Hiza, H. A., Kuczynski, K. J., … Krebs-Smith, S. M. (2013). Update of the Healthy Eating Index: HEI-2010. *Journal of the Academy of Nutrition & Dietetics*, *113*(4), 569–580.

Guenther, P. M., Reedy, J., & Krebs-Smith, S. M. (2008). Development of the Healthy Eating Index-2005. *Journal of the American Dietetic Association*, *108*(11), 1896–1901.

Gustafsson, U., O'Connell, R., Draper, A., & Tonner, A. (2019). *What is Food? Researching a Topic with Many Meanings*. Oxon, UK: Routledge.

Guthman, J., & DuPuis, M. (2006). Embodying neoliberalism: Economy, culture, and the politics of fat. *Environment & Planning D: Society & Space*, *24*(3), 427–448.

Hagell, A., Shah, R., Viner, R., Hargreaves, D., Varnes, L., & Heys, M. (2018). *The Social Determinants of Young People's Health*. London, UK: The Health Foundation.

Hammersley, M. (1996). The Relationship between Qualitative and Quantitative Research: Paradigm Loyalty versus Methodological Eclecticism. In J. T. E. Richardson (Ed.), *Handbook of Qualitative Research Methods for Psychology and the Social Sciences*. Leicester, UK: BPS Books.

Hammersley, M., Gomm, R., & Foster, P. (2009). Case Study and Theory. In R. Gomm, M. Hammersley, & P. Foster (Eds.), *Case Study Method*. London, UK: SAGE Publications Ltd.

Harden, J., Backett-Milburn, K., Hill, M., & MacLean, A. (2010). Oh, what a tangled web we weave: Experiences of doing "multiple perspectives" research in families. *International Journal of Social Research Methodology*, *13*(5), 441–452.

Harding, S., Whitrow, M., Maynard, M. J., & Teyhan, A. (2007). Cohort profile: the DASH (Determinants of Adolescent Social well-being and Health) study, an ethnically diverse cohort. *International Journal of Epidemiology*, *36*(3), 512–517.

Hartley, J. E., Levin, K., & Currie, C. (2016). A new version of the HBSC Family Affluence Scale - FAS III: Scottish qualitative findings from the International FAS Development Study. *Child Indicators Research*, *9*(1), 233–245.

Harvey, K. (2016). "When I go to bed hungry and sleep, I'm not hungry": Children and parents' experiences of food insecurity. *Appetite*, *99*, 235–244.

Hays, S. (1996). *The Cultural Contradictions of Motherhood*. London, UK: Yale University Press.

Health Survey for England. (2018a). *Health Survey for England 2017: Children's Health*. London, UK: Health and Social Care Information Centre.

Health Survey for England. (2018b). Health Survey for England 2017 [NS]. Retrieved June 20, 2019, from https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england /2017

Health Survey for England. (2019a). *Health Survey for England 2018: Children's Health*. London, UK: NHS Digital.

Health Survey for England. (2019b). Health Survey for England 2018: Data Tables. Retrieved December 3, 2019, from https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2018/health-survey-for-england-2018-data-tables

Hesse-Biber, S. (2015). Introduction: Navigating a Turbulent Research Landscape: Working with Boundaries, Tensions, Diversity and Contradictions of Multimethods and Mixed Methods Inquiry. In S. Hesse-Biber & R. B. Johnson (Eds.), *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry*. Oxford, UK: Oxford University Press.

Hiam, L., Harrison, D., McKee, M., & Dorling, D. (2018). Why is life expectancy in England and Wales "stalling"? *Journal of Epidemiology & Community Health*, *72*(5), 404–408.

Hill, S. E., Prokosch, M. L., DelPriore, D. J., Griskevicius, V., & Kramer, A. (2016). Low childhood socioeconomic status promotes eating in the absence of energy need. *Psychological Science*, *27*(3), 354–364.

HM Government. (2016). *Childhood Obesity. A Plan for Action*. London, UK: The Stationery Office.

Hossain, N., Byrne, B., Campbell, A., Harrison, E., McKinley, B., & Shah, P. (2011). *The Impact of the Global Economic Downturn on Communities and Poverty in the UK*. York, UK: Joseph Rowntree Foundation.

Hoyland, A., Dye, L., & Lawton, C. L. (2009). A systematic review of the effect of breakfast on the cognitive performance of children and adolescents. *Nutrition Research Reviews*, *22*(2), 220–243.

Huang, P., O'Keeffe, M., Elia, C., Karamanos, A., Goff, L. M., Maynard, M., … Harding, S. (2019). Fruit and vegetable consumption and mental health across adolescence: Evidence from a diverse urban British cohort study. *International Journal of Behavioral Nutrition & Physical Activity*, *16*(1).

IBM Corp. (2017). *IBM SPSS Statistics for Windows, Version 25.0*. Armonk, NY: IBM Corp.

Inchley, J., Mokogwu, D., Mabelis, J., & Currie, D. (2020). *Health Behaviour in School-aged Children (HBSC) 2018 Survey in Scotland: National Report*. Glasgow, UK: University of Glasgow.

Ipsos MORI. (2015). *2013/14 Health Behaviour in School-aged Children (HBSC) Wales: Key Findings*. Cardiff, UK: Welsh Government.

Jackson, P. (2009). *Changing Families, Changing Food*. Hampshire, UK: Palgrave Macmillan.

James, A., & Curtis, P. (2010). Family displays and personal lives. *Sociology*, *44*(6), 1163–1180.

James, A., Curtis, P., & Ellis, K. (2009). Negotiating Family, Negotiating Food: Children as Family Participants? In *Children, Food and Identity in Everyday Life*. London, UK: Palgrave Macmillan.

Janhonen, K. H., Mäkelä, J., & Palojoki, P. (2016). Adolescents' school lunch practices as an educational resource. *Health Education*, *116*(3), 292–309.

Joassart-Marcelli, P., Salim, Z., & Vu, V. (2018). Food, Ethnicity and Place. Producing Identity and Difference. In P. Joassart-Marcelli & F. J. Bosco (Eds.), *Food and Place: A Critical Exploration*. Maryland, US: Rowman & Littlefield.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, *33*(7), 14–26.

Jones, N. R., Conklin, A. I., Suhrcke, M., & Monsivais, P. (2014). The growing price gap between

more and less healthy foods: Analysis of a novel longitudinal UK dataset. *PLoS ONE*, *9*(10), e109343.

Kapetanaki, A. B., Wills, W. J., Danesi, G., & Spencer, N. H. (2019). Socioeconomic differences and the potential role of tribes in young people's food and drink purchasing outside school at lunchtime. *International Journal of Environmental Research & Public Health*, *16*(14).

Kaplan, E. B. (2000). Using food as a metaphor for care. Middle-school kids talks about family, school, and class relationships. *Journal of Contemporary Ethnography*, *29*(4), 474–509.

Kelly, M. P., & Barker, M. (2016). Why is changing health-related behaviour so difficult? *Public Health*, *136*, 109–116.

Knight, A., Brannen, J., O'Connell, R., & Hamilton, L. (2018). How do children and their families experience food poverty according to UK newspaper media 2006-15? *Journal of Poverty & Social Justice*, *26*(2), 207–223.

Knight, A., O'Connell, R., & Brannen, J. (2018). Eating with friends, family or not at all: Young people's experiences of food poverty in the UK. *Children & Society*, *32*(3), 185–194.

Krebs-Smith, S. M., Pannucci, T. E., Subar, A. F., Kirkpatrick, S. I., Lerman, J. L., Tooze, J. A., … Reedy, J. (2018). Update of the Health Eating Index: HEI-2015. *Journal of the Academy of Nutrition & Dietetics*, *118*(9), 1591–1602.

Lai, H. T., Hutchinson, J., & Evans, C. E. L. (2019). Non-Milk extrinsic sugars intake and food and nutrient consumption patterns among adolescents in the uk national diet and nutrition survey, years 2008–16. *Nutrients*, *11*(7).

Lally, P., Bartle, N., & Wardle, J. (2011). Social norms and diet in adolescents. *Appetite*, *57*(3), 623–627.

Lambie-Mumford, H., Crossley, D., Jensen, E., Verbeke, M., & Dowler, E. (2014). *Household Food Security in the UK: A Review of Food Aid*. London, UK: Defra.

Lambie-Mumford, H., & Green, M. (2015). Austerity, welfare reform and teh rising use of food banks by children in England and Wales. *Area*, *49*(3), 273–279.

Lang, T., Barling, D., & Caraher, M. (2009). *Food Policy: Integrating Health, Environment and Society*. Oxford, UK: Oxford University Press.

Laverty, L. (2019). Managing food insecurity through informal networks of care: an ethnography of youth practices in the North of England. *Sociology of Health & Illness*, *41*(4), 709–722.

Lawlor, D. A., & Pearce, N. (2013). The Vienna declaration on nutrition and non-communicable diseases: Time to look upstream. *BMJ*, *347*, f4417.

Leggett, W. (2014). The politics of behaviour change: Nudge, neoliberalism and the state. *Policy & Politics*, *42*(1), 3–19.

Leung, G., & Stanner, S. (2011). Diets of minority ethnic groups in the UK: Influence on chronic disease risk and implications for prevention. *Nutrition Bulletin*, *36*(2), 161–198.

Levin, K. A., Kirby, J., Currie, C., & Inchley, J. (2012). Trends in adolescent eating behaviour: A multilevel cross-sectional study of 11-15 year olds in Scotland, 2002-2010. *Journal of Public Health*, *34*(4), 523–531.

Li, J., Akaliyski, P., Schäfer, J., Kendall, G., Oddy, W. H., Stanley, F., & Strazdins, L. (2017). Non-linear relationship between maternal work hours and child body weight: Evidence from the Western Australian Pregnancy Cohort (Raine) Study. *Social Science & Medicine*, *186*, 52–60.

Li, J., O'Sullivan, T., Johnson, S., Stanley, F., & Oddy, W. (2012). Maternal work hours in early to middle childhood link to later adolescent diet quality. *Public Health Nutrition*, *15*(10), 1861–1870.

Lindsay, J., Tanner, C., Leahy, D., Supski, S., Wright, J., & Maher, J. (2019). The family meals imperative and everyday family life: an analysis of children's photos and videos. *Critical Public Health*, 1–13.

Ludvigsen, A., & Scott, S. (2009). Real kids don't eat quiche: What food means to children. *Food, Culture & Society*, *12*(4), 417–436.

Lupton, D. (1996). *Food, the Body and the Self*. London, UK: SAGE Publications Ltd.

Mack, J. (2018). Child Maltreatment and Child Mortality. In V. Cooper & D. Whyte (Eds.), *The Violence of Austerity*. London, UK: Pluto Press.

Mackenbach, J. D., Brage, S., Forouhi, N. G., Griffin, S. J., Wareham, N. J., & Monsivais, P. (2015). Does the importance of dietary costs for fruit and vegetable intake vary by socioeconomic position? *British Journal of Nutrition*, *114*(9), 1464–1470.

Mackenbach, J. P., Meerding, W. J., & Kunst, A. E. (2010). Economic costs of health inequalities in the European Union. *Journal of Epidemiology & Community Health*, *65*(5), 412–419.

Macrae, F. (2016, June 27). Working mothers "have FATTER children": Rise in obesity is blamed on women going out to work. *The Daily Mail*. Retrieved from https://www.dailymail.co.uk/health/article-3662309/Working-mothers-FATTER-children-Rise-obesity-blamed-women-going-work.html

Maher, J. M., Fraser, S., & Lindsay, J. (2010). Between provisioning and consuming?: Children, mothers and "childhood obesity." *Health Sociology Review*, *19*(3), 304–316.

Maher, J. M., Fraser, S., & Wright, J. (2010). Framing the mother: Childhood obesity, maternal responsibility and care. *Journal of Gender Studies*, *19*(3), 233–247.

Marmot, M., Allen, J., Boyce, T., Goldblatt, P., & Morrison, J. (2020). *Health Equity in England:*

The Marmot Review 10 Years on. London, UK: Institute of Health Equity.

Marteau, T. M., McGowan, J. G., Petticrew, M., Rutter, H., Pearson-Stuttard, J., & White, M. (2018). Changing Behaviour for a Healthier Population. In *Annual Report of the Chief Medical Officer, 2018. Health 2040 - Better Health Within Reach*. London, UK: Department of Health and Social Care.

Masson, L. F., Bromley, C., Macdiarmid, J. I., Craig, L. C. A., Wills, W., Tipping, S., & McNeill, G. (2012). *Survey of Diet Among Children in Scotland (2010) Volume 1: Diet, Obesity and Physical Activity*. Aberdeen, UK: Food Standards Agency.

McClements, L. D. (1977). Equivalence scales for children. *Journal of Public Economics*, *8*, 191–210.

McIntosh, W. A. (1996). *Sociologies of Food and Nutrition*. New York, USA: Plenum Press.

Mckendrick, J. (2004). The diet of children's geographies. *Children's Geographies*, *2*(2), 293–295.

McNeill, G., Masson, L. F., Macdiarmid, J. I., Craig, L. C., Wills, W. J., & Bromley, C. (2017). Socio-economic differences in diet, physical activity and leisure-time screen use among Scottish children in 2006 and 2010: Are we closing the gap? *Public Health Nutrition*, *20*(6), 951–958.

Mcneish, D., & Gill, T. (2006). Editorial: UK policy on children: Key themes and implications. *Children's Geographies*, *4*(1), 1–7.

Meah, A., & Jackson, P. (2016). Re-imagining the kitchen as a site of memory. *Social & Cultural Geography*, *17*(4), 511–532.

Meier, A., & Musick, K. (2014). Variation in associations between family dinners and adolescent well-being. *Journal of Marriage & Family*, *76*(1), 13–23.

Mikkelsen, B. E. (2014). School-a multitude of opportunities for promoting healthier eating. *Public Health Nutrition*, *17*(6), 1191–1194.

Ministry of Housing Communities & Local Government. (2019). *English Housing Survey*. London, UK: Ministry of Housing, Communities and Local Government.

Montgomery, K. C., & Chester, J. (2009). Interactive food and beverage marketing: Targeting adolescents in the digital age. *Journal of Adolescent Health*, *45*, S18–S29.

Moore, G. F., & Littlecott, H. J. (2015). School- and family-level socioeconomic status and health behaviors: Multilevel analysis of a national survey in wales, United Kingdom. *Journal of School Health*, *85*(4), 267–275.

Moore, S. N., Murphy, S., & Moore, L. (2011). Health improvement, nutrition-related behaviour and the role of school meals: The usefulness of a socio-ecological perspective to inform

policy design, implementation and evaluation. *Critical Public Health*, *21*(4), 441–454.

Morgan, D. (2011). *Rethinking Family Practices*. Basingstoke: Palgrave Macmillan.

NatCen Social Research, & MRC Elsie Widdowson Laboratory. (2015). *National Diet and Nutrition Survey Years 1-6, (2008/09-2013/14). User Guide for UK Data*. London, UK: NatCen Social Research.

NatCen Social Research, & MRC Elsie Widdowson Laboratory. (2019). *National Diet and Nutrition Survey Years 1-9, 2008/09-2016/17 [data collection]. 15th Edition*. UK Data Service. SN: 6533.

Nelson, M. (2011). The School Food Trust: Transforming school lunches in England. *Nutrition Bulletin*, *36*(3), 381–389.

Nelson, M. (2014). School food in England: Are we getting it right? *Nutrition Bulletin*, *39*(1), 1–3.

Nelson, M., Atkinson, M., & Meyer, J. (1997). *Food Portion Sizes: A Photographic Atlas of Food Portion Sizes*. London, UK: Food Standards Agency.

Nelson, M., Bradbury, J., Poulter, J., McGee, A., Msebele, S., & Jarvis, L. (2004). *School Meals in Secondary Schools in England*. London, UK: Department for Education.

Nelson, M., Erens, B., Bates, B., Church, S., & Boshier, T. (2007). *Low Income Diet and Nutrition Survey Volume 2: Food Consumption and Nutrient Intake*. London, UK: Food Standards Agency.

Neumark-Sztainer, D., Hannan, P. J., Story, M., Croll, J., & Perry, C. (2003). Family meal patterns: Associations with sociodemographic characteristics and improved dietary intake among adolescents. *Journal of the American Dietetic Association*, *103*(3), 317–322.

NHS. (2019). 5 A Day: What Counts? Retrieved July 1, 2019, from https://www.nhs.uk/live-well/eat-well/5-a-day-what-counts/

Nicholas, J., Wood, L., Harper, C., & Nelson, M. (2013). The impact of the food-based and nutrient-based standards on lunchtime food and drink provision and consumption in secondary schools in England. *Public Health Nutrition*, *16*(6), 1052–1065.

Noonan, R. J. (2018). Poverty, weight status, and dietary intake among UK adolescents. *International Journal of Environmental Research & Public Health*, *15*(6), 1224.

Ntouva, A., Tsakos, G., & Watt, R. G. (2013). Sugars consumption in a low-income sample of British young people and adults. *British Dental Journal*, *215*(1), 1–6.

O'Cathain, A., Murphy, E., & Nicholl, J. (2010). Three techniques for integrating data in mixed methods studies. *BMJ*, *341*, c4587.

O'Connell, R. (2013). The use of visual methods with children in a mixed methods study of family

food practices. *International Journal of Social Research Methodology*, *16*(1), 31–46.

O'Connell, R., & Brannen, J. (2014). Children's food, power and control: Negotiations in families with younger children in England. *Childhood*, *21*(1), 87–102.

O'Connell, R., & Brannen, J. (2016). *Food, Families and Work*. London, UK: Bloomsbury.

O'Connell, R., Brannen, J., & Knight, A. (2019, March 14). A "Proper Meal"? Free School Meals in Portugal and England. *Child Poverty Action Group*. Retrieved from https://cpag.org.uk/news-blogs/news-listings/proper-meal'-free-school-meals-portugal-and-england

O'Connell, R., & Hamilton, L. K. (2018). Hunger and Food Poverty. In V. Cooper & D. Whyte (Eds.), *The Violence of Austerity*. London, UK: Pluto Press.

O'Connell, R., Knight, A., & Brannen, J. (2019). *Living Hand to Mouth. Children and Food in Low-Income Families*. London, UK: Child Poverty Action Group.

O'Connor, T. G., & Scott, S. B. C. (2007). *Parenting and Outcomes for Children*. York, UK: Joseph Rowntree Foundation.

Ofsted. (2019). *Early years inspection handbook for Ofsted registered provision*. Manchester, UK: Ofsted.

ONS. (2017). *The effects of taxes and benefits on household income, disposable income estimate: 2016*. London, UK: Office for National Statistics.

ONS. (2018). *Families and the Labour Market, England: 2018*. London, UK.

ONS. (2019a). *Families and Households in the UK: 2019*. London, UK: Office for National Statistics.

ONS. (2019b). *Families and the Labour Market, UK: 2019*. London, UK: Office for National Statistics.

ONS. (2019c). *Living Costs and Food Survey Technical Report: Financial Years ending March 2017 and March 2018*. London, UK: Office for National Statistics.

Parker, H. W., & Vadiveloo, M. K. (2019). Diet quality of vegetarian diets compared with nonvegetarian diets: A systematic review. *Nutrition Reviews*, *77*(3), 144–160.

Patterson, R. E., Haines, P. S., & Popkin, B. M. (1994). Diet quality index: Capturing a multidimensional behavior. *Journal of the American Dietetic Association*, *94*(1), 57–64.

Pearson, N., Biddle, S. J. H., & Gorely, T. (2009). Family correlates of fruit and vegetable consumption in children and adolescents: A systematic review. *Public Health Nutrition*, *12*(2), 267–283.

Pearson, N., Griffiths, P., Biddle, S. J. H., Johnston, J. P., & Haycraft, E. (2017). Individual, behavioural and home environmental factors associated with eating behaviours in young

adolescents. *Appetite*, *112*, 35–43.

Pechey, R., Jebb, S. A., Kelly, M. P., Almiron-Roig, E., Conde, S., Nakamura, R., … Marteau, T. M. (2013). Socioeconomic differences in purchases of more vs. less healthy foods and beverages: Analysis of over 25,000 British households in 2010. *Social Science & Medicine*, *92*, 22–26.

Pechey, R., & Monsivais, P. (2015). Supermarket choice, shopping behavior, socioeconomic status and food purchased. *American Journal of Preventive Medicine*, *49*(6), 868–877.

Pechey, R., & Monsivais, P. (2016). Socioeconomic inequalities in the healthiness of food choices: Exploring the contributions of food expenditures. *Preventive Medicine*, *88*, 203–209.

Phoenix, A., Boddy, J., Walker, C., & Vennam, U. (2017). *Environment in the Lives of Children and Families. Perspectives from India and the UK*. Bristol, UK: Policy Press.

Pickett, K. E., & Wilkinson, R. G. (2015). Income inequality and health: A causal review. *Social Science & Medicine*, *128*, 316–326.

Pople, L., Rodrigues, L., & Royston, S. (2013). *Through Young Eyes*. London, UK: The Children's Society.

Powell, M. (2019, March 10). Scientists blame working mothers for Britain's childhood obesity epidemic after study of 20,000 families. *Mail Online*. Retrieved from https://www.dailymail.co.uk/news/article-6791165/Scientists-blame-working-mothers-Britains-childhood-obesity-epidemic-study-20-000.html

Power, E. M. (2003). De-Centering the Text: Exploring the Potential for Visual Methods in the Sociology of Food. *Journal of the Study of Food & Society*, *6*(2), 9–20.

Prior, A., & Limbert, C. (2012). Adolescents' perceptions and experiences of family meals. *Journal of Child Health Care*, *17*(4), 354–365.

Public Health England. (2014a). *National Diet and Nutrition Survey. Results from Years 1, 2, 3 and 4 (combined) of the Rolling Programme (2008/2009 - 2011/2012)*. London, UK: Public Health England.

Public Health England. (2014b). *National Diet and Nutrition Survey Rolling Programme*. London, UK: Public Health England.

Public Health England. (2016). *National Diet and Nutrition Survey Results from Years 5 and 6 (combined) of the Rolling Programme (2012/2013 – 2013/2014)*. London, UK: Public Health England.

Public Health England. (2018). *National Diet and Nutrition Survey: Results from Years 7 and 8 (combined) of the Rolling Programme (2014/2015 to 2015/2016)*. London, UK: Public Health

England.

Public Health England. (2019). *National Diet and Nutrition Survey. Years 1 to 9 of the Rolling Programme (2008/2009 – 2016/2017): Time Trend and Income Analyses*. London, UK: Public Health England.

Punch, S., Mcintosh, I., & Emond, R. (2010). Children's food practices in families and institutions. *Children's Geographies*, *8*(3), 227–231.

Rabikowska, M. (2010). The ritualisation of food, home and national identity among polish migrants in London. *Social Identities*, *16*(3), 377–398.

Rae, A. (2015). Here's what we learned from mapping out England's inequalities. *The Conversation*. Retrieved from https://theconversation.com/heres-what-we-learned-from-mapping-out-englands-inequalities-48562

Roberts, K., Cavill, N., Hancock, C., & Rutter, H. (2013). *Social and Economic Inequalities in Diet and Physical Activity*. Oxford, UK: Public Health England.

Robinson-O'Brien, R., Perry, C. L., Wall, M. M., Story, M., & Neumark-Sztainer, D. (2009). Adolescent and Young Adult Vegetarianism: Better Dietary Intake and Weight Outcomes but Increased Risk of Disordered Eating Behaviors. *Journal of the American Dietetic Association*, *109*(4), 648–655.

Rodrigues, L. (2012). *Food for Thought: A Survey of Teachers' Views on School Meals*. London, UK: The Children's Society.

Roper, S., & La Niece, C. (2009). The importance of brands in the lunch-box choices of low-income British school children. *Journal of Consumer Behaviour*, *8*, 84–99.

Rose, D., & Pevalin, D. (2003). *A Researcher's Guide to the National Statistics Socio-economic Classification*. London, UK: Sage.

Royston, S., Rodrigues, L., & Hounsell, D. (2012). *A Policy Report on the Future of Free School Meals*. London, UK: The Children's Society.

SACN. (2015). *Carbohydrates and Health*. London, UK: The Stationery Office.

Sadeghirad, B., Duhaney, T., Motaghipisheh, S., Campbell, N. R. C., & Johnston, B. C. (2016). Influence of unhealthy food and beverage marketing on children's dietary intake and preference: a systematic review and meta-analysis of randomized trials. *Obesity Reviews*, *17*(10), 945–959.

Savage, M., Cunningham, N., Devine, F., Friedman, S., Laurison, D., McKenzie, L., … Wakeling, P. (2015). *Social Class in the 21st Century*. London, UK: Penguin Books.

Scott, C., Sutherland, J., & Taylor, A. (2018). *Affordability of the UK's Eatwell Guide*. London, UK: The Food Foundation.

Scott, S. (2009). *Making Sense of Everyday Life*. Cambridge, UK: Polity Press.

Shashi, Kottala, S. Y., & Singh, R. (2015). A review of sustainability, deterrents, personal values, attitudes and purchase intentions in the organic food supply chain. *Pacific Science Review B: Humanities & Social Sciences*, *1*(3), 114–123.

Shove, E., Pantzar, M., & Watson, M. (2012). *The Dynamics of Social Practice. Everyday Life and How it Changes*. London, UK: SAGE Publications Ltd.

Siddique, H. (2016, January 25). Childhood obesity "an exploding nightmare", says health expert. *The Guardian*. Retrieved from https://www.theguardian.com/society/2016/jan/25/childhood-obesity-commission-world-health-organisation

Sime, D. (2008). Ethical and methodological issues in engaging young people living in poverty with participatory research methods. *Children's Geographies*, *6*(1), 63–78.

Simon, A., O'Connell, R., & Stephen, A. M. (2012). Designing a nutritional scoring system for assessing diet quality for children aged 10 years and under in the UK. *Methodological Innovation Online*, *7*(2), 27–40.

Simon, A., Owen, C., O'Connell, R., & Brooks, F. (2017). Changing trends in young people's food behaviour and wellbeing in England in relation to family affluence between 2005 and 2014. *Journal of Youth Studies*, *21*(5), 687–700.

Skardal, M., Western, I. M., Ask, A. M. S., & Øverby, N. C. (2014). Socioeconomic differences in selected dietary habits among Norwegian 13 - 14 year-olds: A cross-sectional study. *Food & Nutrition Research*, *58*, 23590.

Skeer, M. R., & Ballard, E. L. (2013). Are Family Meals as Good for Youth as We Think They Are? A Review of the Literature on Family Meals as They Pertain to Adolescent Risk Prevention. *Journal of Youth & Adolescence*, *42*(7), 943–963.

Slater, J., Sevenhuysen, G., Edginton, B., & O'Neil, J. (2012). "Trying to make it all come together": Structuration and employed mothers' experience of family food provisioning in Canada. *Health Promotion International*, *27*(3), 405–415.

Smith, T., Noble, M., Noble, S., Wright, G., McLennan, D., & Plunkett, E. (2015). *English Indices of Deprivation 2015: Technical report*. London, UK: Department for Communities and Local Government.

Spence, S., Delve, J., Stamp, E., Matthews, J. N. S., White, M., & Adamson, A. J. (2014). Did school food and nutrient-based standards in England impact on 11-12Y olds nutrient intake at lunchtime and in total diet? Repeat cross-sectional study. *PLoS ONE*, *9*(11).

Stapleton, H., & Keenan, J. (2009). (New) Family Formation and the Organisation of Food in Households: Who Does What and Why? In P. Jackson (Ed.), *Changing Families, Changing Food*. Hampshire, UK: Palgrave Macmillan.

Stead, M., McDermott, L., MacKintosh, A. M., & Adamson, A. (2011). Why healthy eating is bad for young people's health: Identity, belonging and food. *Social Science & Medicine*, *72*(7), 1131–1139.

Story, M., Neumark-Sztainer, D., & French, S. (2002). Individual and environmental influences on adolescent eating behaviors. *Journal of the American Dietetic Association*, *102*(3), S40–S51.

Sweeting, H., & West, P. (2005). Dietary habits and children's family lives. *Journal of Human Nutrition & Dietetics*, *18*(2), 93–97.

Sweetman, P. (2009). Revealing habitus, illuminating practice: Bourdieu, photography and visual methods. *Sociological Review*, *57*(3), 491–511.

Taher, A. K., Evans, N., & Evans, C. EL. (2019). The cross-sectional relationships between consumption of takeaway food, eating meals outside the home and diet quality in British adolescents. *Public Health Nutrition*, *22*(1), 63–73.

Tait, C. (2015). *Hungry for Change*. London, UK: Fabian Society.

Taylor, C. (2018). The reliability of free school meal eligibility as a measure of socio-economic disadvantage: Evidence from the Millennium Cohort Study in Wales. *British Journal of Educational Studies*, *66*(1), 29–51.

Tek, N. A., Yildiran, H., Akbulut, G., Bilici, S., Koksal, E., Karadag, M. G., & Sanlier, N. (2011). Evaluation of dietary quality of adolescents using Healthy Eating Index. *Nutrition Research & Practice*, *5*(4), 322–328.

Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving Decisions about Health, Wealth and Happiness*. London, UK: Penguin.

The Children's Society. (2012). *Free School Meals for All Children in Poverty*. London, UK: The Children's Society.

The Children's Society. (2014). *At What Cost? Exposing the Impact of Poverty on School Life*. London, UK: The Children's Society.

The Children's Society. (2018). *Free School Meals and Universal Credit*. London, UK: The Children's Society.

The Marmot Review. (2010). *Fair Society, Healthy Lives.* London, UK: The Marmont Review.

The Scottish Executive. (2002). *Hungry for Sucess: A Whole School Approach to School Meals in Scotland*. Edinburgh, UK: The Stationery Office Bookshop.

The Scottish Government. (2007). *Schools (Health Promotion and Nutrition) (Scotland) Act 2007. asp 15*.

The Scottish Government. (2019). *The Scottish Health Survey*. Edinburgh, UK: The Scottish Government.

The Vegan Society. (2019). The Vegan Society Statistics. Retrieved June 18, 2019, from https://www.vegansociety.com/news/media/statistics

Tinson, A., Carla, A., Karen, B., Born, T. B., & Long, O. (2017). *London's Poverty Profile 2017*. London, UK: Trust for London.

Trichopoulou, A., Costacou, T., Bamia, C., & Trichopoulos, D. (2003). Adherence to a Mediterranean Diet and Survival in a Greek Population. *The New England Journal of Medicine*, *348*, 2599–2608.

Turrell, G., & Giskes, K. (2008). Socioeconomic disadvantage and the purchase of takeaway food: A multilevel analysis. *Appetite*, *51*(1), 69–81.

Tyne & Wear Citizens, & Citizens UK. (2019). *Just Change Campaign*. London, UK: Citizen UK.

Valdés, J., Rodríguez-Artalejo, F., Aguilar, L., Jaén-Casquero, M. B., & Royo-Bordonada, M. Á. (2013). Frequency of family meals and childhood overweight: A systematic review. *Pediatric Obesity*, *8*, e1–e13.

Valentine, G. (2000). Exploring children and young people's narratives of identity. *Geoforum*, *31*(2), 257–267.

Vega-Zamora, M., Parras-Rosa, M., Murgado-Armenteros, E. M., & Torres-Ruiz, F. J. (2013). The influence of the term "organic" on organic food purchasing behaviour. *Procedia - Social & Behavioral Sciences*, *81*, 660–671.

Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet*, *379*(9826), 1641–1652.

Warde, A. (2016). *The Practice of Eating*. Cambridge, UK: Polity Press.

Warde, A., Whillans, J., & Paddock, J. (2019). The allure of variety: Eating out in three English cities, 2015. *Poetics*, *72*, 17–31.

Warde, A., & Yates, L. (2016, September 6). Focus: Food and Eating. *Discover Society*. Retrieved from https://discoversociety.org/2016/09/06/focus-food-and-eating/

Watt, P. (2013). Gentrification and displacement. In I. Ness (Ed.), *The Encyclopedia of Global Human Migration*. Oxford, UK: Blackwell Publishing Ltd.

Weichselbaum, E., & Buttriss, J. L. (2011). Nutrition, health and schoolchildren. *Nutrition Bulletin*, *36*(3), 295–355.

Weichselbaum, E., & Buttriss, J. L. (2014). Diet, nutrition and schoolchildren: An update. *Nutrition Bulletin*, *39*(1), 9–73.

Whitehead, M., Jones, R., & Pykett, J. (2011). Governing irrationality, or a more than rational government? Reflections on the rescientisation of decision making in British public policy. *Environment & Planning A*, *43*(12), 2819–2837.

WHO. (2015). *Guideline: Sugars Intake for Adults and Children*. Geneva: World Health Organisation.

WHO. (2016). *Growing up Unequal: gender and Socioeconomic Differences in Young People's Health and Well-Being. Health Behaviour in School-aged Children (HBSC) Study: International Report from the 2013/2014 Survey*. Geneva: World Health Organisation.

Wilk, R. (2010). Power at the table: Food fights and happy meals. *Cultural Studies - Critical Methodologies*, *10*(6), 428–436.

Wills, W. J. (2005). Food and eating practices during the transition from secondary school to new social contexts. *Journal of Youth Studies*, *8*(1), 97–110.

Wills, W. J., Backett-Milburn, K., Gregory, S., & Lawton, J. (2008). "If the food looks dodgy i dinnae eat it": Teenagers' accounts of food and eating practices in socio-economically disadvantaged families. *Sociological Research Online*, *13*(1–2), 1–13.

Wills, W. J., Backett-Milburn, K., Roberts, M.-L., & Lawton, J. (2011). The framing of social class distinctions through family food and eating practices. *The Socialogical Review*, *59*(4).

Wills, W. J., Backett-Milburn, Lawton, J., Mackinnon, J., & Roberts, D. (2008). *Parents' and Teenagers' Conceptions of Diet, Weight and Health: Does Class Matter? Full Research Report ESRC End of Award Report, RES-000-23-1504*. Swindon, UK: ESRC.

Wills, W. J., Danesi, G., & Kapetanaki, A. B. (2016). Lunchtime food and drink purchasing: young people's practices, preferences and power within and beyond the school gate. *Cambridge Journal of Education*, *46*(2), 195–210.

Wills, W. J., Danesi, G., Kapetanaki, A. B., & Hamilton, L. K. (2018). The socio-economic boundaries shaping young people's lunchtime food practices on a school day. *Children & Society*, *32*, 195–206.

Wills, W. J., Danesi, G., Kapetanaki, A. B., & Hamilton, L. K. (2019). Socio-economic factors, the food environment and lunchtime food purchasing by young people at secondary school. *International Journal of Environmental Research & Public Health*, *16*(9), 1605.

Wills, W. J., Kapetanaki, A. B., Rennie, K., Danesi, G., Martin, A., Hamilton, L. K., & Bygrave, A. (2015). *The Influence of Deprivation and the Food Environment on Food and Drink Purchased by Secondary School Pupils Beyond the School Gate*. Edinburgh, UK: Food Standards Scotland.

Wills, W. J., Meah, A., Dickinson, A., & Short, F. (2013). *Domestic Kitchen Practices: Findings from the "Kitchen Life" Study*. Hatfield, UK: University of Hertfordshire.

Winpenny, E. M., Corder, K. L., Jones, A., Ambrosini, G. L., White, M., & van Sluijs, E. M. (2017). Changes in diet from age 10 to 14 years and prospective associations with school lunch choice. *Appetite*, *116*, 259–267.

Winship, C., & Radbill, L. (1994). Sampling weights and regression analysis. *Sociological Methods & Research*, *23*(2), 230–257.

Wooten, D. B. (2006). From labelling posessions to possessing labels: Ridicule and Socialization among adolescents. *Journal of Consumer Research*, *33*(2), 188–198.

Zahra, J., Ford, T., & Jodrell, D. (2014). Cross-sectional survey of daily junk food consumption, irregular eating, mental and physical health and parenting style of British secondary school children. *Child: Care, Health & Development*, *40*(4), 481–491.

Zarnowiecki, D. M., Dollman, J., & Parletta, N. (2014). Associations between predictors of children's dietary intake and socioeconomic position: A systematic review of the literature. *Obesity Reviews*, *15*(5), 375–391.

Appendices

Appendix 1: Parent's Consent Form

Please tick yes or no for each statement

	Yes	No
The research has been explained to me and I have read the information sheet which has been given to me		
I understand that the information I provide will be treated as confidential and will be anonymised		
I agree to be interviewed but understand that I may withdraw from the research at any time		
I understand that the interview will be audio recorded and typed out and that these notes may be shared with other researchers within the research team		
I understand that any photographs that are taken may be used to inform and illustrate the study findings		
I agree to you getting in touch with me in the future to find out whether I want to take part in future research for this study		

This part of the form is about archiving data.	**Yes**	**No**
I have read and understood the information leaflet that outlines how my interview will be archived, and I have had the opportunity to ask questions		
I understand that the researchers in the Families and Food team will change any identifying details in my interviews to protect me		
I understand that no photos showing recognisable people will be archived		
I agree that my anonymised contribution to this project can also be made available to other researchers in a public archive for use in the following ways:		
In research reports and other publications		
In lectures and talks		
For teaching and training purposes		
For broadcasting purposes		

If there are any further restrictions you wish to place on the material, please indicate and describe overleaf if necessary

This part of the form is to ensure that the Research team uses your contribution to of the above research project in accordance with your wishes.

I agree that my contribution to the project can be used by the research team in the following ways:	**Yes**	**No**
In the research report and other publications		
In lectures and talks		
For training and teaching purposes		

Signed	
Name (Capitals)	
Date	

Signed on behalf of TCRU	
Name (Capitals)	
Date	

The researcher: Laura Hamilton,

Appendix 2: Parent's Interview Schedule

FAMILY CIRCUMSTANCES

Note that later you will discuss income. I want to start with a few questions about you and your family. This will help us to describe the families who are taking part in our study.

With parent, complete attached sheet (Interview Questionnaire), Q1.

Describe household; Housing; Transport; Circumstances and health issues; Ethnicity.

EMPLOYMENT AND EDUCATION

IF IN PAID EMPLOYMENT OR EDUCATION. **Proxy for partner.**

What does this involve? (Level of management; if self-employed, number of people employs).

Hours per week? Typicality?

Patterns of working hours (shifts and shift patterns, flexibility of working hours e.g. working from home options).

What time do you leave for work and get home?

What qualifications do you have?

Relate working times to food and cooking.

SCHOOL ROUTINE

Now can you tell me about TC's school routine? Cover:

- Usual time leave home/return
- Distance to school
- Means of transport and cost

Does TC have activities in the evening and weekend? (*Probe: clubs, schoolwork, religious activities, paid and unpaid jobs*).

Do you use any childcare?

Cover:

- Schedule/timing
- Any difficulties with arrangements
- Cost and whether get help with costs

EATING PATTERNS AND FOOD PREPARATION (TC)

Now we'd like to talk about food and eating of TC and how it fits into your everyday lives. Cover for EACH OF THESE DAYS:

- Timing of meals
- Snacks and drinks
- Where food eaten
- Who ate with who

SCHOOL

Please think about the last day that TC was at **school** (establish which one; if can't remember, take typical).

Take me through this day and tell me about eating and drinking for the whole family (as far as you are aware) at home and outside the home. I'm interested in all the little details.

Tell me about what TC eats at school.

Is this fairly usual for a school day? What might change the routine? (*Prompt: own and partner's work, children's activities)*

HOME AND WEEKEND

Now could you think about the last day that TC was not at school and you were at home (establish which day – weekend or school holiday). Please tell me about family food and eating routines on this day. Again, I am interested in all the little details.

Is this fairly usual for a non-school day? What might change the routine? (*Prompt: own and partner's work, children's activities)*

FOOD AND FAMILY AT HOME

FOOD PREP AND COOKING

Thinking about the main meal/s on the days we have talked about, who did the food preparation and cooking? Why did you/other prepare what you/they did?

Did everybody eat the same thing? (*Probe: different likes/dislikes of all members; whose preferences take into account*).

How do you decide how much food to make? Do you think about the amounts you give to each person or how much they take?

Have child's tastes changed over time? What about other kids? Have they ever showed an interest in veganism or vegetarianism? Check understanding of this.

Who would you say is mainly responsible for food in the family? ((*eg. deciding about meals, preparing and cooking meals (weekdays/weekends); food shopping; clearing up; recycling; making packed lunches).*

WHEN NOT COOKING

What do you do when you have little time or energy for cooking? (*probe: cook something quick – ask for example; use takeaway or fast food; help from partner or children)*

Are there particular foods you eat on particular days (*prompts: e.g. takeaway on a Friday, fry-up on a Saturday or roast on a Sunday*)?

Do you use takeaway foods? How often would you say? What you/family like/do not like about it?

FOOD AND SOCIALISING

AT HOME

Is eating together important to you and your family?

Is it more/ less important to you in the working week/weekend?

Examples of special occasions when you eat different sorts of food or special food and drink? (*Prompt e.g. birthdays, Christmas, Eid, National holidays and ask for each*)?

Do you have ways of budgeting for these special occasions?

OUTSIDE HOME

Thinking about eating outside of the home, what kinds of places are there to eat out round here cafes, restaurants or pubs (include fast food)?

Do you eat out in any of these places?

Who in the household/ family goes on these occasions? What about friends?

What about going to eat out further afield? (*Probe: reason, who went).*

How do you feel about how often you eat out? (*Prompt: would like to do more often?)*

FOOD AND WELLBEING

What do you think are the main ingredients/ foods of a good diet?

Do you think a good diet it is important? Why?

Do you consider yourself to have good diet? Target child? Rest of family?

Is it something you worry about it? Would you like to eat differently? Would you like TC to eat differently? If yes, how? (*probe: foods, timing, social aspects)*

What stops you/them and what would help?

Does s/he usually eat what is given?

Are snacks available in the home? If in home does s/he have to ask? Why?

Does TC have own money to spend on food? Where does s/he get it from? Do you know what s/he buys?

How much do school meals typically cost? Do you give TC money at the beginning of the week or daily?

Does TC have friends over to eat/for a snack or drink? What do they eat or drink? How often would you say?

FOOD SHOPPING - BRIEFLY

Now can you tell me a bit about shopping for food?

Areas to cover: Relate to income

- Who does most of the shopping
- Use of different shops – when and what for
- On own or with others (who, why, if helpful e.g. children)
- How travel
- Shopping budget?

Can you get good quality food in your local area?

NON-SUPERMARKET

Have you previously or do you still use anything other than the supermarket for your food shopping? (*Prompt: veg and meat boxes; online snack companies (e.g. graze); market; farm shops; home-grown).*

Are there any particular types of food you look for when shopping? *(Prompt: fresh foods, organic, seasonal, non-GMO, British, 5-a-day, Fairtrade, 'ugly' veg, ready meals).*

Why and how do you find them (e.g. going to a specific shop)? Do children have influence over this?

INCOME AND OUTGOINGS

Now I'd like to talk about how you manage financially and where food fits into the household budget.

To do this we have a sheet to complete about income and expenses. Are you happy to continue?

Complete income sheet

FOOD AND INCOME

Would you say that your income is about what you need to make ends meet? Or a bit above, or a bit below?

If answer no: Why? Can you tell me what that means in terms of food and eating for you and your family?

Do you have a food budget? Is it flexible? Do you usually go over this or stick to it?

Including school meals, takeaways and eating out?

Do you save supermarket vouchers or use loyalty cards to buy food?

Do you ever:

- Travel distances for specific food
- Use different shops for different items
- Buy value (non-branded) items from supermarkets
- Seek bargains
- Bulk buy
- Aim to spend a specific amount
- Forward plan (make lists of what to buy)
- Cook from scratch
- Bulk cook and re-heat leftover food

Do you throw away much food waste? (*Prompt: leftovers after meals, perishable or out of date food*).

FINALLY

Before we finish, I would like to ask a few final questions. Interested in income. Interviewing people on varying incomes.

Whose responsibility do you think it is to make sure that families and children are fed and are able to afford food? And in particular nutritious food.

Having been through the interview has it made you think anything different or new about the cost of raising a family?

Thinking about the future, do you think things will get easier or harder? How do you feel about it?

How about food and eating for you and your family – do you see it changing? For the better or the worse? What about TC?

Is there anything else you would like to add about feeding the family on the income you have?

Appendix 3: Parent's Income Questionnaire

PLEASE COMPLETE FOR EVERY FAMILY

Code:	**Location:**	**Date:**

Q1. Family Circumstances

Please could you tell me a bit about who lives in the household: Ages and sex. What they do (work/education) and their relationship to each other?	
Are you in paid work? Education? Ask of partner if relevant.	
Housing: Are you buying or renting your house/flat? If rented: is it rented from the council/ housing association or private landlord? How many bedrooms do you have?	
Do you have a car or use of a car?	
At what age did you leave school? What qualifications do you have? What about your partner?	
Are there any circumstances (e.g. caring responsibilities, difficulty finding childcare, health or other personal things) that make it difficult for you to have a job?	
Are there health or other issues which affect you in relation to food and eating? And TC? What about other household members?	
How would you describe your ethnicity? Is this different from your children's (target and other). If so how would you describe their ethnicity?	

Q2. Income and Outgoings

This list shows various **possible sources of household income**. Can you please tell me which kinds of income you (and spouse/partner) receive?

Income source	Yes	No	When received (eg weekly) and how much? (after deductions)
Earnings from employment or self-employment			
Pension from a former employer			
State Pension			
Child Benefit			
Other Benefit			
Interest from savings etc.			
Stocks and shares			
Other kinds of regular allowance from outside the household			
Other sources e.g. rent/maintenance			
No source of income			

Household expenditure	
Housing Costs	
Bills and Utilities	
Food, including takeaways etc	
Anything else?	
Disposable Income?	

Appendix 4: Young Person's Consent Form

Please tick yes or no for each statement

	Yes	No
I agree to talk to you about food and eating in my family and other places		
The research has been explained to me and I have read the information sheet which has been given to me		
I understand that the information I provide will be treated as confidential and will be anonymised		
I understand that no photos showing recognisable people will be used in the research		
I understand that the interview will be audio recorded and typed out and that these notes may be shared with other researchers within the research team.		
I understand that you won't tell anyone I know or who knows me what I say unless you are worried I might be hurt in some way		
It has been explained to me that I can decide not to carry on with the research, or not to answer particular questions, at any time, without having to give a reason		
I agree that you will change my name to protect my identity when you write about the study		
I agree to you getting in touch with me in the future to find out whether I want to take part in future research for this study.		

This part of the form is for a PARENT to complete. It is to ensure that the Thomas Coram Research Unit uses your CHILD's contribution to the above research project in accordance with your wishes		
I agree that my child's contribution to the project can be used by the research team in the following ways:	**Yes**	**No**
In the research report and other publications		
In lectures and talks		
For training and teaching purposes		

The last part of the form is about archiving data gathered from YOUNG PEOPLE (Under 18s)

	Yes	No
I have read and understood the information leaflet that outlines how my child's interviews and other data will be archived and I have had the opportunity to ask questions.		
I understand that the researchers in the Families and Food team will change any identifying details in interviews to protect my child		
I understand that no photos showing recognisable people will be archived.		
I agree that my child's contribution can also be made available to other researchers in a public archive for use in the following ways:		
In research reports and other publications		
In lectures and talks		
For broadcasting purposes		

If there are any restrictions or exceptions you wish to place on the material please indicate here and describe overleaf if necessary

Signed (Under 18)	
Name (Capitals)	
Date	

Signed (Parent)	
Name (Capitals)	
Date	

Signed on behalf of TCRU	
Name (Capitals)	
Date	

The researcher: Laura Hamilton,

Appendix 5: Young Person's Interview Schedule

CURRENT CIRCUMSTANCES

First of all I'd like you to tell me a bit about you – how old are you? Who else lives with you? (ages, bedrooms, anyone else?)

EVERYDAY LIFE AND SCHOOL

Where do you go to school? How far away is it, roughly?

How do you usually get to school *(e.g. walk, bus, drive*)?

What time do you usually leave home and what time do you get back?

Do you do *any activities after school* – at school or anywhere else (*Probe for sports, paid or unpaid work, go to church or mosque?)*

How about on the weekends – do you do any regular activities then?

EVERYDAY FOOD PRACTICES

Please think about your last school day (establish which one). Take me through this day and tell me or write about your food and eating and at home, school and outside of these. I'm interested in all the little details.

Is this fairly usual for a school day? What might change the routine? (*e.g. own or parents' work, activities)*

Now could you think about the last day that you were not at school (establish which day). Please tell me about family food and eating routines on this day.

Again, I am interested in all the little details.

Is this fairly usual for a weekend day? What might change the routine? (*e.g. own or parents' work, activities)*

Probes:

- *Usual time of day to eat main meal (on each of these days)? Other meals?*
- *Where eat (on each of these) days?*
- *Snacks*
- *Who eats with who at home (on each of these days)?*
- *Whether prefer to eat alone or with family*
- *What are some of the typical meals that you eat on weekdays?*
- *How about on weekends?*

What do you understand by the term ‘family meal’ How often do this? Do you like this? *Probe reasons.*

Are there any rules whilst eating at the dinner table? *(E.g. manners – finishing plate, no elbows)*

How often do you have takeaways and why?

What are your favourite meals that you eat at home?

Do you think your tastes have changed? *(Probe: international cuisines – Indian, Chinese, Thai)*

Do you like your parents’ cooking and why?

Do you get a choice about what to eat for meals? What would you choose for a meal if you were given a choice? What happens if you don’t want to eat what you are given? *(Probe: cook yourself, refuse, complain or just eat?)*

Do you eat snacks at home? Could you give me some examples?

Do you need to ask before you help yourself to snacks? Give reasons.

What about other foods (*for example fruit if not mentioned as snack*)?

Do your parents ever try to get you to eat things that you don’t want to or dislike?

Are there any particular foods you mustn’t help self to (*for example items for packed lunches)*. Why are there rules about this? Do you ever break these rules?

EATING WITH OTHERS AND SOCIALISING – EXCLUSION/INCLUSION

Do you ever have friends around for something to eat or drink? Which? How often? Do you need to ask permission?

Do you ever visit friends and have something to eat or drink at their house? How often?

What food and drink do you normally eat together? (e.g. takeaways) What do you do? (e.g. TV, games, chat)

Is this different during the holidays? *(Prompt: see friends more or less during the school holidays).*

How about family (*for example aunty, grandparents*) – do you eat at their homes? How often?

Could you give me some examples of special occasions when you eat different sorts of food or special food and drink? (*prompt e.g. birthdays, Christmas, Eid, National holidays and ask for each)*?

Prompt: Clarify pocket money, lunch money or money through employment.

Thinking about school friends and people you know – do they ever go for something to eat or drink together?

If yes, which places do they go to (include fast food)? When? How often? How do you get there? How do you decide where to go together?

If yes, do you ever buy the same food as them? Why? *(Prompt: worry about what friends think).*

Have there ever been times where you didn't want to go for something to eat with friends? Why?

What is your local area like? Do you spend much time there (in shops/cafes/eating out)? If not, why not?

Do you go to these places? What was the last occasion? Who did you go with? Did you also eat or just 'hang out'? What like/not like about it? How often do you go?

Are there any other places you eat in such as youth clubs?

Do you ever go to eat out further afield, with friends or with your family?

Where would you go if you could?

Do ever go to shop to buy snacks? When was the last time? What did you buy?

Do you go with friends?

What happens if you don't have enough money? (*prompt: awareness of exact prices)*

Is it possible to buy sweets in school? On the way to/from? Which shops are good?

Have your parents ever told you off for this? Or do your parents not know?

Is eating with friends outside of school and home different from eating at home and/or school? In what ways? Fun? Important? Why/not?

EATING AT SCHOOL

Now could you tell me a bit about eating at school? Do you have packed lunches or meals? Could you tell me something you like about it (*prompt food but also social aspects)?*

If school meals – how does the food at school compare to what you eat at home? (*Probe: choice, cost, likes/dislikes).*

If packed lunch - what is popular food to bring? Do other kids or adults comment on the food kids bring? What kinds of things do they say? (*probe smelly, unhealthy*). Do you prepare your own packed lunch?

Who decided you would have a packed lunch or school meal?

What about morning break time? What and where do you normally eat?

Are you allowed to leave the school premises at lunchtime?

Where do you normally eat your lunch at school? Are there rules about where you are allowed to sit? Do you prefer to sit alone or with friends?

Are there rules about 'food and eating' at school? Do you follow them?

Is there a snack bar or vending machine? Do you use these? Where do you get the money?

If not, are you allowed to take your own snacks to school? Do you share these snacks with friends?

Do you mention to your parents about what you eat in school? What do they say?

Is there a breakfast club at school? What is the main reason you go? Tell me about what it is like. What is good and bad about it?

What does your classmates eat for lunch and do you east similar foods? Difference?

WORK AND HOUSEHOLD DIVISION OF DOMESTIC LABOUR

Now we are going to move on to think about helping with food and other work around the house.

Are you allowed to cook and prepare meals without asking?

What was the last thing you made for yourself to eat?

Do you ever cook or make snacks for other people – tell me about the last time?

If cooks and prepares food – It is enjoyable? Where did you learn? What is your favourite thing to cook?

Do you ever do any paid work (*probe shop, market stall, babysitting, newspaper round*)? What is the main reason you do it? (*Prompt: Link to spending on food).*

RESOURCES

Do you have money of your own? Can you tell me about some of the things you spend it on?

Money for school, if school lunches – Do you spend all your money on food at school?

What is your area like for people helping each other out would you say?

SHOPPING AND FOOD ACCESS

Can you tell us a bit about food shopping?

When was the last time you bought yourself something to eat from a shop? Tell me about what you bought and why (*probe for where got the money*)

When was the last time you bought food for other people in the family from a shop? Tell me about what you bought and why (*probe for who sent them*)

Do you use different shops for particular types or items of food? Can you give some examples?

Do you help with the food shopping? (*Probe: carry bags, push trolley, pull trolley home with shopping in*)

Do your parents ever ask if you'd like anything from the supermarket? And, do you ever ask? Are they happy to?

What are the local transport and costs of transport like here? Do you use it to get to shops?

HEALTH AND WELLBEING

What do you think are the main ingredients/ foods of a good diet? (*probe foods and structure/timing*)

Is the food you've described enjoyable?

Do you think a good diet is important? Why?

Do you consider yourself to have good diet? Rest of family? If no, what do you think would make it better?

Is it something you worry about it? Would you like to eat differently?

If yes, how? What stops you and what would help?

Is it something your parents ever talk to you about? Why do you think they do?

Do you think that other young people your age have similar diets to you and why?

Have you ever tried to eat differently to lose or gain weight? Could you tell me about it?

ETHICAL AND SUSTAINABLE FOODS

Do you know anything about the environment? **If yes:** Where did you learn about this? Do you know how the food we buy might impact on the environment?

If not already established – Do you eat a special diet? *(Prompt: Flexitarian, vegan, vegetarian, pescetarian, plant-based)*

If yes, check understanding. Why? *(Prompt: weight loss, health, environmental, animal welfare, religious, friends or family, don't like the taste of meat).*

How long for?

If no, what do you think veganism or vegetarianism is? How did you find out?

Do you know anyone (else) who is?

Why do you think people choose to be vegans or vegetarians?

If not vegan or vegetarian – If you had the choice, would you? Why? Why not?

Explain 'meat-free Mondays' (Choose not to eat any meat on a Monday for environmental reasons) - What do you think about this? Why do you think people might want to do this?

Do you know what Fairtrade means? – If unsure, explain. Is this important and why?

Do you know what organic food is? Do you know anyone who eats organic food?

REPRESENTATION

Who do you think is responsible for making sure young children and people have access to enough good food? (*prompt – family, government, charities, other)*

FUTURE

Thinking about the future, how do you think things will change for you in the future – what changes will happen in the next few years?

Do you think these will affect what you eat?

Thinking about the future more generally, do you think things will get easier or harder for families?

What about your family?

FINISHING UP….

Is there anything else you'd like to add about food and eating for a teenager living round here?

EATING HABITS MODULE QUESTIONNAIRE (Questions: 15-17)

Appendix 6: Young Person's Eating Habits Questionnaire (EHQ)

1) How often do you usually have <u>breakfast</u> (more than a glass of milk or fruit juice)?

PLEASE TICK <u>ONE</u> BOX FOR WEEKDAYS AND ONE BOX FOR WEEKEND

<u>WEEK DAYS (Monday – Friday)</u>

☐ I never have breakfast during weekdays

☐ One day

☐ Two days

☐ Three days

☐ Four days

☐ Five days

<u>WEEKEND (Saturday - Sunday)</u>

☐ I never have breakfast during the weekend

☐ I usually have breakfast on only one day of the weekend (Saturday OR Sunday)

☐ I usually have breakfast on both weekend days (Saturday AND Sunday)

2) How many times a week do you usually eat or drink…..? PLEASE TICK ONE BOX FOR EACH LINE

	Never	**Less than once a week**	**Once a week**	**2-4 days a week**	**5-6 days a week**	**Once a day, every day**	**Every day, more than once**
Fruits							
Vegetables							
Sweets (candy or chocolate)							
Coke or other soft drinks that contain sugar							
Diet coke or diet soft drinks							
Energy drinks (such as Red Bull, Monster, Rockstar)							
Skimmed or semi-skimmed milk							
Ordinary (full fat) milk							
Cheese							
Other milk products (like yoghurt, milk shakes, rice pudding…)							
Cereals (like cornflakes, muesli, coco pops)							
White bread							
Brown bread							
Crisps							
Chips							
Fish							

3) Now thinking about meals you eat with your family….

PLEASE TICK ONE BOX ON EACH LINE

	Never	**Less than once a week**	**1-2 days a week**	**3-4 days a week**	**5-6 days a week**	**Every day**
How often do you have breakfast together with your mother or father?						
How often do you have an evening meal with your mother or father?						

4) Some young people go to school hungry because there is not enough food in the home.

How often does this happen to you? PLEASE TICK ONE BOX

☐ Always

☐ Often

☐ Sometimes

☐ Never

5) Some young people go to bed hungry because there is not enough food in the home.

How often does this happen to you? PLEASE TICK ONE BOX

☐ Always

☐ Often

☐ Sometimes

☐ Never

Appendix 7: Kitchen Tour Schedule

Higher-Income Families Schedule

A) Explain activities and seek written consent
B) Kitchen tour (record and take photos)

(Ascertain whether did they anything different (e.g. cleaned fridge before the visit))

Please could you show and tell me where you keep food?

Can you tell me about the food that is here – where it came from, what you will make with it or things you have made? (Examples of meals often cook? Do children cook any of these?)

Are there times (of week or month or year) when there is more/less food?

Do you have anywhere you keep things that you want to save?

Are there things here that children can help themselves to?

What foods do you or children eat if there is nothing else?

How convenient is the kitchen/space for cooking and storing the food the family eats?

Could you show and tell me about your cooking equipment (e.g. fridge, freezer, oven, pans etc). Are they are ok for your needs? What would make it easier?

How did you feel about doing the activity? Anything to add? That we can improve?

Lower-Income Families Schedule

A) Explain activities and seek written consent
B) Update (record)

The last time we visited you was [Date of last visit]. Have there been any changes to the following:

- Who lives/eats in your household
- Employment – self/partner
- Income – from employment, benefits or other e.g. maintenance
- Your housing situation
- Other changes – e.g. health, initiated new diet

If yes to any of these – how has each affected:

- Food and other budgets
- Buying food
- Cooking and eating routines
- Tastes/preferences/appetites

C) Kitchen tour (record and take photos)

(Ascertain whether did they anything different (e.g. cleaned fridge before the visit))

Please could you show and tell me where you keep food?

Can you tell me about the food that is here – where it came from, what you will make with it or things you have made? (Examples of meals often cook? Do children cook any of these?)

Are there times (of week or month or year) when there is more/less food?

Do you have anywhere you keep things that you want to save?

Are there things here that children can help themselves to?

What foods do you or children eat if there is nothing else?

How convenient is the kitchen/space for cooking and storing the food the family eats?

Could you show and tell me about your cooking equipment (e.g. fridge, freezer, oven, pans etc). Are they are ok for your needs? What would make it easier?

How did you feel about doing the activity? Anything to add? That we can improve?

Additional Questions

Have they ever showed an interest in veganism or vegetarianism? Check understanding.

Have you previously or do you still use anything other than the supermarket for your food shopping? (*Prompt: veg and meat boxes; online snack companies (e.g. graze); market; farm shops; home-grown).*

Are there any particular types of food you look for when shopping? *(Prompt: fresh foods, organic, seasonal, non-GMO, British, 5-a-day, Fairtrade, 'ugly' veg, ready meals).*

Why and how do you find them (e.g. going to a specific shop)? Do children have influence over this?

Appendix 8: Photo-Elicitation Interview (PEI) Schedule

Higher-Income Families PEI Schedule

For each picture: Can you tell me about this picture? Prompts:

- What is it? (Describe the picture, name the food/s)
- Would you say this is a snack or a meal (why)?
- What are the ingredients?
- When was it eaten time/day?
- Where did you eat it?
- Who with?
- Who bought/got/made it? If self – where money was from? How much did it cost?
- Is it something you enjoyed eating?
- Do you have it often?
- Did other people eat the same thing?
- Is there anything that you have cropped out of the picture or not shown?
- Does the picture/food tell us anything about you and your life?

Generally, after been through pictures:

Absence of pictures:

1. Are there any particular meals or snacks you ate that did you **not** take pictures of?
2. Are there any meals or snacks you wish you could've eaten and taken pictures of but couldn't?
3. Are there are any places you couldn't take a picture of because you couldn't go there to eat? *Explore reasons*

Can you chose 2-3 pictures of favourite foods? What do you like about them? How often do you get to eat them and why?

Can you choose 2-3 pictures of foods you don't like as much? How often do you have them and why?

Can you choose 3-5 pictures that tell us something about who you are and what your life is like? Why have you selected these/what do they say?

Thinking about the future how do you think what you eat, and the pictures you would take, might be different?

FINALLY: How did you find the project? Was anything particularly difficult? What would have worked better?

Lower-Income Families PEI Schedule

For each picture: Can you tell me about this picture? Prompts:

- What is it? (Describe the picture, name the food/s)
- Would you say this is a snack or a meal (why)?
- What are the ingredients?
- When was it eaten time/day?
- Where did you eat it?
- Who with?
- Who bought/got/made it? If self – where money was from? How much did it cost?
- Is it something you enjoyed eating?
- Do you have it often?
- Did other people eat the same thing?
- Is there anything that you have cropped out of the picture or not shown?
- Does the picture/food tell us anything about you and your life?

Generally, after been through pictures:

Absence of pictures:

4. Are there any particular meals or snacks you ate that did you **not** take pictures of?
5. Are there any meals or snacks you wish you could've eaten and taken pictures of but couldn't?
6. Are there are any places you couldn't take a picture of because you couldn't go there to eat? *Explore reasons*

Can you chose 2-3 pictures of favourite foods? What do you like about them? How often do you get to eat them and why?

Can you choose 2-3 pictures of foods you don't like as much? How often do you have them and why?

Can you choose 3-5 pictures that tell us something about who you are and what your life is like? Why have you selected these/what do they say?

Thinking about the future how do you think what you eat, and the pictures you would take, might be different?

FINALLY: How did you find the project? Was anything particularly difficult? What would have worked better?

Additional Questions for Lower-Income Families: ETHICS AND SUSTAINABILITY

Do you know anything about the environment? **If yes:** Where did you learn about this? Do you know how the food we buy might impact on the environment?

If not already established – Do you eat a special diet? *(Prompt: Flexitarian, vegan, vegetarian, pescetarian, plant-based)*

If yes, check understanding. Why? *(Prompt: weight loss, health, environmental, animal welfare, religious, friends or family, don't like the taste of meat).*

How long for?

If no, what do you think veganism or vegetarianism is? How did you find out?

Do you know anyone (else) who is?

Why do you think people choose to be vegans or vegetarians?

If not vegan or vegetarian – If you had the choice, would you? Why? Why not?

Explain 'meat-free Mondays' (Choose not to eat any meat on a Monday for environmental reasons) - What do you think about this? Why do you think people might want to do this?

Do you know what Fairtrade means? – If unsure, explain. Is this important and why?

Do you know what organic food is? Do you know anyone who eats organic food?

Appendix 9: Case Summary Template

FAMILY CODE	
INCOME GROUP	
LOCATION OF INTERVIEW	
KEY	

YOUNG PERSON	
Age	
Sex	
Education	
Ethnicity/Religion	

FAMILY DEMOGRAPHICS	
Household	
Sibling	
Parents	
Hhold Income (after tax) Equivalised Income AHC Housing Costs (% income) Disposable Income Food Budget (% income) **Other** Economic Resources	
Parents' occupation, education, working hours	
Other Hhold transportation. Health issues or childcare that impact work or food.	

FOOD AT HOME	
Typical Breakfast Typical routine, what food/drink, with who, who prepares/cooks?	
Lunch	
Evening Meal	

Snacks	
Other	
Eating together as a family. What does **'family meal'** mean? Parents routine and impact on meal times	
Parental control Do parents try to control TC's diet? If so, how. Are there contradictions? **Rules or expectations** when eating at home. Prohibited foods or cupboards.	
TC **cooking** and preparing food at home	
Food Shopping Household routine? Where? When? Does TC help? Can TC ask for additional items?	
Having friends over. Permission and how often.	
TC's **favourite** and least favourite meals to eat	
Has TC **tastes** changed overtime?	
Variety of food types eaten. Different types of **cuisines**?	
Regularity and type of **takeaways**	
Other	

ROUTINE CHANGE	
Reasons daily/weekly routine might change	
School holidays	
How might special occasions differ? E.g. Christmas, birthday, religious holidays etc.	

FOOD AT SCHOOL	
Typical Daily Routine	
Breakfast	
Mid-morning Break	
Lunch	
After school **activities**	
Socialising with **friends** after school	
Are there any rules when eating/buying food at school?	
Money	
Other	

FOOD TO AND FROM SCHOOL	
Eat/purchase any food/drink on the way to school	
Eat/purchase any food/drink on the way home from school	

FOOD NOT AT HOME OR SCHOOL	
With friends	
With immediate family	

FOOD BRANDS	
Does TC prefer particular brands? What brands? Why? Any contradictions in what they have said?	

RESOURCES	
Does TC have their own money? From a job, pocket money, birthday/Christmas etc	
Other family resources? Grandparents or friends with regard to food, time or money (incl. childcare).	

Time. For both parents and TC	
Division of Labour. Does TC have any chores in the house?	

DIET & HEALTH	
Does TC ever talk with parents about? Friends?	
TC: What is a good diet? And is this important or a worry? Does TC think they and family have good diet?	
Parents' idea of good diet, importance and worry.	
Other	

ETHICAL AND SUSTAINABLE FOODS	
Understanding of terms vegan or vegetarian. Reasons for vegetarianism or veganism. Understanding of Meat-Free-Mondays and opinions.	
Is anyone in the immediate family vegetarian or vegan? If so, examples of meals.	
Understanding of ethical and sustainable foods.	
Does food have an impact on the environment?	
Understanding of organic and Fairtrade foods	
Other	

SOCIAL JUSTICE	
Who's responsibility is it to ensure children and families are fed, but also nutritious foods?	

FUTURE	
Reflections?	
Will things change in the future? Tastes, attitude to food. Will things get easier or harder? Cost of food and availability.	

OTHER	
Anything I should know about eating and being a teenager in your area?	
Observations made throughout interview	

CONTRADICTIONS OR COMPARISONS
FIELDNOTES
METHODOLOGICAL REFLECTIONS

KEY POINTS

Young Person's Pseudonym	Sex & Age	Ethnicity	Household Composition[1]	Siblings; Sex & Age[1]	Income Group (Decile)	Equiv. Income £/m	Food Budget £/w	Parental Education	Parental Employment and Socio-Economic Status[2]
Grace	Female, 14	Black African (Nigerian)	Lone Mother, two children	Male, 5	Lower (1)	£144	£25	Level 3: A Levels	Unemployed, Asylum Process
Sean*	Male, 14	White British (of Irish heritage)	Lone Mother, three children	Male, 16; Male, 11	Lower (1)	£567	£60	Level 6: Degree in sports science	Unemployed, pregnancy
Aiden*	Male, 11	White British (of Irish heritage)	Lone Mother, three children	Male, 16; Male, 14	Lower (1)	£567	£60	Level 6: Degree in sports science	Unemployed, pregnancy
Ben	Male, 15	White British	Lone Mother, one child	Female, 20 (Away at University)	Lower (1)	£680	£27.50	Level 7: PGCE	Unemployed, previously secondary teacher
Emmanuel*	Male, 15	Black African (Ghana)	Lone Mother, four children	Male, 21 (Not at home); Male, 15 (twin); Male, 6; Female 5	Lower (1)	£0	£0	Entry: Primary Education	Unemployed, loss of legal status
Gideon*	Male, 15	Black African (Ghana)	Lone Mother, four children	Male, 21 (Not at home); Male, 15 (twin); Male, 6; Female 5	Lower (1)	£0	£0	Entry: Primary Education	Unemployed, loss of legal status
Loren	Female, 15	White British, Jewish Heritage	Dual Parent, three children	Female, 17; Male, 10	Higher (9)	£3,456	£115	M: Level 7: Masters F: Level 6: Degree; Currently PhD Student	M: Architect F: Social Science; Policy Both: (1) Higher Managerial, Administrative & Professional

Addo	Male, 12	Black African (Uganda and Nigeria)	Dual Parent, three children	Female, 7; Male, 4	Lower (2)	£775	£92	M: Level 3: A levels F: Unknown	M: Unemployed F: FT Caretaker: (5) Semi-Routine
Danisha	Female, 11	Black British, Jamaican heritage	Lone Mother, three children	Male, 5; Female, 10 months	Lower (2)	£849	£35	Level 6: Nursing degree	Unemployed, full-time carer for two children
Dylan	Male, 11	White British	Lone Mother, two children	Male, 2	Lower (3)	£1,165	£58	Level 2: NVQ Business	Unemployed
Amara	Female, 15	M: Moroccan; YP: Italian	Lone Mother, one child	Female 21 (Living in Italy)	Lower (1)	£0	£0	None	Unemployed
Kiyana	Female, 12	Black British/Caribbean	Lone Mother, two children	Female, 7 (Step-sister)	Lower (1)	£646	£65	NVQ Childcare; Health & Social Care	FT Carer: (5) Semi-Routine
Shaniya	Female, 11	British Caribbean, Jamaican heritage	Lone Mother, three children	Male, 14; Male, 12	Lower (4)	£1,497	£50	Level 3: Diploma Childminding	Unemployed, due to mental health Some voluntary work
Abdul	Male, 14	Asian, brought up in UK	Lone Mother, three children	Female, 20; Male, 16	Lower (5)	£1,702	£?	Level 3: NVQ Child Care	FT Childmind Coordinator for local authority: (3) Small employers & own account workers
Maddy	Female, 16	White British	Lone Grandmother, one child	None	Lower (1)	£520	£30	None	Unemployed, ill health

Kasy	Female, 13	Mother African-American, Jamaican heritage. YP American, Hispanic.	Lone Mother, one child	None	Lower (1)	£128	£28	Level 4: Multiple varied courses	PT temporary receptionist: (5) Semi-Routine
Shawna	Female, 12	Caribbean, 2nd generation	Lone Mother, three children	Male, 17; Male, 11	Lower (2)	£902	£46	Level 3	PT Self-Employed (nutrition advice?): (5) Semi-Routine
Henry	Male, 12	White British	Dual Parent, three children	Female, 10; Female, 8	Higher (10)	£4,500	£180	M: Level 7: Masters F: Level 7: Masters; Training to become Barrister	M: Unemployed. F: Legal Professional: (1) Higher Managerial, Administrative & Professional
Kamal	Male, 12	Moroccan heritage	Lone Mother, two children	Female, 5	Lower (3)	£1,211	£95	Level 2: NVQ Business	Unemployed, Disability
Piotr	Male, 12	White Polish	Dual Parent, one child	Male, 18 (Away at University)	Lower (3)	£1,167	£80	M: Level 3: A levels F: Level 7: Masters	M: Residential Carer (Sick Leave): (5) Semi-routine F: Self-employed Builder: (3) Small employers & own account workers
Fabien	Male, 14	Black African, Cameron	Lone Mother, four children	Male 15 (foster care); Male, 9; Male 6; Male 4; Male, 18 (deceased)	Lower (2)	£906	£200	None	Unemployed, since death of son
Charlie	Male, 11	White British	Dual Parent, two children	Male, 8	Higher (10)	£5,286	£180	M: Level 6 F: Level 7	M: Commercial Director F: Architect Both: (1) Higher Managerial, Administrative & Professional

Michael	Male, 14	White British	Dual Parent, two children	Female, 16	Higher (9)	£3,016	£140	M: Level 7: Masters F: Level 6: Degree	M: Director of a Research Institute F: Editorial Director Both: (1) Higher Managerial, Administrative & Professional
Jaivon*	Male, 12	AfroCarribean, British born	Lone Mother, three children	Female, 15; Female, 7; Female, 3	Lower (2)	£802	£40	Level 6: Degree in fashion and textiles	PT Administrator: (2) Intermediate
Tenisha*	Female, 15	AfroCarribean, British born	Lone Mother, three children	Male, 12; Female, 7; Female, 3	Lower (2)	£802	£40	Level 6: Degree in fashion and textiles	PT Administrator: (2) Intermediate
Zhara*	Female, 14	British Indian	Dual Parent, five children	Female, 13; Male 10; Male 3; Male 2	Lower (4)	£1,321	£150	M: Level 7: PGCE F: Level 6: BSc Electrical Engineering	M: PT secondary teacher: (1) Higher Managerial, Administrative & Professional F: FT IT engineer: (2) Intermediate
Imaan*	Female, 13	British Indian	Dual Parent, five children	Female, 14; Male 10; Male 3; Male 2	Lower (4)	£1,321	£150	M: Level 7: PGCE F: Level 6: BSc Electrical Engineering	M: PT secondary teacher: (1) Higher Managerial, Administrative & Professional F: FT IT engineer: (2) Intermediate
Bertie	Male, 11	White British	Lone Mother, one child	Female, 20 (Left Home)	Lower (1)	£ 716	£50	None	Unemployed, carer and health issues
Sally	Female, 12	White British	Lone Mother, three children	Male 16; Male, 10	Lower (1)	£597	£100	Level 2: GCSEs and short courses	PT self-employed nutrition and PT: (5) Semi-Routine

Jimi	Male, 14	Black African, Nigerian	Lone Mother, one child	Female, 20 (Away at University); Male, 8	Lower (2)	£952	£40	Level 3: BTEC	FT Administration in call-centre: (2) Intermediate
Stefan*	Male, 12	Romanian	Dual Parent, two children	Female, 14	Lower (1)	£187	£60	M: Level 1 F: Unclear	M: Unemployed, ill health F: FT Self-employed Taxi: (3) Small employers & own account workers
Mariana*	Female, 14	Romanian	Dual Parent	Male, 12	Lower (1)	£352	£60	M: Level 1 F: Unclear	M: Unemployed, ill health F: FT Self-employed Taxi: (3) Small employers & own account workers
Fahad	Male, 13	Birtish Asian (Indian, Pakistani)	Lone Mother, seven children	Female, 20; Female, 14; Male, 3; Female, 2. And siblings aged 17 and 16;	Lower (1)	£332	£150	Level 3: A Levels	PT Estate agent: (1) Higher Managerial, Administrative & Professional Also self-employed selling raw/organic milk
Femi	Male, 12	Black African, Nigerian	Lone Mother	Male, 17; Female, 9	Lower (1)	£202	£37	Level 6: Degree in Accounting	FT Care-work Supervisor: (4) Lower supervisory & technical
Olivia	Female, 15	White British/European F: Portuguese	Dual Parent, three children	Male, 17; Male, 10.	Higher (9)	£3,456	£170	M: Level 8: PhD F: Level 8: PhD	M: Research Institute F: Self-employed consultant Both: (1) Higher Managerial, Administrative & Professional
Joseph	Male, 12	Black African, Nigerian	Lone Mother, one child	None	Lower (1)	£689	£25	None	Unemployed, legal status issues.
Sarah	Female, 15	White British	Dual Parent, three children	Female, 17; Female, 9	Higher (3)	£1,176	£150	M: Level 6: BA English Literature F: Level 5: Received training throughout career	F: Writer M: Film production (Advertising) Both: (1) Higher Managerial, Administrative & Professional

Faith	Female, 15	Black African, Nigerian	Lone Father, four children	Female, 18; Female, 11; Female, 8	Lower (2)	£945	£46	Level 6: Degree (technical) in land surveying	FT Domestic hospital work: (5) Semi-Routine
Freya	Female, 16	White British	Dual Parent, three children	Female, 13; Male, 10	Lower (1)	£141	£80	M: Level 6: Degree F: Level 6: Degree	M: Retail in Charity Shop: (5) Semi-Routine Occupation F: Unemployed Social Worker: (1) Higher Managerial, Administrative & Professional
Maya	Female, 15	M: British Asian F: White British	Dual Parent, three children	Female, 10; Male, 7	Lower (2)	£854	£120	M: Level 3: A levels equivalent F: Level 3: A levels	M: PT (Zero) Community Care-worker F: PT stockist, Argos (Zero) Both: (5) Semi-Routine
Dayo*	Male, 15	Black African, Nigerian	Dual Parent, two children	Male, 12	Lower (1)	£0	£0	Level 2: GCSEs	Unemployed, asylum process
Ayo*	Male, 12	Black African, Nigerian	Dual Parent, two children	Male, 15	Lower (1)	£0	£0	Level 2: GCSEs	Unemployed, asylum process

* Denotes families where more than one young person was interviewed.
[1] Household Composition: Those living at the address at the time of interview. Siblings: Siblings of the young person, regardless of living at home or not.
[2] Based on NS-SEC Groupings: (1) Higher Managerial, Administrative and Profession Occupations; (2) Intermediate Occupations; (3) Small Employers & Own Account Workers; (4) Lower Supervisory & Technical Occupations; (5) Semi-routine and Routine Occupations.

Young Person's Pseudonym (Income Group)	Sex & Age	Diet Quality Category	EHQ Frequency of Fruit & Vegetables	Breakfast	School Break	School Lunch	Evening Meal	Snacks	Takeaways and Eating Out
Grace (Lower)	Female, 14	Poor	2 – 4 days per week Once per week	White bread, cereal or nothing; beans on toast at weekends	None	No FSM. NRPF. Sandwich meal deal from local shop	Rice, noodles, pasta (with Nigerian spices), tomatoes and beans; Apple or orange for dessert sometimes	Apple, carrots, mini muffins or microwave pancakes	Chicken and chips; Chinese
Sean* (Lower)	Male, 14	Mixed	Every day, more than once Every day, more than once	Nothing, but sometimes fruit	None	FSM. Sandwiches	Fajitas, spaghetti bolognaise from 'scratch', Sunday roast, 'freezer food', potatoes and salad	Bread and milk. Water and biscuits	N/a
Aiden* (Lower)	Male, 11	Poor	Every day, more than once 2 – 4 days per week	Porridge with milk and sugar	None	FSM. Hot meals – chicken, jollof rice, Friday: fish and chips and dessert of fruit, cake and custard or ice-cream	N/a	Toast and yoghurt after school. Energy drinks	N/a
Ben (Lower)	Male, 15	Poor	Every day, more than once 2 – 4 days per week	None. Bacon sandwich on weekends	FSM. Sandwiches	Comes home from school. Noodle and pasta	Frozen burgers; pasta; noodles	Toast with chocolate spread; Weetabix dry or with milk	Chicken and chips

Emmanuel* (Lower)	Male, 15	Poor	Never 2 – 4 days per week	Cornflakes, rice pudding or hot chocolate	None	No FSM; NRPF. Doesn't eat at school	Rice balls, rice and tomatoes, meat based soup	N/a	N/a
Gideon* (Lower)	Male, 15	Poor	Less than once per week Once per week	Cornflakes, rice pudding or hot chocolate	None	No FSM; NRPF. Doesn't eat at school	Rice balls, rice and tomatoes, meat based soup	N/a	N/a
Loren (Higher)	Female, 15	Mixed	Once per week Every day, more than once	Toast, toasted pitta bread with marmite and butter or jam	Occasionally chocolate croissant. Crumpets with scrambled egg for toast and Nutella at the weekend	No FSM; Meal-deal combinations: Pasta, baguette, baked potato	Baked potato, steak, fries, Quorn fajitas with avocado salad and cheese, spaghetti bolognaise, sausage with potato wedges and veg. chicken and veg rice	Toast and jam, bagels,	Occasionally chips. And restaurants sometimes with parents - Vietnamese, Thai, Indian, Turkish.
Addo (Lower)	Male, 12	Mixed	5 – 6 days per week 5 – 6 days per week	Cereal or toast	None	UFSM; sandwiches (sausage, cheese), chicken with mash potato or chips, fish and chips, orange, apple or pineapple juice	Rice or pasta, corn, peas, beans, chips once a week, not vegetables	Fruit and yoghurt	N/a

Danisha (Lower)	Female, 11	Mixed	2 – 4 days per week Once per day, every day	Bacon or cheese and ham sandwich. Sometimes has pancakes for breakfast on weekends	Occasionally a sandwich from the local supermarket	FSM; Hot meals, but this leaves no money for drink or fruit. Sometimes takes ham sandwiches on brown bread from home and uses FSM for drink	Meatballs, garlic bread, fish and rice, rice and peas, vegetables as a side: tomatoes, carrots and broccoli	Leftovers from evening meals, 'frozen food', chocolate biscuits, lolly pops and crisps	Pizza and Chinese. Sometimes hotdogs at Costco
Dylan (Lower)	Male, 11	Poor	2 – 4 days per week Once per day, every day	Rice crispies with milk and a cup of tea	None	FSM; fish & chips, burger, cake and custard, fruit, lasagne	Lasagne, 'bully beef', fish & chips, chicken nuggets, pasta bake, deep fried chips, broccoli and carrots.	Not allowed before meals. Crisps or chocolate bar after dinner. Or pre-packaged fruit	KFC and Chinese. Sometimes Weatherspoon's for a meal
Amara (Lower)	Female, 15	Poor	Less than once per week Less than once per week	None	None	Sandwich	Sandwich, lasagne when they can afford ingredients and sometimes pizza	None	Occasionally a burger from McDonald's
Kiyana (Lower)	Female, 12	Poor	2 – 4 days per week Every day, more than once	Sometimes a hot drink	Muffin and a drink	FSM; fish and chips or sandwiches. Noodles on the weekends	Meatballs and rice, fish, chicken and 'oven food'.	Noodles, biscuits, crisps and sweets	Chicken and chips, McDonald's occasionally

Shaniya (Lower)	Female, 11	Mixed	Once per day, every day Once per week	50/50 bread for toast with butter and tea	None	FSM; salad bar and fruit	Spaghetti bolognaise, rice & peas, chicken, oxtail, mac & cheese, lasagne, tuna and sweetcorn pasta, smoked salmon with potatoes and vegetables, corn, carrots, mangetout and salad	Crisps	Chicken and chips twice per week
Abdul (Lower)	Male, 14	Poor	N/a N/a	Toast and a glass of milk, water or juice. Coco pops with milk on the weekends	Sometimes croissant	School Meals compulsory; fish & chips with beans, apple, orange or biscuits. Noodles on the weekends	Chicken curry, lentil curry, Jamaican pasties with lettuce, chips, sandwiches.	Occasionally cheese bun,	takeaway – pizza, chicken, hot wings,
Maddy (Lower)	Female, 16	Poor	Less than once per week 2 – 4 days per week	Sometimes a yoghurt. Cereal or toast on the weekends	None	FSM; small baguette and juice. During the holidays: scrambled eggs, chips, pizza or sausage, mash and peas	Chips, pizza, stew, lasagne with broccoli, carrots and peas	Pizza, sweets, small meal	Turkish café, Subway, Nando's and 'greasy spoon' with friends

Kasy (Lower)	Female, 13	Mixed	Less than once per week 2 – 4 days per week	None	None	FSM; Does not always eat meal. Wraps or chicken and rice, roast potatoes, cake, ice-cream, apple pie and custard or fruit	Oxtail, pasta, chicken stir fry, mince, bulgar wheat with salmon and vegetables, mice with veggie sausages, spaghetti with veg bolognaise, curly kale lamb, rice & peas. Chicken curry, rice and peas, callaloo, ackee and salt fish, yams, potatoes, brown rice or chickpeas	Bananas, crisps,	Chicken and chips 2 – 3 times per week with friends
Shawna (Lower)	Female, 12	Poor	Once per week Once per day, every day	Coco pops and school breakfast club	None	Fish and chips	Chicken and rice or pasta, Sunday roast dinner	Crisps, biscuits, crackers and sandwiches	Chicken and chips. Takeaway on Fridays. McDonald's, ice-cream parlour
Henry (Higher)	Male, 12	Good	Every day, more than once Every day, more than once	Cereal (shredded wheat or Weetabix, Country crisp red berries) with yoghurt, nuts and seeds. Toast and eggs for breakfast on the weekends, sometimes pancakes with fruit	Smoked salmon and crème cheese bagel, apple, peperoni panini, sausage rolls, pizza slice or bacon and cheese muffin	Pasta with tomato sauce and cheese. Friday: Fish, chips, beans and peas. Wraps on the weekends	Dessert: Yoghurt, fruit, sometimes tiramisu. Chilli and garlic prawns, aubergine pasta, lentil curries, homemade pizza, wraps, tuna with soy and ginger and rice and teriyaki salmon. Dessert: Yoghurt, fruit or sometimes tiramisu	Variety of fruit, yoghurt, Jaffa cakes, muesli bar, nuts, seeds, seaweed slices. Occasionally biscuits and sweets with friends on way home from school	Vietnamese, Indian, Thai, Turkish restaurants with parents

Kamal (Lower)	Male, 12	Mixed	N/a N/a	Protein shakes and crepes	None	FSM; Limited to some sandwiches and baguettes	Cucumber lettuce broccoli, roast dinner.	Fruit (grapes), crackers, crisps, biscuits, cookies. Occasional fizzy drinks	Chicken and chips, Pizza Hut, Subway, KFC
Piotr (Lower)	Male, 12	Mixed	5 – 6 days per week Once per day, every day	Cereal or toast and hot chocolate	N/a	Spring rolls, Chinese noodles, biryani and shepherd's pie.	Vegetable or chicken soup; stew; gnocchi; dumplings; goulash; curry; salads; kugel; Chinese; Mexican	Fruit; yoghurt; homemade soup; homemade cake	N/a
Fabien (Lower)	Male, 14	Mixed	Every day, more than once Every day, more than once	Sometimes: Cereal with milk; or toast	N/a	FSM Leaves school premises to buy chips	African food; pasta; spinach and eggs	Spicy rice, yoghurt; fruit; does not like sweets, chocolate or fizzy drinks	Buys food after school; chicken and chips, pizza
Charlie (Higher)	Male, 11	Mixed	5 – 6 days per week 5 – 6 days per week	Weetabix with honest; cornflakes with sugar and a banana; boiled eggs and toast soldiers	N/a	Hot school meal	Breaded fish or chicken and oven chips; chilli con carne; chicken schnitzel; baked potato with beans; chicken pasta; chicken Kiev; chicken nuggets; spaghetti bolognaise	Toast; cheese and crackers; fruit; crisps; Ribena; sweets on Friday	Fish and chips; McDonalds; Five Guy's.

Michael (Higher)	Male, 14	Good	Every day, more than once Every day, more than once	Boiled egg, toast soldiers, honeydew melon, orange juice and tea	Water and ham roll	Hot meal or sandwich; Fruit salad and Muller yoghurt; Rice and chicken	Pasta; stir-fry; roast dinner; sausage, mash potatoes and vegetables; chicken and salad	Toast; fried egg; fruit; oatcakes; sweets; crisps	Indian curry; Pizza
Jaivon* (Lower)	Male, 12	Poor	Less than once per week Less than once per week	None.	Pizza	Nothing	Pasta with meatballs and cheese; rice with stewed chicken; cauliflower cheese; omelette; spaghetti bolognaise; pudding on special occasions; frozen pizza, burger, chips; nuggets	None	Once a week: chicken and chips from Chickin' Lickin' Sometimes McDonald's or Pizza hut
Tenisha* (Lower)	Female, 15	Poor	2 – 4 days per week Once per week	Sometimes Rice Krispies and a glass milk	N/a	Chilli con carni; jacket potato, curry or chicken and rice. Main meal and drink OR cake (not both) for £2.50	Pasta with meatballs and cheese; rice with stewed chicken; cauliflower cheese; omelette; spaghetti bolognaise; pudding on special occasions; frozen pizza, burger, chips; nuggets	Cereal	Once a week: chicken and chips from Chickin' Lickin' Sometimes McDonald's or Pizza hut

Zhara* (Lower)	Female, 14	Mixed	5 – 6 days per week Once per day, every day	Coco Pops with milk	N/a	Nutella sandwich; brunch bar; or noodles	Pasta with salt/lemon or ketchup; leftovers; vegetable curry; shepherd's pie; lasagne; chicken dumplings; with vegetables or salad, rice, chapattis or samosas	Cucumber salad with yoghurt.	Takeaway twice per week or once per month Sometimes buys chips
Imaan* (Lower)	Female, 13	Mixed	2 – 4 days per week Once per day, every day	Coco Pops with milk	N/a	Nutella sandwich; brunch bar; or noodles	Pasta with salt/lemon or ketchup; or leftovers (before mosque); vegetable curry; shepherd's pie; lasagne; chicken dumplings; with vegetables or salad, rice, chapattis or samosas.	Cucumber salad with yoghurt.	Takeaway twice per week or once per month Sometimes buys chips
Bertie (Lower)	Male, 11	Poor	2 – 4 days per week Once per day, every day	Tea and toast with butter; porridge; or coco pops	N/a	FSM Meat pie with mash, couscous and cake; Macaroni cheese on Wednesdays	Frozen pizza with mayonnaise and sweet potato; Lasagne; baked potatoes with tuna, beans and/or coleslaw; red cabbage; pizzas wraps; Homemade stew. Pudding: Ice cream with sauce, bubble gum and fruit.	Wrapped cake; Cereal; Hot chocolate; Sandwich (sneaked) under pillow.	Chicken and chips once a week Sometimes on way home from school with friends

Sally (Lower)	Female, 12	Good	Once per day, every day Once per day, every day	Cereal and pitta bread or bagel	Waffles; pain au chocolate; bread	Snack box with crackers, cheese and grapes; fruit; sandwiches; fish and chips.	Thai green chicken curry; pesto chicken with noodles; vegetable and noodle stir-fry; turkey fajitas; pesto pasta; roast vegetable pasta; spaghetti bolognaise; jacket potato with cheese and salad; omelette and chips; Quorn curry and rice; roast dinner with vegetables and cauliflower cheese.	Cucumber bagel; fruit;	Never. Sometimes eats out (e.g. Costa)
Jimi (Lower)	Male, 14	Poor	Less than once per week 2 – 4 days per week	Cornflakes or toast	N/a	FSM Pasta' chicken; box drink; and cake	Black eyed beans and plantain, salad; roast chicken Nigerian food: carri; moi moi	Pastries; crisps; Pringles (once a month)	
Stefan* (Lower)	Male, 12	Good	Every day, more than once Every day, more than once	cheerio's, milk and chocolate-chip brioche	N/a	Packed lunch: fruit, biscuit, sandwich	Bean stew; chicken, soup; vegetable rice; Spaghetti once a week – with beans, peas, green beans, potatoes and tomatoes	Crisps; biscuits; chocolate	Burger and chips at café
Mariana* (Lower)	Female, 14	Mixed	5 – 6 days per week 5 – 6 days per week	cheerio's, milk and chocolate-chip brioche	N/a	Packed lunch: fruit, biscuit, sandwich	Bean stew; chicken, soup; vegetable rice; Spaghetti once a week – with beans, peas, green beans, potatoes and tomatoes	Crisps; biscuits; chocolate	Burger and chips at café

Fahad (Lower)	Male, 13	Mixed	N/a N/a	None	None	Compulsory school meals: Fish and chips; chicken and potatoes	Chicken and rice; shepherd's pie; spaghetti bolognaise	Fruit; crisps	Chicken and chips; Donner kebab and chips
Femi (Lower)	Male, 12	Poor	2 – 4 days per week Less than once per week	Cereal 'Full English' on Saturdays	N/a	Family Meal Service Sausages; meatball; chicken; usually curry; always dessert; waffles	Mon: yam and egg; Tues: jolloff rice with chicken; Weds: plantain and stewed beans; Thurs: pasta with bolognaise or sauce and vegetables or tuna and cream; Fri: chips.	Pizza or burger	Chicken and chips – but mother unaware
Olivia (Higher)	Female, 15	Good	5 – 6 days per week Every day, more than once	Hot chocolate; toast; pitta bread; toasted bagel; marmite and butter	Pain au chocolate	Hot meals; chicken and rice	Vegetable soup; tofu stir-fry; pasta; salad; fish	Sandwiches; toast; pitta bread; fruit	Fish and chips
Joseph (Lower)	Male, 12	Mixed	Once per week 2 – 4 days per week	Bread at home, sometimes at breakfast club Sometimes at weekends makes himself eggs, toast and baked beans	N/a	Family service at school: chicken curry and rice; macaroni cheese; spaghetti bolognaise Dessert: cheesecake; jelly; fruit; ice cream; or cake	Mincemeat – bolognaise and noodles Nigerian food: rice and stew	Packet of biscuits or donuts; Slice of bread and a cup of tea. Oranges, apples, grapes – cut up	Chicken and chips occasionally

Sarah (Higher)	Female, 15	Good	Every day, more than once Every day, more than once	Porridge, cereal or toast. Always a cup of tea.	Crisps	£3 meal deal from Tesco: sandwich, crisps and a drink Also fruit such as dates At weekend: Sandwiches and soup	Chorizo soup; Dahl; Lasagne; Chicken; Pasta; fish; vegetable soup	Tea and biscuits; Toast; Cereal; fruit; nuts and seeds	Do not eat takeaways often but might get Turkish or Indian.
Faith (Lower)	Female, 15	Mixed	Once per week 2 – 4 days per week	Toast; cornflakes; crunchy nut; coco pops; Weetabix; toast with butter and jam; or a sandwich Oats at weekend	Pizza; bacon or sausage roll	Tuna pasta; Rice and custard; sausage & mash; roast chicken and gravy Friday: Fish & chips, chocolate cake with chocolate or plain custard During holidays: beans and noodles	Vegetable soup; tofu stir-fry; pasta; salads; fish	Fruit after every evening meal; apples, bananas, tangerines Sometimes have yoghurt as a pudding Diet coke	
Freya (Lower)	Female, 16	Good	Every day, more than once Every day, more than once	Bircher muesli; smoothies	N/a	Leftover from home: satay sauce, vegetables; homemade biscuit.	Bean wraps; chickpea and potato curry; occasional frozen pizza; risotto; pasta and pesto with broccoli and peas; occasional pudding. But without cheese.	Fruit: Apple, banana Biscuits and cheese; occasionally crisps	Pizza express; pancakes; cake at café.

Maya (Lower)	Female, 15	Mixed	Once per week Once per day, every day	Sometimes cereal bar. Occasionally cereal or milk and biscuits Weekend: Eggs or pancakes	cereal bar; waffles; sweets	Packed lunch	Chicken curry; vegetable grills; salmon; spaghetti bolognaise; vegetable noodles	Fruit; crisps; sweets	Sometimes chicken and chips
Dayo* (Lower)	Male, 15	Mixed	Once per day, every day Once per week	Cereal or toast Breakfast club at school	N/a	FSM	Fried plantain; rice; stew with peppers; chicken; vegetables (mushrooms, carrots); okra; beans and pulses; cassava flakes; yam; fish; soup; beans cakes	Fruit: bananas, orange, apples and pears; crisps, biscuits, nuts, cassava flakes. Dependent on charity.	Rarely: chicken and chips
Ayo* (Lower)	Male, 12	Mixed	Once per day, every day Once per day, every day	Cereal or toast Breakfast club at school	N/a	FSM	Fried plantain; rice; stew with peppers; chicken; vegetables (mushrooms, carrots); okra; beans and pulses; cassava flakes; yam; fish; soup; beans cakes	Fruit: bananas, orange, apples and pears; crisps, biscuits, nuts, cassava flakes. Dependent on charity.	Rarely: chicken and chips