

Exploring the world of food:

The perspective of families with children



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Foreword

Parents are influenced by many factors when deciding what, where and when to eat with their children. These competing and interacting factors include psychological, social and environmental influences that parents must navigate and respond to. The role of social and physical (“built”) environments in determining food choice is now recognised as being at least as important as individual behaviour or personal preferences – if not *more* important, because people’s behaviour is shaped and limited by these external factors.

Such environments vary considerably and contribute to nutritional health inequalities. Indeed, “obesogenic” environments in communities and towns that enable and allow the overconsumption of energy-dense, nutrient-poor foods are considered a key driver for obesity-related behaviours. It has also been suggested that the built environment may have a stronger effect among those of low socio-economic status, as they must tolerate the “default options” – usually the cheapest and most easily obtained foods – in their communities. Families must navigate these local and wider social and cultural contexts to provide a home food environment, which the evidence clearly shows plays a dominant and long-lasting role in influencing children’s dietary habits.

This research aims to understand how families make decisions about meals and snacks that are eaten at home when a multitude of factors are at play. Given that social inequalities in dietary habits and in obesity are significant challenges for public health, the research has a focus on families from low-income groups to understand how they navigate the food environment to feed their families. The findings from this research will guide future interventions, or strategies for change, in the area of family food environments and will contribute to recommendations for promoting healthy eating to families within the home environment.

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Executive summary

Parents play a key role in shaping the dietary habits of children which then has an influential and decisive effect on future food behaviours and health outcomes in adulthood. Earlier research has shown that parental behaviours and the home food environment influence child dietary behaviours, less is known about what informs food decision-making processes of parents, particularly those on a low income.

This study set out to address this gap in knowledge by exploring the food decision-making processes of a diverse sample of parents from across the island of Ireland. The overall aim of the project was to explore the factors that influence daily food-related decisions and the strategies that parents and families living on a low income use to buy and prepare food for their families. This report outlines the findings of the research and makes recommendations to address the issues identified.

Participant recruitment and public and patient involvement

Recruitment of participants was carried out through parent group networks, health promotion organisations and social media. An advisory panel of parents living on a low income was established to help collaborate and input to the research tools, participant recruitment and communicating information. On the advice of the panel, it was recommended that the term “low income” be replaced in all recruitment material with “tight budget” and based on feedback from the panels participants were not asked to reveal their exact income.

Methods and analysis

Interviews were held with 28 parents from across the island of Ireland (12 in Northern Ireland and 16 in Ireland) to gain “qualitative” data – that is, information that cannot be directly counted or quantified, such as attitudes and emotions. Parents were asked to take photographs and draw maps of their food environments; these items were then used during interviews as a reference for discussions around the food environments and food decision-making processes of parents. Planned in person interviews could not go ahead due to the COVID-19 pandemic and resulting public health restrictions. Instead, interviews were carried out online recorded and typed out.

Analysis of the interview transcripts was performed using an “inductive” approach to generate codes and themes. Thematic inductive analysis is a way of coding information that does not try to make the data fit into an existing theme or a pattern that might be created or driven by a researcher’s own ideas and assumptions. To analyse the different studies, pieces of information are given codes to help researchers look for any patterns, links or similarities.

Using “iterative” analysis, which looks for repetition or “reiteration” of the process to create a sequence of results, as well as discussion of the codes and themes among the research team members it was decided that the findings map onto Bronfenbrenner’s Ecological Systems Theory Model. This model presents a framework of ideas that helps to focus thoughts and discussion in order to present the findings.

Bronfenbrenner’s Ecological Theory Model consists of 5 distinct but interrelated spheres that describe interactions and shape behaviours in the social field at individual, organisational and policy levels across the life-course of people, from childhood to old age. These include

- Microsystem level (friends, family and neighbours)
- Mesosystem level (schools and local context)
- Exosystem level (wider social, political, economic, social and policy environment)
- Macrosystem level (cultural beliefs and values)
- Chronosystem level (social and historical events over the life-course, such as the COVID-19 pandemic)

Key findings and implications

- At the individual level, parents sought to nourish their children and provide the best food possible. Parents’ choices were routinely guided by children’s preferences, perceived specific dietary requirements and perceived needs. This has implications for the design of dietary guidance and advice for families with children at different developmental stages. Specifically, parents would benefit from guidance on strategies to work around children’s food phobias, such as irrational fears or dislikes of certain foods, and include more fruit and vegetables in their diets.
- At the microsystem level, time was identified as a resource in short supply for many families with children, particularly one-parent families. This has implications for the development of resources for families, which should consider time constraints on families, as well as budget, level of skill and knowledge of food preparation.

- At the exosystem level, the availability of free school meals frees up budgets for parents on very low incomes, such that more of the family food budget may be used to buy healthier and fresh foods for meals consumed at home. This has implications for national-level policy and for the implementation of free school meals, which should be considered as means of improving the health and wellbeing of children and families across the island of Ireland.
- It should be noted that parents on very low incomes are frequently severely limited in making their food choices and can experience a sense of stigma and guilt in requiring food assistance. The implementation of free school meals as a universal policy rather than a benefit targeted at low-income or disadvantaged areas would significantly help these families improve their diets and would help to reduce the perceived stigma associated with needing help.
- The corporate environment – especially supermarket chains – plays a particularly important role in influencing food choices, with the availability of store offers, special deals and vouchers significantly driving food buying behaviours. Other factors, such as the marketing of food products, store architecture (the layout, lighting, product placement and so on), level of food knowledge and budget available, will further influence the decisions made once parents are inside the shop. This highlights the need to provide messaging to parents on how to navigate the commercial food environment with both health and budget in mind.
- At the macrosystem level, participants made clear the value of eating together as a family, with food viewed not just as fuel for living but also as something to be shared with and among friends and family as a social event. This has implications for the framing of messages around the value of eating well and for eating together as a family, which has proven health benefits for all the family.
- At the chronosystem level, the COVID-19 pandemic has had a significant effect on altering patterns of food buying, food-related practices and consumption. Positive changes in practices included an increase in families eating together. Negative impacts included an increase in food insecurity and reliance on food assistance as families experienced a drop in income due to loss of employment. These findings have implications for research, which should be carried out to investigate the wider and longer-term impacts of the COVID-19 pandemic on food and consumer behaviours, dietary practices and food insecurity.

Recommendations

Practice

- Resources should be developed to provide parents with guidance on preparing healthy, nutritious meals and snacks that meet the needs of children at different developmental stages. Such resources should consider time and budget constraints as well as level of skill and knowledge of food preparation.
- Resources should be developed to provide parents with guidance on strategies to work around children’s food phobias and to include more fruit and vegetables in their diets.
- Support and guidance for families to meet and address the nutritional needs of adolescent children is warranted.
- Health promotion and healthy eating campaigns should consider framing messages around the value of eating together as a family, given that this is both valued by parents and has proven health benefits.

Policy

- Policymakers should regulate the promotion and location of high-sugar, high-fat and highly processed food items and create a healthier environment as set out in “A Healthy Weight for Ireland: Obesity Policy and Action Plan (2016–2025)” (1) and “A Fitter Future for All: Framework for Preventing and Addressing Overweight and Obesity in Northern Ireland (2012–2022)” (2).
- Policymakers should consider implementing universal free school meals for all school-aged children as a means of addressing health inequalities on the island of Ireland. This would have a significant effect in addressing the issue of food poverty and would improve the health and wellbeing of all children on the island of Ireland.

Research

- Further research on the impact of the online food shopping environment on dietary habits is needed, for example the use and impact of store apps on family food behaviours.
- Research should be commissioned to carry out a feasibility and impact analysis in respect of introducing regulations on the promotion and location of high-sugar and high-fat foods.

- Further research to explore the use and impact of social media on family food behaviours is warranted, given the increasing use of social media as a platform for the sharing and broadcasting of food-related information, recipes and dietary guidance.
- “Knowledge translation” studies which identify activities to move research findings into the real world are needed to explore the development and feasibility of appropriate meal-planning tools for families living on a tight budget.
- The findings indicate that the COVID-19 pandemic may have deepened existing food insecurity issues for lower-income families. Further research is needed to explore the longer-term effects of the pandemic on nutritional and health inequalities.

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1 Introduction

Many European children and adolescents are not meeting healthy eating guidelines (3). In Ireland about 1 in 4 young people eat fruit daily and 1 in 5 go to school or bed hungry (4). While intakes of soft drinks and sweets have decreased over time, inequalities in dietary patterns remain (4). Children in Northern Ireland consume just over 2.5 portions of fruit and vegetables per day, with 94 per cent of children aged 11 to 18 years not in keeping with the “Eatwell” guidance (5) to “aim to eat at least 5 portions of a variety of fruit and veg each day” (3). Moreover, both sets of data show that those in the lowest income bracket or most deprived areas have poorer diets.

Childhood obesity is also a priority public health challenge, with around 170 million children overweight worldwide (6). In Ireland almost a quarter of 3-year-olds (7), and 1 in 4 older children (those between 9 and 13 years) are overweight or obese (8) although more recent analysis indicates these levels are stabilising (9). In Northern Ireland around a quarter of children aged between 2 and 15 years are either overweight (20 per cent) or obese (6 per cent) (10).

Social inequalities observed in dietary behaviours are also seen in increased obesity amongst the most disadvantaged (9-13). Reducing this gap in inequalities is in keeping with the “Healthy Ireland Framework: Obesity Policy and Action Plan (2016–2025)” (11) and “Better Outcomes, Brighter Futures: The National Policy Framework for Children and Young People” (14) in Ireland, and the strategic frameworks “A Fitter Future for All: Framework for Preventing and Addressing Overweight and Obesity in Northern Ireland” (15) and “Making Life Better” (16) in Northern Ireland, key strategies across the island of Ireland aiming to increase the number of children with a healthy weight, to improve health and wellbeing and to reduce health inequalities.

Parents play a key role in shaping children’s eating habits, which can track into adulthood. The “home food environment” includes the availability and accessibility of foods inside the home, meal preparation, meal locations and the modelling of eating behaviours (17), which are important related factors of dietary behaviour among children. However, less is known

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about family food decision-making processes in their external food environments: *why* they choose which foods to buy and prepare.

There is a complex interplay of psychological, social, cultural and environmental factors affecting food choice (18) and influencing healthy eating (19). Parents are likely to meet many influences at once, which at times are competing or conflicting (17) when deciding what food to buy, prepare and to eat. The role of social and physical environments in determining (influencing or deciding) food choice is considered at least as important as individual behaviour or personal preferences – if not *more* important; such environments vary considerably and can contribute to nutritional health inequalities (20).

This project aimed to understand how families with different compositions (different numbers of children and stages of development) and at a social and financial disadvantage make decisions about food planning and buying when a multitude of factors are at play. Given the increasing participation of fathers in domestic labour and with the changing nature of family composition on the island of Ireland (21, 22), the father's role in food decision-making was of interest. Given the timing of the study and the impact of COVID-19 and public health restrictions, this study also set out, as an additional objective, to explore the impact of COVID-19 on family food decisions.

A “qualitative” approach was used, with creative research tools used to meet the study aim. (“Qualitative data” is information that cannot be directly counted or quantified, such as attitudes and emotions.) “Photovoice” and “creative mapping” techniques were used, whereby parents were asked to take photographs and draw maps of their food environments; these items were then used during interviews as a reference for discussions around the food environments and food decision-making processes of parents. These creative research methods help to reduce the “power differential” (that is, the sense of one person being “above” another) between participant and researcher (23), and both photovoice and mapping exercises have been used before in other studies aiming to understand food access and food environments (24-27).

2 Aim and objectives

Aim

The overall aim of this study was to explore the factors that influence daily family food-related decisions and the strategies families use to make decisions about meals and snacks for their families.

Objectives

The study objectives were to

- Explore the “micro-environmental”, or local and family, contexts in which low-income families with children make decisions about the food they buy, prepare and eat.
- Explore the differences in these contexts between families with children at different developmental stages.
- Identify the major food decision points (that is, meals and snacks), the settings in which they occur, and the context “trigger points” that influence decisions, according to the type of family composition.
- Explore strategies used by each type of family to navigate and make food decisions within their food environment.
- Make recommendations on potential strategies to enable parents to prepare meals and snacks that constitute a healthy diet for their families.

3 Methodology

Approach

This study consisted of a qualitative research design and use of creative methods to collect data from parents to achieve the study objectives. There were 2 separate study teams, 1 each for Northern Ireland and Ireland. Owing to the restrictions put in place to control the spread of COVID-19 all study processes (recruitment and data collection) took place online.

Recruitment of participants

In line with the principles of “public and patient involvement in research” (PPI), an advisory panel of parents was established to advise on research tools, recruitment strategies and dissemination (communicating or distributing information). The panel offered guidance around suitable and sensitive language in recruitment materials, with advice given to use the term “tight budget” rather than “low income”.

Participants were recruited through community groups and family resource centres and by social media.

Eligibility criteria

To be eligible (that is, to be acceptable for recruitment), participants must be parents or guardians of preschool, primary and/or post-primary school children (aged 2 to 17 years). Both mothers and fathers were invited to take part. Recruitment focused on low-income families and families living in socially and economically disadvantaged or deprived areas in rural and urban areas in both jurisdictions.

Families with children who had a clinical diagnosis affecting feeding or eating were excluded as their experiences, drivers of food choice and strategies to provide food for their families were likely to differ from the families of interest in this project.

Individuals aged less than 18 years, and those who were not the main or shared main household food provider, were excluded as they would have fewer insights to contribute towards the research questions.

A “sampling matrix” (a set of characteristics or features the researchers wanted the participants to have) was used as a guide. This ensured that participants with diverse characteristics (for example families with low socioeconomic status or living in a deprived area, different family types and age ranges of children) were invited to participate.

Data collection

Data collection tools were piloted (tried out) in person and online before use in the main study. In an initial brief telephone interview, the researchers captured participant demographics (social statistics such as age, income, education and so on) using a brief validated (that is, already tried and trusted) questionnaire and explained the data collection methods. Two creative approaches were used for data collection:

Photovoice

Participants were asked to take photographs (Appendix 1) to illustrate their food-related decisions and activities for 1 week. These could be related to food buying activities or events (for example foods on offer or food advertisements, shopping receipts, promotional materials); and/or related to meal planning, preparation and cooking (for example shopping lists, food being cooked or served, food in the fridge or cupboard). To maintain anonymity, participants were advised to avoid taking identifiable images of people. A daily text message and email reminder service was offered. Participants used their own camera phones to take photographs of relevant items and events and then shared these with the research team.

A follow-up online interview was then arranged through the web-conferencing software Microsoft® Teams (Microsoft Corporation, Redmond, Washington, United States of America), where participants’ photographs were used as prompts to discuss how food decisions were made during the previous week. A short list of questions recommended as part of Photo-elicitation method/approach was used as a guide to encourage participants to explain their decisions around food, again using their photographs (Appendix 2).

Creative mapping

During the initial telephone interview, participants were also invited to draw their local food environment and to include shops they use and do not use (Appendix 3). The map was then emailed along with the photographs to the researcher and used in the follow-up online interview to add to the photovoice exercise. Specifically, participants were encouraged to

discuss the strategies they used to navigate their food environment, and how the local food environment influenced their food buying habits, food choices and meal planning.

Data analysis

Audio recordings from the online interviews were listened to, transcribed (typed out word for word) and read repeatedly at the same time as viewing the participants' maps and photographs. All transcripts were imported and coded in NVivo® 12 Pro qualitative data analysis software (from QSR International Pty Ltd, Doncaster, Victoria, Australia). An "inductive" approach was taken when coding data, which was initially conducted separately by each research team in Northern Ireland and Ireland before being shared. Following a first round of coding, researchers compared codes and preliminary themes, and discussed the relevance of findings and commonalities and differences in both samples.

(To analyse the different studies, pieces of information are given codes to help researchers look for any patterns, links or similarities. "Thematic inductive analysis" is a way of coding information that does not try to make the data fit into an existing theme or a pattern that might be created or driven by a researcher's own ideas and assumptions.)

Following discussion among researchers, it was agreed to situate analysis of the findings within Bronfenbrenner's Ecological Systems Theory Model (28) in order to best represent and conceptualise (that is, form ideas of and around) the different layers of social environmental influences on family's food choices.

Originally conceived as an explanatory model to account for the range of social and structural determinants (influences or deciding factors) of child development, Bronfenbrenner's (1979) theory is used across a variety of disciplines and is a helpful framework for conceptually separating out the distinct but interrelated spheres of social and environmental influence on an individual's actions, behaviours and outcomes (29).

4 Results

Introduction

Interviews were carried out with 12 parents in Northern Ireland and 16 parents in Ireland between October 2020 and January 2021. Table 1 shows characteristics of the sample of parents, including information on participants' level of education, employment status and marital status.

- Some differences were observed between the sample in Northern Ireland and the sample in Ireland: half (50 per cent) of the sample from Ireland were in full-time employment, while in Northern Ireland, most participants had full-time domestic duties (58 per cent).
- Women were disproportionately represented in the sample overall, with only 2 men participating, 1 each from Northern Ireland and Ireland.
- Parents with children under 12 were also disproportionately represented in both samples (57 per cent).
- Most of the participants in both jurisdictions were educated to degree level (68 per cent).
- Most participants in Ireland (79 per cent) were eligible either for social welfare or other benefits, a “medical card” or a “GP visit card” (which give free access to some Health Service Executive and/or General Practitioner services).
- The median age (the mid-point in the age range) of participants was 41.5 years, with a standard deviation or “SD” (which measures the spread of variation from the average) of 6.8.

Table 1: Demographic characteristics of 28 participants in a study to explore factors that influence daily family food-related decisions, and strategies used to make decisions about meals and snacks for families on the island of Ireland (Northern Ireland and Ireland)

Demographic characteristics	Response	N	%	N	%	N	%
		ROI	ROI	NI	NI	IOI	IOI
Place of Birth	ROI/NI	11	69%	7	58%	18	64%
	Other UK	1	65%	3	25%	4	14%
	Poland	1	6%	1	8%	2	7%
	Ukraine	1	6%	0	0%	1	4%
	United States	1	6%	0	0%	1	4%
	Germany	1	6%	0	0%	1	4%
	Vietnam	0	0%	1	8%	1	4%
Ethnicity	White	16	100%	11	92%	27	96%
	Vietnamese	0	0%	1	8%	1	4%
Education level	Secondary	2	13%	1	8%	3	11%
	Certificate or Diploma	4	25%	2	17%	6	21%
	Degree	6	38%	6	50%	12	43%
Employment Status	Part-time employed	3	19%	2	17%	5	18%
	Full-time employed	8	50%	2	17%	10	36%
	Full-time domestic duties	2	13%	7	58%	9	32%
	Disability	2	13%	0	0%	2	7%
	Student	1	6%	0	0%	1	4%
	Retired	0	0%	1	8%	1	4%
Marital status	Married or living with partner	9	56%	6	50%	15	54%
	Divorced or separated	1	6%	5	42%	6	21%
	Single	6	38%	1	8%	7	25%
Eligibility for benefits	Yes	13	81%	9	75%	22	79%

Demographic characteristics	Response	N	%	N	%	N	%
		ROI	ROI	NI	NI	IOI	IOI
	No	3	19%	3	25%	6	21%
Children's ages	Under 12	10	63%	6	50%	16	57%
	Under and over 12	1	6%	4	33%	5	18%
	Over 12	5	31%	2	17%	7	25%

NI: Northern Ireland; ROI: Republic of Ireland; IOI: island of Ireland

Illustrating the findings through Bronfenbrenner's Ecological Systems Theory Model

Figure 1 illustrates Bronfenbrenner's Ecological Theory Model, which consists of 5 distinct but interrelated spheres that describe interactions and shape behaviours in the social field at individual, organisational and policy levels across the life-course. These include:

- Microsystem level (friends, family and neighbours)
- Mesosystem level (schools and local context)
- Exosystem level (wider social, political, economic, social and policy environment)
- Macrosystem level (cultural beliefs and values)
- Chronosystem level (social and historical events over the life-course, such as the COVID-19 pandemic).

In Table 2 each of these 5 layers, plus individual level characteristics, are considered and aligned with the corresponding family food factors identified during the analysis. The results are set out accordingly, with consideration of each ecological system's level and the family food factors that correspond with these spheres of influence.

Originally conceived of as an explanatory model to account for the range of social and structural determinants of child development, Bronfenbrenner's (1979) theory is used across a variety of disciplines and is a helpful framework for conceptually separating out the distinct but interrelated spheres of social and environmental influence on an individual's actions, behaviours and outcomes. The model consists of 5 systems, in addition to the influences that apply at an individual level.

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The factors or spheres of influence are constituted as follows:

Individual: Factors related to the individual, such as personality traits, general disposition or nature, and “epigenetic” factors (that is, environmental or behavioural factors that change the way a person’s genes work, without changing the chemistry of the genes).

Microsystem: The microsystem is the first level of Bronfenbrenner’s theory and includes the immediate relationships in a person’s life, such as family relationships, siblings, friends and peers (other people of the same age and status).

Mesosystem: The mesosystem relates to interactions between the immediate contacts and other external relationships, such as relationships with school, teachers and other members of the local community in which a person lives.

Exosystem: The exosystem refers to organisations and social structures external to the individual that operate independently of them, such as policy, economic and political factors.

Macrosystem: The macrosystem refers to values, beliefs and other cultural factors and how these can inform decision-making and behaviour.

Chronosystem: The chronosystem refers to social and historical events that occur over a person’s life-course that have a profound impact on shaping the lives of people, for example the COVID-19 pandemic.

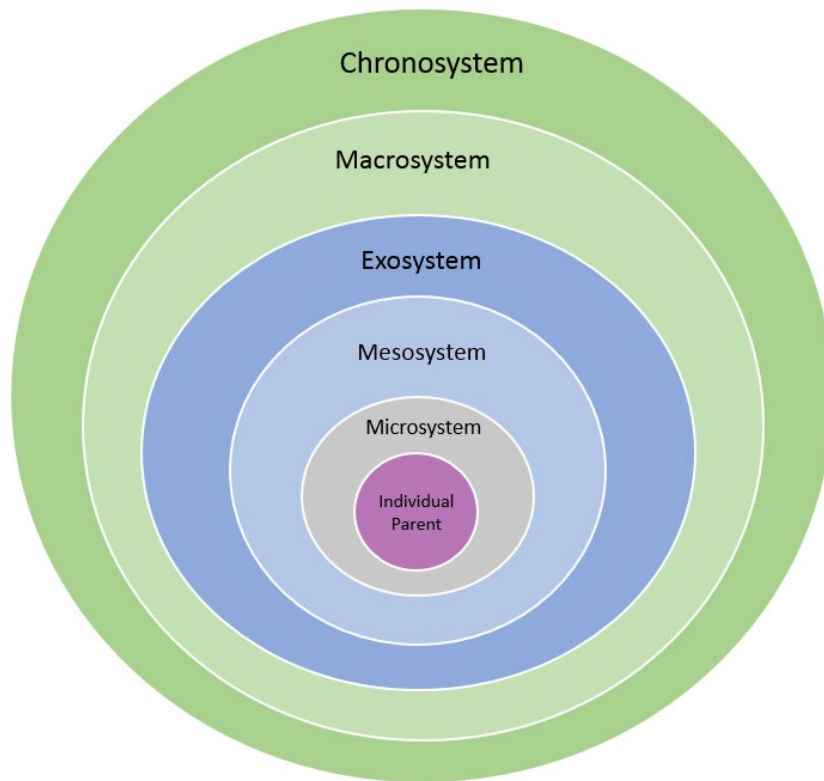


Figure 1. Bronfenbrenner's Ecological Systems Theory Model (1979).

Table 2: Bronfenbrenner's Ecological Systems Theory levels, relevant influences and corresponding factors affecting family food decision-making and strategies

Ecological Systems Theory level	Relevant system features and influences	Corresponding family food factors
Individual	<ul style="list-style-type: none"> • Gender • Age • Health status 	<ul style="list-style-type: none"> • Individual health status and/or dietary needs of family members
Microsystem	<ul style="list-style-type: none"> • Family • Friends • Peers 	<ul style="list-style-type: none"> • Family composition • Family support • Friend or peer influences
Mesosystem	<ul style="list-style-type: none"> • School • Neighbourhood • Local context 	<ul style="list-style-type: none"> • Childminders, schools and after-school services • Rural or urban location • Proximity of amenities

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Exosystem	<ul style="list-style-type: none"> • Social and mass media • Policy and political environment • Education system • economic situation • Corporate (commercial or business) influences • Other external influences 	<ul style="list-style-type: none"> • Use of apps, social media and other online resources • Family budget constraints • Availability of school meals • Marketing and store offers or deals • Social welfare payments and other government assistance programmes
Macrosystem	<ul style="list-style-type: none"> • Cultural beliefs and values • Ideologies 	<ul style="list-style-type: none"> • Societal and cultural beliefs and values around food • Traditions
Chronosystem	<ul style="list-style-type: none"> • Social and historical events and environmental changes over time 	<ul style="list-style-type: none"> • Impact of COVID-19 pandemic

Individual level factors

Overall, parents wanted to provide nourishing and healthy food for their children. Several individual-level factors were found to drive family food choices in many circumstances: the food preferences of children; specific dietary needs (for example vegetarianism); and perceived nutritional requirements. Children’s needs and preferences at different developmental stages were also identified as factors that influenced family food choices.

Children’s food preferences

For most families, food buying and meal preparation choices were guided, at least in part, by the needs and preferences of their children. Having a “fussy eater” in the house was not uncommon and decisions around what to feed children were frequently motivated by what the child or children would or would not eat:

So, these yoghurts ... I buy them every week the same because she likes them and she’s refusing to eat any other one. (Female, Ireland)

Most parents with a “fussy” or hard-to-please child explained that they gave in to their children’s food requests, even though they were not satisfied with the limiting impact this

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could have on their diet. In certain cases, parents shared that they were even ready to compromise on the nutritional value of the liked food, if their children consumed enough of this food for their growth:

I know, I know how much sugar goes in all that stuff. But if he's eating it – if he's eating and he's growing... (Female, Northern Ireland)

Some participants felt that children's fussy food behaviours were a barrier to them having a varied and balanced diet, since they often cooked one meal that had to satisfy the whole family. Some, however, reported that they were happy to cook separate meals to satisfy their own and their children's preferences; whereas for others this could put an additional strain on mealtimes, where efforts may be made to cater for everyone:

Yes, again, for [name of child], cooking separately ... You know, this is a problem ... So, when dinner is coming, I usually prepare first for her and [then] I'm preparing something for myself ... So this is the reality. (Female, Ireland)

Parents' perceptions of children's dietary requirements

Parents described that one of their main considerations when food shopping was to buy ingredients for healthy meals that satisfied their children's dietary needs. Fresh food including fruit and vegetables was regarded as an important constituent of children's diet. Mothers placed emphasis on cooking family meals that included vegetables and described fruits as their snacks of choice. Consumption of dairy products and meat was associated with growth in childhood and thus encouraged in family meals. Opportunities to add fish into the family's diet were also sought:

So, as long as I know he had some fruit, or something – fruit or veg in the day makes me a wee bit more content. (Female, Northern Ireland)

Some of the participants went slightly further to explain what nutrients they had in mind when offering certain foods. This was of specific concern to parents whose children were on particular diets, either for health or lifestyle reasons, as one parent with vegetarian children explained:

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Their milk and their protein intake – trying to keep an eye on that as well. Make sure they're having enough of that stuff and having eggs on a regular basis. (Male, Ireland)

Some parents expressed concern over nutrients that were lacking in their children's diets, which they supplemented with multivitamins as a safety net. Eating breakfast and drinking water throughout the day were also considered healthy habits and thus they were encouraged by mothers, even though their perceived nutritional value was not further explained. Mothers also reported that they were conscious of the amount of sugar hidden in the foods their children ate and tried to minimise it by setting limits on their consumption or by choosing products that were labelled as "low sugar":

I know myself, there's hidden sugars in their yoghurts and whatever else, so I don't need them to be having any more than what they do have. (Female, Northern Ireland)

Differences in needs and preferences of children at distinct developmental stages

There were some differences observable in the dietary demands of children across different developmental stages. Some parents of younger children frequently encountered challenges in getting children to consume fruit and vegetables:

She's an extremely difficult feeder and for her it's a big achievement even to eat half a banana. She can only eat one piece of raspberry in one go, so she cannot add any fruits into porridge. So we're not at that level. (Female, Ireland)

Some parents observed changes in their children's willingness to eat certain foods and how this changed and developed as they got a bit older:

I think as they get older they're getting just a little bit fussier. And especially my eldest. She's just, like, anti-onions, anti-mushrooms ... (Female, Ireland)

One tactic that was mentioned by parents to deal with this was to disguise vegetables in a dish. Others took a more direct approach and insisted that some vegetables were consumed as part of a meal:

Years ago, he didn't like it. So, what we did was, always he got a tiny bit of broccoli and then he had to eat this. And over the years he developed a liking. (Female, Ireland)

A number of parents with boys in adolescence talked about the importance of ensuring good availability of food in the house due to their children's large appetite:

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I have a 15-year-old son at home who likes to eat like there's no tomorrow. (Female, Northern Ireland)

Several parents referred to their adolescent children becoming more health- and diet-conscious as they got into their teenage years and how this influenced their dietary needs and preferences:

And everything has to be weighed and measured and calculated ... He'd eat fairly healthy but, like, you know, he's watching the calorie intake. You know, proteins or anything like that. (Female, Ireland)

One of my daughters is just starting her teenage years and is gone very health-conscious, so we're making ... "[name of weight-loss organisation]" soup. (Female, Ireland)

Nevertheless, parents acknowledged the challenges with feeding teenagers and the ongoing process of educating adolescent children about healthy diets. Part of this involved setting a good example that might inform future behaviours:

If he had burger and chips in front of him, this would be like a Hoover – gone quickly. With the bean stew, it takes a while that he eats it ... I think also with me preparing my porridge and by eating healthy and our discussions that we have ... I think someday it will sink in, maybe. (Female, Ireland)

Parental cooking skills

Most parents voiced a preference for home-made meals over ready-made ones. Advantages of home-made food included freshness, trust in its ingredients, absence of preservatives, and healthiness and higher nutritional value, when compared to ready-to-eat food bought from a store.

A number of parents showed confidence in their cooking ability and explained that their experience in the kitchen made food planning easy and more affordable for them:

I'm OK with cooking vegetarian food. I don't feel as though I need to have meat in every meal or every day. And when I'm doing vegetarian meals, I'm not using

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vegetarian substitutes. I usually use beans and make my own, so it's a lot cheaper.
(Female, Northern Ireland)

Batch-cooking and freezing ahead of busy weeks was voiced as a strategy that enabled parents to offer home-made food to their families even on busy days of the week. It was also seen as a way of getting the most out of a home-cooked meal in terms of value:

When I make up a stew, we have some that day, but it can do for 2 or 3 days. It's kind of value for money because it stretches, and I will freeze it so we're not having it 3 days in a row. (Female, Ireland)

On the other hand, several mothers admitted that they lacked confidence in meal preparation but their cooking abilities were enough to feed their children:

I can't cook, I'm a terrible cook. And I have absolutely no interest in cooking at all and I see it as a chore. And I only do it because I have to feed my kids! [Laughs] (Female, Northern Ireland)

Microsystem factors

The microsystem is the first level of Bronfenbrenner's theory and includes the immediate relationships in a person's life. Friends, neighbours and family were identified as microsystem factors that influenced food decision-making. In this section we also consider some micro-level contexts that shape individual family food environments, such as family composition and support.

Influence of friends and neighbours

During discussions around children's food likes, parents observed an increased acceptance or preference towards foods that were consumed with friends. In cases where certain foods were introduced by friends, children exhibited an eagerness to try them again:

If she was, like, staying over at a friend's house, and say they had something different at dinner or lunch or whatever, she'd come home and she'd want me to try and make it. (Female, Northern Ireland)

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Participants with adolescent children pointed out that frequent interaction with their friends resulted in less time spent with family and a reluctance to sit for family meals:

I think my 2 eldest are going out playing a lot with their friends. So they're in the house, they're gone, they're back again. And they kind of eat when they're hungry.
(Male, Northern Ireland)

Some parents discussed the ways in which their wider circle of friends influenced their food choices, introducing new styles of cooking or dishes from other cultures:

I have a circle of girlfriends from different countries ... and they help me to find new dishes that we would eat at home. (Female, Ireland)

Family support

In respect of 2-parent families, there was, in the main, a gendered aspect to the role of “family cook”, with the majority of participants reporting that women bore the main responsibility for food shopping and cooking:

I'm just the cook in the house, I guess, and it's easier for me to do the shop. (Female, Ireland)

Frequently, however, this was positioned as a choice by participants:

I'd say I would do the majority. And that's purely my choice. I just love cooking.
(Female, Ireland)

Within the family, support was received from older children and partners. The participant with the largest family (6 children) described how they divided up domestic duties, with him doing the food shops and her doing most of the cooking during the week:

We know what both of us are kind of good at or what we've done, and we stick to that. The same with cooking. If it's the weekend, typically I would be there doing it. But if it's during the week, it's more likely going to be her. (Male, Ireland)

One-parent families also reported receiving support from extended family members, including sisters, cousins and mothers:

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But I'd actually gotten them off my mother ... after me telling her that I didn't have any spuds [potatoes] for the week. (Female, Ireland)

My cousin and my family are helping me a lot during this lockdown. She's in the disadvantaged area ... so she receives the food packages, huge boxes at home, and she gave them to me. (Female, Ireland)

Mesosystem factors

The mesosystem relates to interactions between the immediate contacts and other external relationships. For instance, schools and local childcare facilities were sites of importance in the day-to-day food environments of children. We also consider in this section the immediate environmental and local context, such as nearness and availability of shops and amenities.

School environment: preschool, school and childcare facilities

Most schools in Ireland do not provide school meals except in schools designated as “disadvantaged” (a policy factor discussed under “exosystem factors”), so packed lunches were usual for most families in Ireland. These would consist of the “typical” lunch box items of sandwiches, wraps, fruit and yoghurts. Older children might bring dinner leftovers. Parents described that a considerable proportion of their shopping had to cover school lunches and snacks and ensuring a variety of items that children would eat. Policies around leaving schools during lunchtime were varied, with most parents reporting their children remained in school at lunch break. There was some evidence of the impact of school peers' influence, with one mother describing her son's behaviour since starting secondary school:

After primary he got a bit bad with a packed lunch ... It seems it's not “cool” to have sandwiches. (Female, Ireland)

Childminders, crèche facilities, after-school facilities and breakfast clubs were mentioned frequently – particularly by working parents – as places outside the home where children would be fed daily during the week. This lifted the pressure on some working parents, particularly lone parents, to prepare multiple meals in a day. Overall, parents that used these services were satisfied with the type of food provided to their children. Several observed that their children were more likely to eat certain foods there than they would at home. In several of the places, children would receive a meal and a snack, and this meant parents could cook a smaller meal in the evening for children:

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At lunch they have their dinner – they call it dinner – and they get their tea at 4. And so, we still cook dinner as normal, but it would just be smaller portions. (Female, Ireland)

Nearness and availability of shops and amenities

Most participants in Ireland reported a good variety of choice available to them in terms of where they shopped for food, even in rural areas. Choice of which store to use then often revolved in part around other factors such as time, availability of parking, accessibility of location, and convenience or perceived “hassle” or difficulty:

There’s one [supermarket] that’s 8 kilometres away and I know that’s further but sometimes that can be quicker because no traffic, you know – you’d be able to get parking really easy and stuff. (Female, Ireland)

Choice was not necessarily overly limited by living in a rural location, although travel distances to and from shops might be greater. This meant a greater reliance on having a car and thus incurred additional time and cost associated with buying food:

[The shops] are still a car drive away. I still must figure that out – is there enough diesel in the car or whatnot. And I suppose, no excess journeys with COVID. But even before COVID – it just isn’t there to be in and out like a yo-yo. (Female, Ireland)

In Northern Ireland, nearness to food stores varied considerably depending on where the parents lived. Some participants in rural areas explained they had to drive to access a supermarket for the family grocery shopping. On the other hand, residents of urban locations lived close to a variety of shops and supermarkets and described shopping from multiple stores based on each store’s prices and product availability:

I can drive to [name of large supermarket] and I can be there in 2 minutes. I can walk there within 5 minutes. I can walk to the [name of cooperative food retailer] and be there within probably 3 minutes and the drive to [name of discount supermarket] will probably be a 5-minute drive. (Male, Northern Ireland)

Supermarkets were heavily relied on for the most part, with only a few participants mentioning independent butchers or greengrocers. Smaller convenience stores were used in emergencies or for small top-ups of milk and bread during the week, with an acknowledged trade-off between cost and convenience:

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You've [name of country shop]. I just don't normally buy in there unless it's a last-minute essential because it's just too expensive for me. (Female, Ireland)

Trust for smaller independent food stores emerged in a few interviews. Both rural and urban participants expressed a desire to shop from small local shops because of their good reputation, the higher quality of their products and a motivation to support local businesses, even though their prices were sometimes perceived as higher than those of bigger supermarket chains:

I'm not willing to cut back my standards, like ... I won't eat their meat because it's cheaper. I prefer to give a little bit more and get it from someone that I know that I like, and I'm used to, and it's from Northern Ireland. (Female, Northern Ireland)

Perceived barriers to shopping more frequently at such places related to accessibility, convenience and lack of time:

Just parking-wise, I don't go there. It would be closed when I need to go as well. It would be there in the morning when I'm rushing to work and shut by the evening when I come out. (Female, Ireland)

Exosystem factors

The exosystem refers to organisations and social structures external to the individual that operate independently of them, including the economy, policy factors and corporate (commercial or business) determinants. Several exosystem factors shaped and constrained family food decision making. Factors identified during analysis included family budget, time as a resource, availability and eligibility for social welfare or other benefits, corporate influence and social media.

Family budget

Even though all participants reported to be on a tight budget, the financial challenges that were voiced in relation to feeding their families varied greatly and depended on individuals' personal circumstances. The idea of food shopping within a specific budget frequently came up:

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I get paid monthly, so we budget out of his wages. I'd say €70 to a maximum of €100 every week [for a family of four]. (Female, Ireland)

I am on a tight budget, you know. I work part-time, but I also get supplemented by benefits as well, because I'm on my own with the 4 kids. Yeah, so I have a ... I just work on a budget and I'm very, very good at it. (Female, Northern Ireland)

Nevertheless, most participants reported that their food choices were consistently driven by cost. Some also added that preference was given to foods on offer or the cheapest options from a range of similar products, if they were perceived as nutritional enough for the members of their family:

There were 2 for £2, is why I bought them, saving a pound ... But it was because it was on offer and it's just a wholesome meal that fills the whole family. (Female, Northern Ireland)

Several strategies to reduce the cost of the food basket were described, including going to supermarkets with lower prices; buying frozen foods instead of fresh; shopping from the "reduced-to-clear" food section; bulk-buying foods on offer; and avoiding food waste. It was generally agreed that to feed the family healthy nutritious food, cooking from raw ingredients is more affordable than having a store-bought "ready meal". In a few instances, eating food prepared outside the house was not an option due to limited family budget:

We never really went out to a restaurant because it was too expensive for 4 of us. (Female, Northern Ireland)

When discussing food cost in relation to health, a few participants highlighted the cost discrepancies between healthier and less healthy foods, particularly in relation to fruit, and some parents explained that the price of fresh and good quality fruit and vegetables was a barrier to buying them and offering them to their families:

At the same time, healthy food costs so much money. Like, fruit and vegetables alone is so – you know – you're getting 2 tubs of strawberries for €5 but there's, like, 4 or 5 in it that are decent. (Female, Ireland)

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If the prices were lower, people would be more ... well, happier to have vegetables.
(Female, Northern Ireland)

Time as a resource in short supply

Time required to prepare a meal often came up during the conversations around food shopping and cooking. Parental responsibilities and hectic daily schedules, particularly for lone parents, were reported to be inhibiting factors for devoting a substantial amount of time to meal preparation:

You're trying to get dinner ready, get homework done, bath, supper, bedtime. So you're always ... there's always something on the list to be done. So, I suppose you are trying to tie in a bit of speed, there. (Female, Northern Ireland)

Some food products were described as “handy” and “convenient” and were therefore chosen for family meals during busy times and days. The need to keep a stock of foods that can be quickly and easily turned into meals was sometimes further justified by the varying schedule of family members:

Dinnertime is really the same, but sometimes, like, you'll just finished lunch, and someone's gone, “Well, I'm hungry,” and you'll have to be able to just pull something together fast. (Female, Northern Ireland)

Time was an especially scarce resource and a particularly influential factor in the food buying and preparation choices of lone parents. Shopping trips would need to be planned around school or crèche pick-up times and outside of work hours, which often left tight windows that meant convenience was prioritised above all else:

The best way I could sum up my food and anything related to food is convenience in terms of time and, I suppose, financially, but mainly it's to do with time and tying it to my day. (Female, Ireland)

Policy factors: Social welfare or other benefits and school meals

Most participants in Northern Ireland were recipients of state benefits and their perceived importance frequently came up during the interviews. In Northern Ireland the food-related

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help received by parents included vouchers towards fresh fruit and vegetables, free school meals for children and food banks:

When we go to food bank, we use some of the fruit from the food bank ... Last year I think I would go maybe every month. (Female, Northern Ireland)

God forgive me, but cause my children are on the school meals, I know they're having something wholesome, which is reassuring for me ... So it's a weight off my mind to know that they have that at school. (Male, Northern Ireland)

In relation to food vouchers, a mother explained how eligibility to use her vouchers only in limited shops determined how she navigated her food environment:

So that's where I would go, [name of supermarket], because you can't use "Healthy Start" vouchers everywhere. (Female, Northern Ireland)

Several parents whose children attended schools designated as "disadvantaged" (in Ireland) mentioned the lunches provided. There were mixed views on the quality of the food, with notable improvements described by one parent but other parents were doubtful about the quality. As a result, one parent said they would supplement the lunch provided with extra items:

The quality isn't good, and I think even the kids kind of know that. So, he might bring a sandwich, or he might stop off in the shop in the morning and grab a croissant or different little things. (Female, Ireland)

In Ireland, most parents were working although most families were eligible for the state medical card: eligibility for a medical card in is determined by income and family size. Those who were in receipt of additional benefits spoke to the importance of these to their budget and how monthly payments such as children's allowance provided a necessary boost to buy essentials for the month:

The first week of the month I can get extras because of Child Allowance. So it's easier to make the month last, because the other weeks I wouldn't be getting as much in. The extras I get in on child allowance week would help cover the month. (Female, Ireland)

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For parents reliant on these payments, this often meant that things were tighter towards the end of the month, with participants saying they would have to be creative with managing supplies, stretching some meals and often relying on frozen foods to cover the shortfall.

Corporate factors and store marketing

Some parents reported that they planned their meals in advance of their food shopping journey by keeping a mental note or by completing shopping lists. The majority, however, admitted that they were heavily influenced, or in certain cases relied on, supermarkets' availability and deals to decide on family meals:

So I prefer to go and see what they offer and I just think, "What can I do with that?"
(Female, Northern Ireland)

Discussing further the influence of the supermarket environment on participants' food choices, participants recognised that it would often encourage buying of unnecessary items and lead to a larger food bill. Ways to get around this were suggested: one mother spoke in favour of going online and organising a "click-and-collect" food shop, which eliminates being influenced by supermarket architecture and promotional offers:

Whenever I would sit and do an online shop, I'd be mentally planning and I'd maybe think of 4 or 5 things that I want to cook. Whereas if you go into the shop, you kinda see things, "Oh, that'll do dinner, or that will do a dinner." You know, you just maybe pick things – random things – rather than putting much thought into it. (Female, Northern Ireland)

Another point about the influence of store architecture on food-buying was voiced, specifically in relation to shelf height. According to one participant, stores placed cheaper food products on the bottom shelves and more expensive items at eye level, to encourage customers to buy the higher-priced items:

I tend to find I can only look at things at eye level, which is a great marketing ploy, if you know what I mean. The cheaper things are at the bottom and that's the things I need to buy because of my restrictive cost. (Female, Northern Ireland)

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In Ireland, many parents mentioned the influence of store apps on their food purchases, at least to some extent. Usage ranged from those who heavily relied on advertised offers to help plan their weekly shops and meal plans, to others that would look out for bargains they could take advantage of:

And the driver there is the app. Like, I may go there today or tomorrow ... depending on the offer, if there's offers we're going to use from it. (Male, Ireland)

Internet and social media

Several mothers described using the internet and social media as a source of inspiration for meal ideas. Food and lifestyle “influencers” on Instagram®, celebrity chefs and YouTube® tutorials were mentioned most frequently as points of reference, sources of information and influence. The presentation of the foods that were posted drew more attention than their nutritional content or healthiness, creating often unrealistic expectations from a recipe:

I see a lot of people, like, on the likes of Instagram and social media, they put up these wonderful, amazing-looking pictures. I'd love to do that, but I just don't have the knowledge and I don't have the time. (Female, Northern Ireland)

On the other hand, parents were conscious of the contrived or apparently artificial nature of social media postings, but nevertheless used them as resources to find new creative ways of cooking or as reference guide for cooking methods:

So I just did some YouTube videos on other [dishes] and had her recipes and then combined them a bit ... So I just go and read something ... just to remind me ... (Female, Ireland)

Children also seemed to be influenced by food seen or advertised on various media, but this was voiced less frequently compared to mothers:

She would be very influenced if she's seen something on TV that was new: “Oh, you have to get this,” or, “We'll try it,” or... (Female, Northern Ireland)

Macrosystem factors

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The macrosystem refers to values, beliefs and other cultural factors and how these can inform decision-making. Several macrosystem factors were evident from the analysis. These included values and beliefs around food, cultural differences in educating children about food and the acceptability of free school meals, and generational shifts in perceptions about the role of food in a person's life.

Values and beliefs about food

Some participants expressed strong views about the value and importance of mealtime as a time for family. For some parents cooking good food and making mealtime a family event was seen as an expression of love:

I feel like that because I do a lot for my family, but I think they see that. They don't see me working hard. They don't see me studying, but this, I think kind of shows them I care. That's how it makes me feel – that I care enough to do that. (Female, Ireland)

Some cultural differences were noted among participants in respect of attitudes and beliefs around food. For example, one woman living in Ireland for 15 years noted the differences between Ukraine and Ireland in relation to attitudes and beliefs around free school meals, saying she believed the concept to be somewhat stigmatised in Ireland:

I emailed to them [school] and I ask, "Will the school provide meal?" They said, "No!" It's as if it's humiliation, you know, to eat government-provided meals. I come from Eastern Europe. For us it's not humiliation. For us it's our taxes being used accordingly on our children, you know. (Female, Ireland)

Similarly, another participant observed differences between Ireland and Germany in approaches to educating children about food:

In Germany, in the kindergarten for example, the children would prepare a breakfast muesli or something and they will chop the banana and apples with 4-years-old. And encourage independence. There's maybe less fear of children being in the kitchen and having a knife. (Female, Ireland)

Indicative, perhaps, of a generational shift in how mealtimes and food are perceived and appreciated, a number of Irish participants commented on their own upbringing, in regard to

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food, noting that food had served a functional purpose rather than being a source of enjoyment, an outlet for creativity or an important family ritual:

Growing up you got stuff made for you ... you just ate to survive. It wasn't anything adventurous. I wouldn't say we were a very adventurous family. (Female, Ireland)

Sunday dinners seemed to be an exception in some Irish families and provided an opportunity for family members to come together and enjoy a meal:

We have a roast every Sunday ... one of those family traditions. (Female, Ireland)

The desire for a "treat" in the form of food following a busy week was mentioned several times. Even though end-of-the-week treats were enjoyed by both parents and children, the belief that a treat was required seemed to be an adult concept:

Just because that's weekend and sometimes weekend [I'm] just thinking, like, "Maybe have a wee treat for all of us." (Female, Northern Ireland)

Some participants referred to beliefs about their role as a parent in respect of a dual responsibility to feed children healthy food and to pass on knowledge about cooking and nutrition as an important life-skill for health and wellbeing:

I'm also, for [my daughter], quite health conscious as well and I want to show her that I'm eating healthy because she needs to eat healthy. (Female, Ireland)

For some parents who were limited in their ability to fulfil this role because of barriers related to finances, time or lack of knowledge and skills, there was a hint of parental guilt:

I don't think there was anything left in the house and I just resorted to the freezer. There was nothing nutritional about it and it really made me conscious as to – I have to become better at this. (Female, Ireland)

Chronosystem factors

Bronfenbrenner's chronosystem refers to social and historical events that occur over the life-course that have a profound impact on shaping the lives of people. COVID-19 has had a much larger than normal influence on all aspects of life since March 2020. This was particularly apparent in the way in which the pandemic and responses to it altered patterns of food buying, food preparation and other food-related decision making and consumption.

Reflecting both the reality of life in "lockdown" (public health restrictions limiting people's movements to control the spread of the virus) and a hesitance to be in public places during the pandemic, one of the most common changes in practice noted by participants was in relation to the frequency with which they did their food shopping. This implied a greater amount of consideration and planning of meals to be prepared:

I was very scared about going shopping, so I'd try and go just, like, every 2 weeks ... doing a bigger shop every 2 weeks and maybe just pop to the butcher's once a week just for the fresh meat. (Female, Ireland)

Participants who had to self-isolate after a positive COVID-19 test or because of underlying conditions voiced their experiences and challenges in relation to food. Supermarket deliveries allowed them to buy food without having to leave the house, although difficulties in finding delivery slots and limited range of foods were also reported:

I ordered from – I think I mentioned that I got food from [named supermarket that sells predominately frozen food], when we were on lockdown. So, I had got ... I didn't really use them that much, but it's only really when we're in isolation that I used [named supermarket]. (Female, Northern Ireland)

Safety considerations during food shopping came up in some interviews, too. Participants described being conscious of whether food outlets and supermarkets implemented measures to control the spread of the virus. Apart from a preference for shopping in supermarkets with short queues and safety systems in place, parents also voiced the need to minimise the time spent food shopping in busy food stores:

[Name of large discount supermarket] have got a really good grasp on, like, the whole coronavirus. You know, you have to wait and go in at a certain time, you have to wait your turn to go in. I sort of find it, I don't know, more safe and secure, because they've got, like, a lot of safety things in place ... (Female, Northern Ireland)

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For parents on a very tight budget who regularly relied on store deals and special offers, this often required taking extra time to plan meals and the food shop with the aid of store apps and advertisements to see what was on offer a day ahead of doing the weekly or fortnightly shop:

When it comes to meal planning, I've the 2 apps on the phone and I would "[name of web browser]" which one would have what offers. (Female, Ireland)

One participant in Northern Ireland who received a "food box" from the council (a service provided by the Northern Ireland Executive Department for Communities COVID-19 Food Parcel Service) highlighted its importance despite the nutritional value of the foods included in it. Similarly, a participant in Ireland, described having to rely in part on subsidised food from a local food charity initiative that started because of COVID-19 but that only operated during lockdown. She described the challenges involved when the initiative was suspended once lockdown had been lifted:

But I found that time with July [2020], when it wasn't on, I really sat back and said, "Janey Mack, there's a lot more spending to be had, where am I going to get the money?" Because, you know, if the items aren't there at that price you can't – it's hard to live without them, I suppose. (Female, Ireland)

A consequence of the reduction in frequency of shopping trips meant relying more on store cupboard ingredients and frozen foods to see families through to the next shop:

I've been getting a lot more freezer food instead of fresh, which – I prefer to buy fresh, but we've been getting a lot more freezer to save me going out to the shops. (Female, Ireland)

Other changes in practice that were noted by parents included eating and snacking more. Reasons given were typically to do with lack of routine, spending more time at home and boredom:

Well, during lockdown they were just constantly eating, out of house and home. I couldn't keep enough shopping in the place. (Female, Ireland)

Increased snacking mainly involved unhealthy foods, such as high-sugar foods and drinks consumed by both parents and children. In some cases, parents described that they were

following a more relaxed parenting approach and allowing their children to have more snacks than usual to improve their experience of lockdown:

I'm just trying to keep everybody happy but try to be good too. But they're only children and sometimes they like a wee reward just for them, too. They're going through all of this. Yeah, you definitely snack a lot more at home. (Female, Northern Ireland)

A single father with 4 children voiced the need for more convenience food and takeaways during lockdown as a way to better manage the time taken up by childcare:

I think that's people's mechanism and I think ... I don't think I'm alone in this. Probably a lot of people now are having more takeaways, just because it's convenient. (Male, Northern Ireland)

Many parents also observed changes in their spending on food. While some found their overall outgoings had decreased because of fewer opportunities to buy unplanned or “convenience” items, spending on food in the home more often than not increased:

For me it is stressful because my daughter was in the after-school care and this is where she is eating her lunch. And she had breakfast in breakfast club. Now she is eating at home with me, so I have to cook now 2, 3 times more. (Female, Ireland)

For parents that had lost employment due to COVID-19, a reduction in income meant a tighter budget for food. The need to save money was reported to make parents more aware of the cost of food and more alert for food promotions and “yellow stickers” such as for reduced-to-clear items:

Money's tight and you have to think about bargains. (Female, Northern Ireland)

One lone parent described a reduction in her budget for a family of 3 from €65 a week to €35 a week. Such a budgetary change drastically cut the options available to her and meant making changes to how she shopped and cooked. She expressed concern at how this limited her capacity to provide healthy nutritious meals for her family:

Thirty-five euro – I found I bought literally the basics. There was nothing fancy in the shopping at all. It was just basics for the week and what we can live off, rather than

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what we need to eat. Under normal circumstances ... there was healthier meals going on. (Female, Ireland)

Where the COVID-19 pandemic implied hardship for some, for others there were some positive impacts. These included a growing appreciation and consciousness of food, getting the kids more involved in food preparation, and having more time to spend and eat meals together as a family:

We are really into what we eat, and I think now that with the COVID-19 situation we have definitely more time to spend preparing food and then enjoying it, Where, in the past ... sometimes it was very rushed, now we sit down, and we can enjoy it. (Female, Ireland)

Similarly, one mother talked about the difficulty in getting certain foods in supermarket deliveries under a positive light and pointed out that the limited availability of foods encouraged her son to overcome some of his food aversions, or dislikes:

Because lockdown happened, I think he kind of realised, “Look, I have to eat what's on the table, because we can't get food.” (Female, Northern Ireland)

Summary

To best make sense of the depth and breadth of data that was gathered for this project, the findings were situated within Bronfenbrenner's Social Ecological Theory Model:

- At the individual level, family food choices were driven largely by the needs and preferences of children across different developmental stages, what they would or would not eat, specific dietary demands and perceived nutritional needs.
- At the microsystem level, friends, neighbours and family, as well as family composition and family support were found to be the most important factors that shaped food decisions.
- At the mesosystem level, schools and childcare facilities were found to be important food environments in the lives of children, and local context in respect of the nearness and availability of shops and outlets also affected food decision-making processes.
- At the exosystem level, government policies, economic factors that determined budget availability, working conditions that determined time available, corporate

policies and the internet and social media were all found to shape and limit choices around food for families.

- Macrosystem factors such as broad, underlying and deeply held cultural values and beliefs influenced attitudes to food and educating children about food.
- Chronosystem factors revolved around the larger than normal impact that the COVID-19 pandemic has had on life since 2020, specifically altering patterns of food buying, food-related practices and consumption.

5 Discussion

The overall aim of this study was to explore the factors that influence daily family food-related decisions, and the strategies families use to make decisions about meals and snacks to provide for their families. Specifically, we sought to explore the environmental context in which low-income families with children make decisions, examine the differences in these contexts between families with children at different developmental stages, the settings in which they occur and how families navigate their food environments.

Inductive analysis of the data showed several overlapping and interacting spheres of factors, at distinct levels of social organisation, which shaped and limited family food choices. Thus, it was considered appropriate to situate the findings within Bronfenbrenner's Social Ecological Theory Model to best conceptualise and represent the findings. The findings show that a mixture of factors at each of the levels of Bronfenbrenner's model inform the food environment of families on the island of Ireland and impact on food behaviours in complex ways.

At the individual level, parents' choices were routinely guided by children's preferences, perceived specific dietary requirements and perceived needs. At the same time, parents devised strategies to ensure children were getting a balanced nutritious diet, either by negotiating with the child to eat certain foods perceived as healthy, buying low-sugar items where possible or, with younger children specifically, using creative methods to "hide" vegetables in their meals or persuade them into eating fruit. This overlapped with macrosystem-level beliefs about responsibilities of parents to educate their children about food and to act as a role model for future food behaviours. This is broadly in line with a review of evidence that demonstrated the importance of the immediate family in moderating current and future food behaviours in children (30).

Similarly, the findings also showed how cultural beliefs and values around food that influenced views and attitudes to food interacted with styles of eating and patterns of consumption at the microsystem level. Food was viewed by many participants not only as fuel but also as something more symbolic, with meanings of love, affection and care

attached. In the same way, mealtimes were often regarded as social occasions to be shared with friends and family. Accordingly, the appreciation of food was shared in and among friends and family at the microsystem level, exchanging recipes and baking cakes for one another on special occasions. Most participants spoke about the value of eating together as a family and would try to do so where possible, viewing this as an important bonding time for the family. This is significant, given that studies elsewhere have shown how family meal participation is associated with a better diet (31).

Schools, after-school facilities and crèches were found to be significant settings in children's food environments and sites of peer influence at the microsystem level. While these influences were largely viewed as positive – often encouraging children to try new foods – there was some evidence also for negative impacts on eating behaviours, reflecting other findings that have shown mixed results in respect of peer influence(32). Viewing schools as part of the wider exosystem, in relation to national-level policies that determine eligibility for or availability of free school meals, we can observe considerable differences between Northern Ireland and Ireland. Subsidised or free school meals are the norm in Northern Ireland for those on low incomes, while in Ireland free school meals are only available in DEIS-designated schools that choose to avail of this scheme. (“DEIS” stands for “Delivering Equality of opportunity In Schools”, the Department of Education’s plan “for education to more fully become a proven pathway to better opportunities for those in communities at risk of disadvantage and social exclusion”). This was significant in that the availability of this service impacted on family food budgets for lower-income families in Ireland, making up a considerable portion of the weekly shop and therefore impacting on a family’s financial capacity to buy fresh food for other meals. For those families on tighter budgets – such as those wholly dependent on social welfare or other benefits – this inevitably impacts on the type and quality of food affordable to cover all other weekly meals, as well as creating an additional time and labour burden on parents and especially on lone parents. This may have implications both for child obesity levels and educational attainment, as indicated by research in England on the impacts of free school meals (33).

The findings highlight quite strongly the influential effect of the economic and corporate environment on food choices and health. Working parents described trying to balance hectic working schedules with home and family life and how being short of time often determined where and how they shopped and what foods they fed their children. For instance, lack of

time was implicated in the use of “convenience” and processed foods on busy days. Large national and multinational supermarkets, which dominate the food outlet landscape, were viewed as places of convenience that saved time and money in comparison with using smaller, local, independent shops.

The capacity of larger multinationals to offer “loss leaders” (products priced below their cost to the retailer to attract customers who then might also buy more expensive items), special deals, vouchers and other incentives created an undeniably powerful draw to such stores for parents on lower incomes. Indeed, this was evidenced by several parents devising their weekly meal plans around such offers. Most parents were conscious of the fact that such offers were designed to draw them in on the assumption that, once inside the store, they would spend extra, with store architecture (for example the location of items in store) often driving less healthy choices and unplanned purchases. Nevertheless, the infrastructure that made these places more readily accessible (such as plenty of parking space), and the time-savings and convenience afforded by this, meant that they were the logical choice of place in which to buy the weekly groceries.

Other evidence for the influential effects of the corporate environment included the impact of social media “influencers”. Research elsewhere has found that children in particular are easily affected by the product placement and branding tactics used by social media influencers (34), although social media may offer avenues for the promotion of healthy eating also (35). Overall, however, the results align with frameworks that have described and defined commercial determinants of health and which warn of their potential adverse health impacts (36).

The findings showed clearly how specific social policies interacted with food decision-making processes. Parents that were wholly dependent on social welfare or other benefits for their income, and so were on particularly tight budgets, described in no uncertain terms the importance and value of social welfare policies such as Child Benefit in helping to plug gaps in their food budgets and tide them over with staple supplies for the month. Similarly, participants in both Northern Ireland and Ireland described how they also relied on food banks and other similar initiatives to supplement their diets, particularly in the context of the COVID-19 pandemic. For such parents, it may be inaccurate to talk about “food decision-making processes”, as that implies more power of choice than they might have. Where family budgets were so severely constrained, decisions were driven more by what is affordable and

will simply keep everyone going rather than by considerations of nutritional content or dietary requirement. Aware of this, some parents expressed a sense of stigma and guilt associated respectively with needing the assistance and with their perceived failure to consistently provide their family with healthy nutritious foods to meet their dietary needs. The perception of “failure to meet dietary needs” was made worse by culturally held views around the responsibility of parents, and particularly mothers, to nourish their children adequately and healthily. This is of concern, not just because of the adverse health outcomes associated with food insecurity(37) but also because of the potential mental health impacts of stigma and the role of stigma in deepening health inequalities (38).

Finally, the COVID-19 pandemic has had an enormous impact on patterns of food-buying behaviours and food consumption over the past year and this was quite evident from this research. Both fear of catching or transmitting COVID-19 and the restrictions on being in public spaces affected decisions around how and when to shop, with evidence of families shopping less often and using online delivery services where possible. Families also described stretching supplies to avoid visiting shops and relying more on frozen and convenience foods to make up for shortfalls in fresh supplies. Increased time spent at home meant an increase in money spent on food for consumption at home, an extra time burden involved in cooking and preparing meals that might ordinarily be obtained outside the home, and a greater amount of “comfort eating” and snacking on unhealthy foods. People who lost employment as a result of COVID-19 reported a greater reliance on social welfare and other benefits and subsidised food sources, which resulted in greater food insecurity and a decline in capacity to buy and consume food of a higher nutritional quality (39). Other changes to food-related practices included an increase in bulk-buying, batch cooking and freezing to stretch supplies (40). These findings echo those of studies conducted internationally that have found an increase in unhealthy eating behaviours as a result of quarantine measures and the implication that there will be associated adverse health outcomes (41). Some positive findings, however, include getting children and adolescents more involved with food preparation, which has been found to have benefits for diet quality (42).

Study strengths and limitations

This study is not without its limitations. While fathers and male guardians or carers were invited to take part, only 2 fathers were involved in the study. While the sample of parents included those living on a tight budget, household income was not formally assessed, as advised by the parent panel who worked alongside the team on the research tools and recruitment. Instead, participants were screened for eligibility in the study using the term “living on a tight budget”.

The original study objectives were agreed before the COVID-19 pandemic began. However, data collection took place at a time when families were experiencing public health restrictions. Schools and childcare facilities were closed in Ireland and the hospitality sector (except for takeaway services) was closed but schools were still open in Northern Ireland.

COVID-19 public health restrictions on people’s movement and contacts meant that data had to be collected using remote communication technologies. However, previous studies using remote technologies suggest that web-conferencing platforms are workable and practical tools for collecting qualitative data and that good relationships can be established between researchers and participants (43).

A strength of this study is the creative research tools used to understand the factors influencing food decisions among low-income families. “Photovoice” is a flexible tool used in public health research (44) that enabled good participant involvement and provided important insights into the food-related decisions of low-income families.

6 Recommendations

Practice

- Resources should be developed to provide parents with guidance on preparing healthy, nutritious meals and snacks that meet the needs of children at different developmental stages. Such resources should take into account time and budget constraints as well as level of skill and knowledge of food preparation.
- Resources should be developed to provide parents with guidance on strategies to work around children’s food phobias and to include more fruit and vegetables in their diets.
- Support and guidance for families to meet and address the nutritional needs of adolescent children is warranted.
- Health promotion and healthy eating campaigns should consider framing messages around the value of eating together as a family, given that this is both valued by parents and has proven health benefits.

Policy

- Policymakers should regulate the promotion and location of high-sugar, high-fat and highly processed food items and create a healthier environment as set out in “A Healthy Weight for Ireland: Obesity Policy and Action Plan (2016–2025)” (1) and “A Fitter Future for All: Framework for Preventing and Addressing Overweight and Obesity in Northern Ireland (2012–2022)” (2).
- Policymakers should consider implementing universal free school meals for all school-aged children as a means of addressing health inequalities on the island of Ireland. This would have a significant effect in addressing the issue of food poverty and would improve the health and wellbeing of all children on the island of Ireland.

Research

- Further research on the impact of the online food shopping environment on dietary habits is needed, for example the use and impact of store apps on family food behaviours.
- Research should be commissioned to carry out a feasibility and impact analysis in respect of introducing regulations on the promotion and location of high-sugar and high-fat foods.
- Further research to explore the use and impact of social media on family food behaviours is warranted, given the increasing use of social media as a platform for the sharing and broadcasting of food-related information, recipes and dietary guidance.
- “Knowledge translation” studies (activities that look at ways to move research findings into the real world) are needed to explore the development and feasibility of appropriate meal-planning tools for families living on a tight budget.
- The findings indicate that the COVID-19 pandemic may have deepened existing food insecurity issues for lower-income families. Further research is needed to explore the longer-term effects of the pandemic on nutritional and health inequalities.

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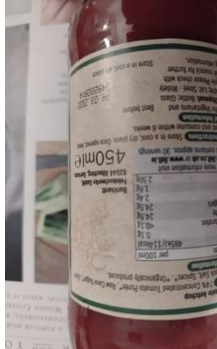




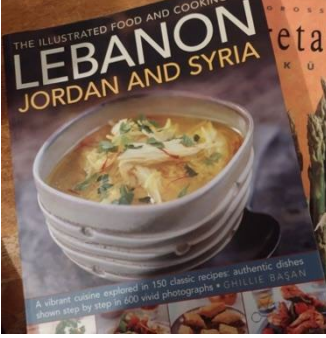

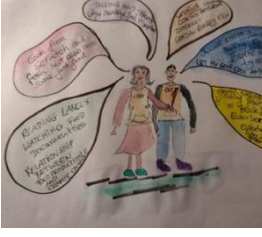
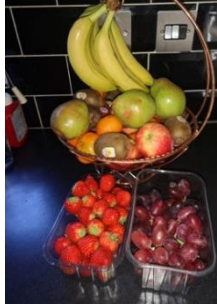

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Appendix 1 Sample of photographs taken by participants as part of Photovoice

			
<p>Meals served and parental cooking skills</p>	<p>Meals served and parental cooking skills</p>	<p>Supermarket promo - corporate factors and store marketing</p>	<p>Supermarket promo - corporate factors and store marketing</p>
 <p>Sunday - Roast Roast chicken potatoes, veg</p> <p>Monday - Chicken Curry left over chicken, curry, rice</p> <p>Tuesday - Shepards mash, mince, veg</p> <p>Wednesday - spaghetti left over mince, bolognese pasta</p> <p>Thursday - Carbonara Pasta + sauce</p> <p>Friday - Take away Supermacs</p> <p>Saturday - Chicken mexican style wraps +</p>			
<p>Meal plan/lists - values and beliefs about food</p>	<p>Baking - parental cooking skills</p>	<p>Food purchased - children's food preferences</p>	<p>Outside food shops - proximity and availability of shops and amenities</p>

Exploring the world of food: The perspective of families with children

			
<p>Children's perceived dietary requirements</p>	<p>Children's perceived dietary requirements</p>	<p>Food labels</p>	<p>Eating meal on couch</p>
			
<p>Supermarket prices</p>	<p>Food shelves/fridges</p>	<p>Recipes / internet and social media</p>	<p>Cookbook – parental cooking skills</p>
			
<p>Receipts - family budget</p>	<p>Thoughts written</p>	<p>Snacks - policy factors including school meals</p>	<p>Snacks - policy factors including school meals</p>

Exploring the world of food: The perspective of families with children

			
<p>Convenient meals - influence of friends and neighbours</p>	<p>Convenient meals - influence of friends and neighbours</p>	<p>Takeaways - influence of friends and neighbours</p>	<p>Travel to shopping</p>
			
<p>Choosing foods on offer</p>	<p>Unhealthy snacking</p>	<p>Giving into children's food requests</p>	<p>Convenient meals due to lack of time</p>
			
<p>Vegetables as part of a balanced healthy diet</p>	<p>Dishes influenced by culture</p>	<p>Store strategies to control the spread of COVID-19</p>	

Appendix 2 Topic guide for Photovoice

Introduction

- Thank you very much for taking the time to take these photos. Your participation in this project is highly valued and greatly appreciated
- This interview is to allow us to discuss the photos taken and for you to give any background information to the photos
- I will ask some questions to guide the interview, but this session is about your thoughts and insights
- Is it okay for me to switch on the audio recording device now?

Key questions for each photograph:

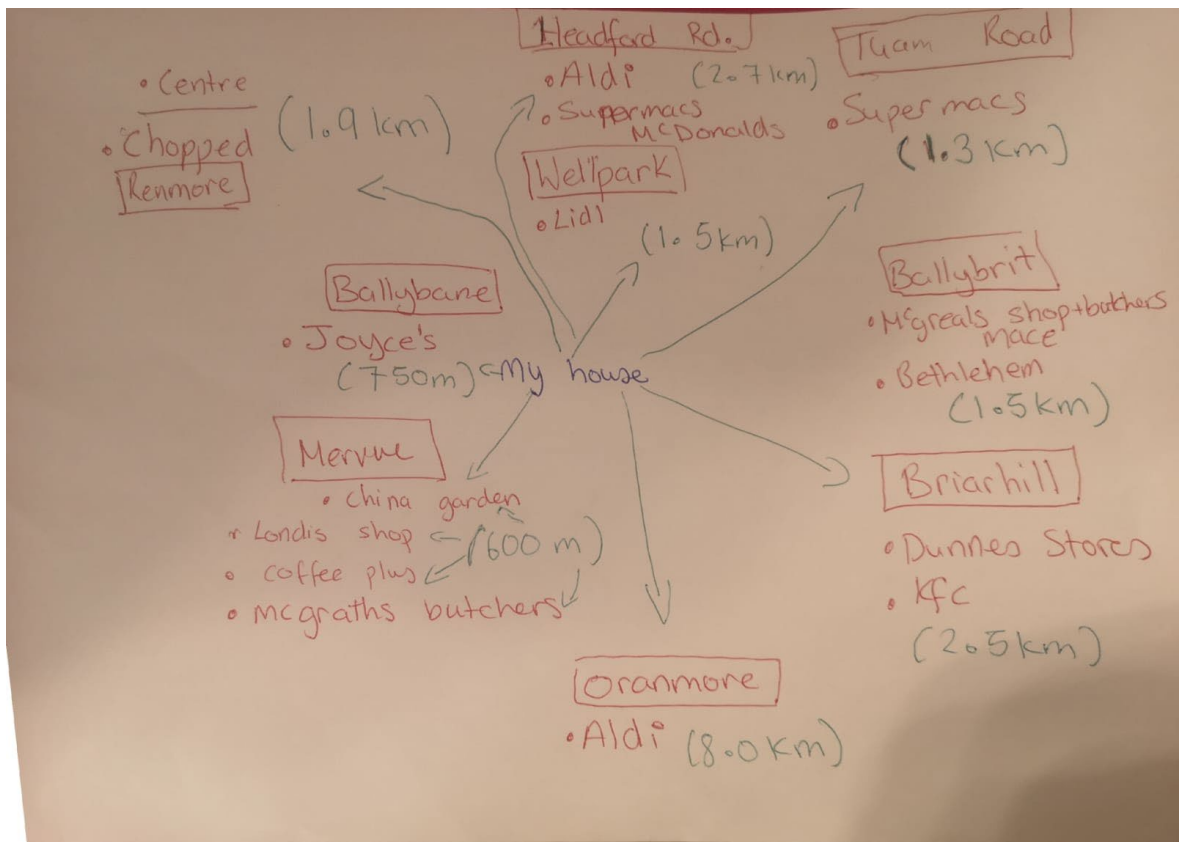
- Describe your photo?
- What is happening in this photo?
- Why did you take a photo of this?
- What does this picture tell us about your life?
- How can this picture provide opportunities for us to improve life?

Closing questions

- Do you have anything you would like to add about any of your photos, the project or your personal experience of planning, shopping and preparing food for your family?
- Are you happy to finish the interview?

Thank you very much for your time

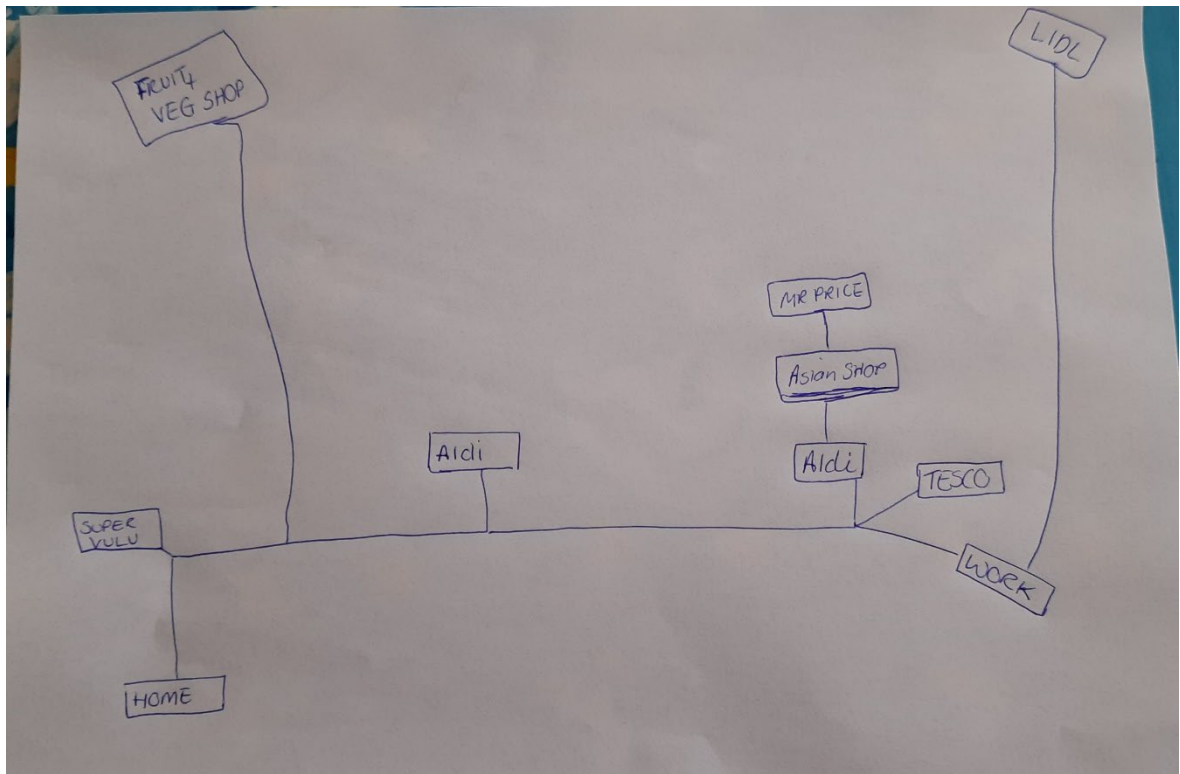
Appendix 3 Sample of maps drawn by participants of their food environment as part of Photovoice



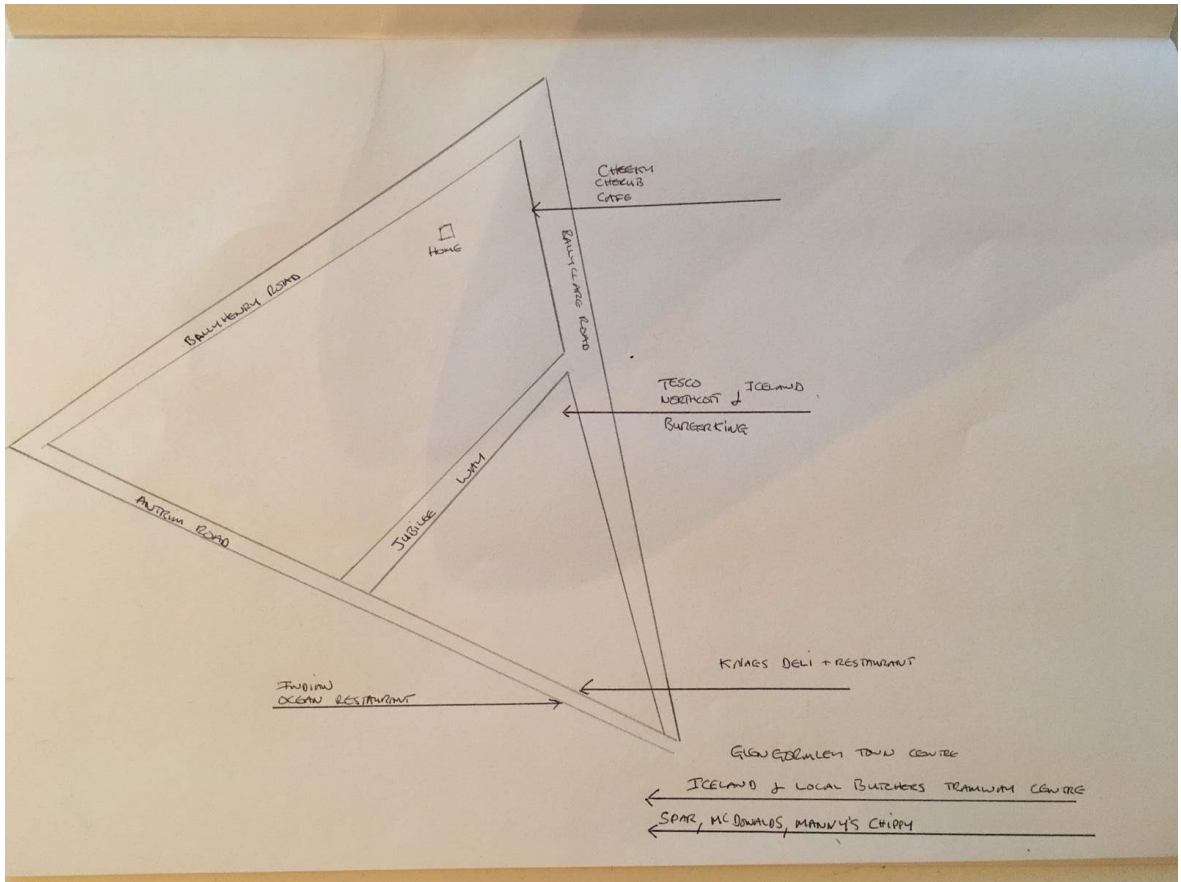
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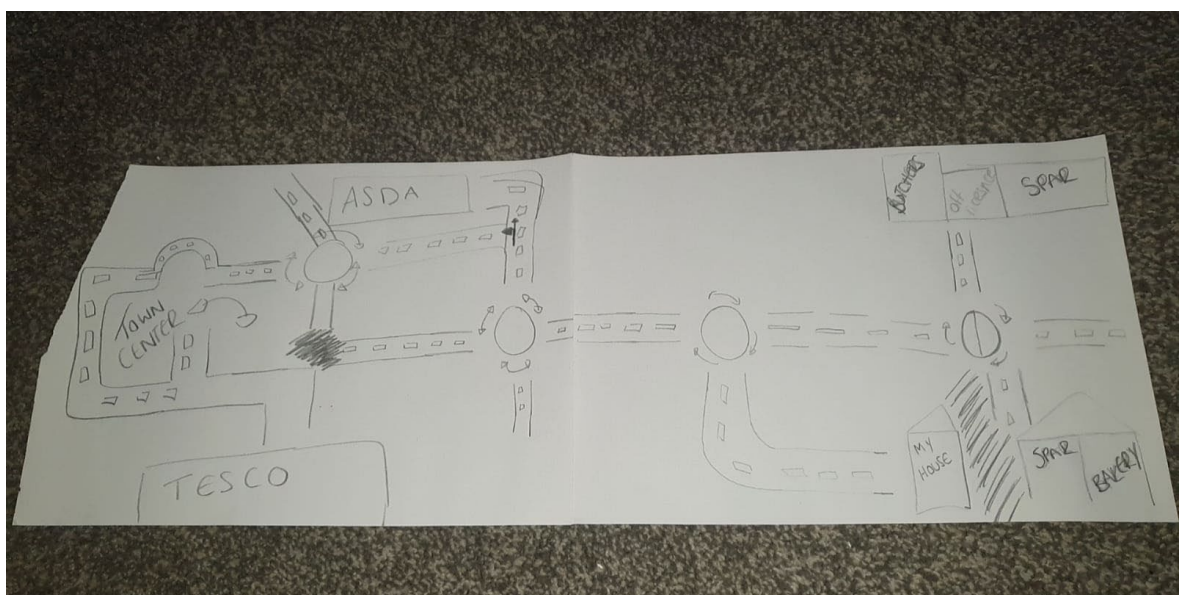
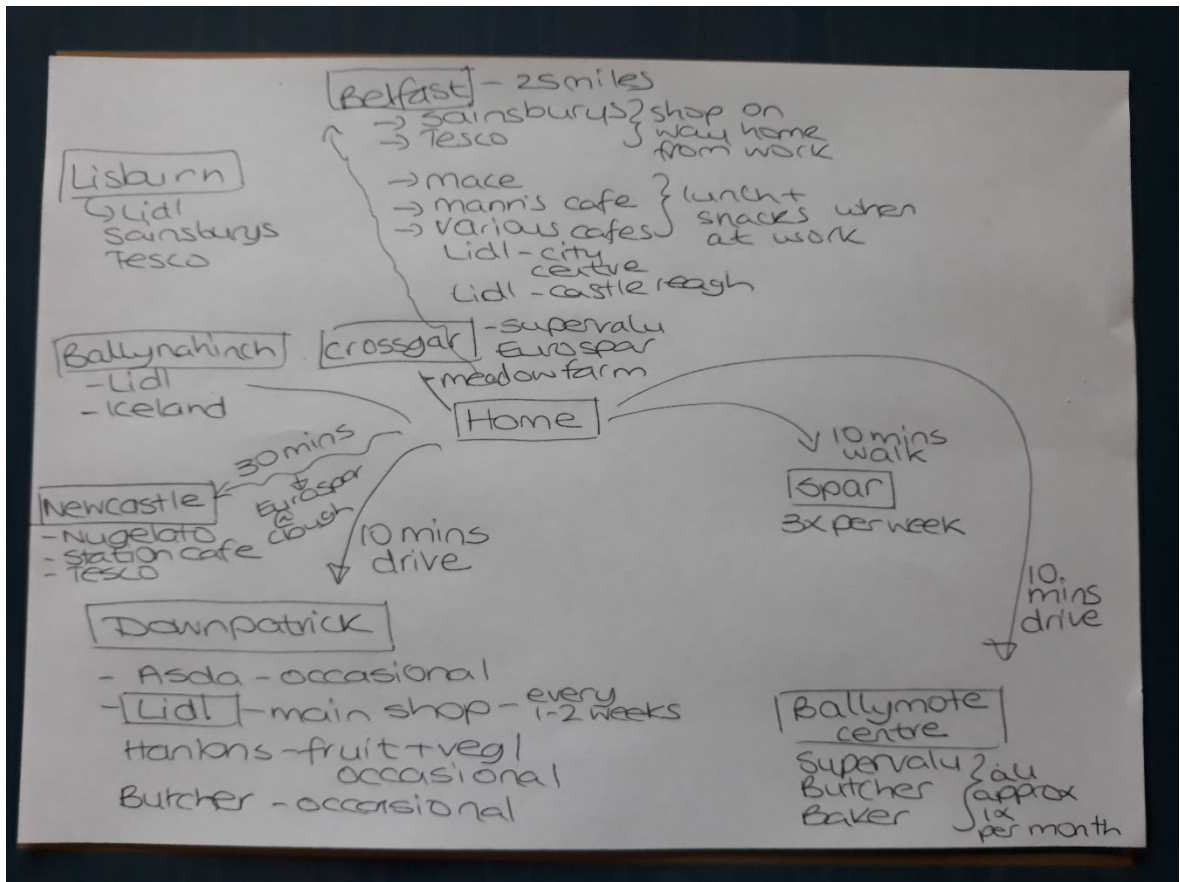
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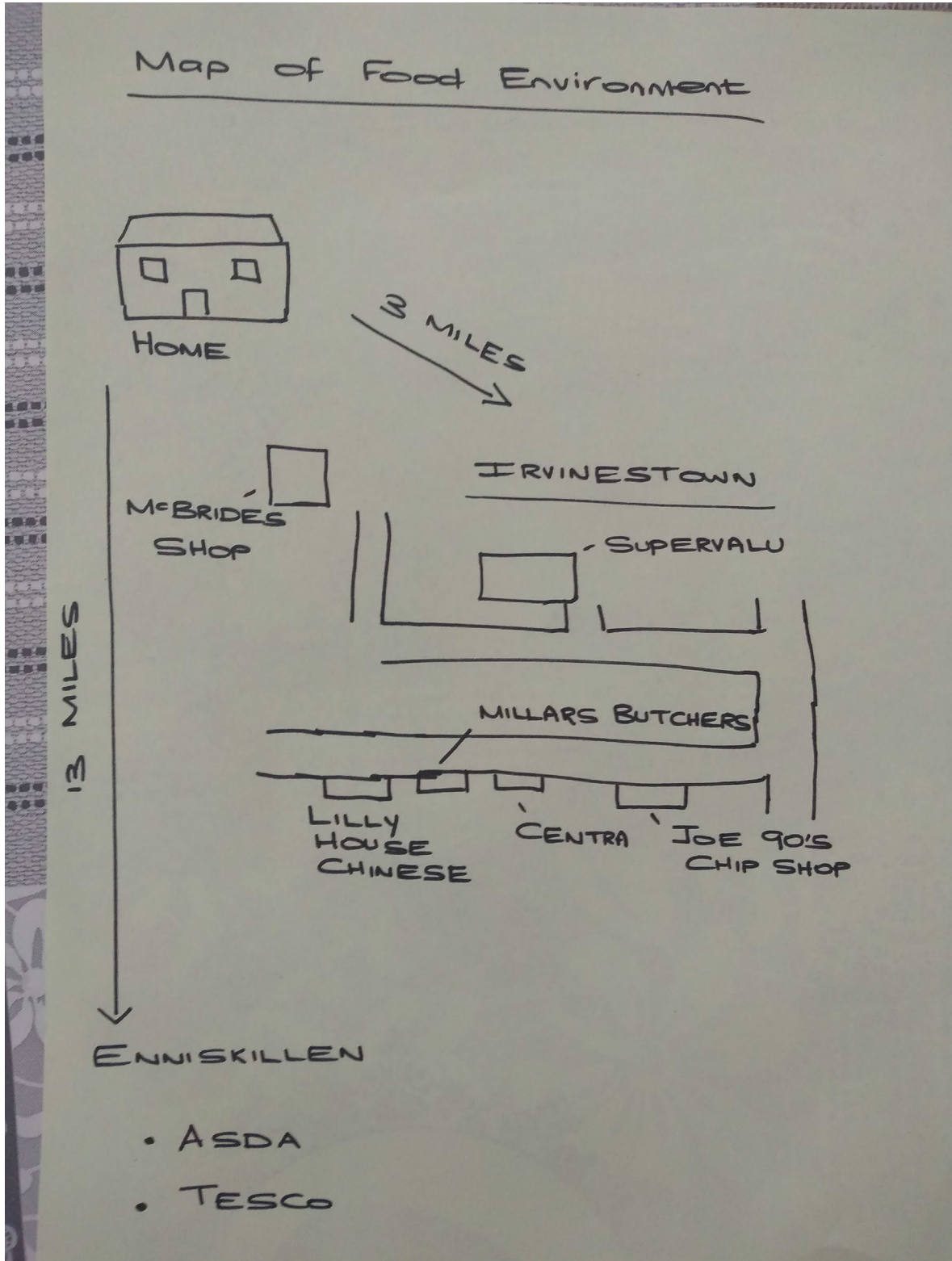


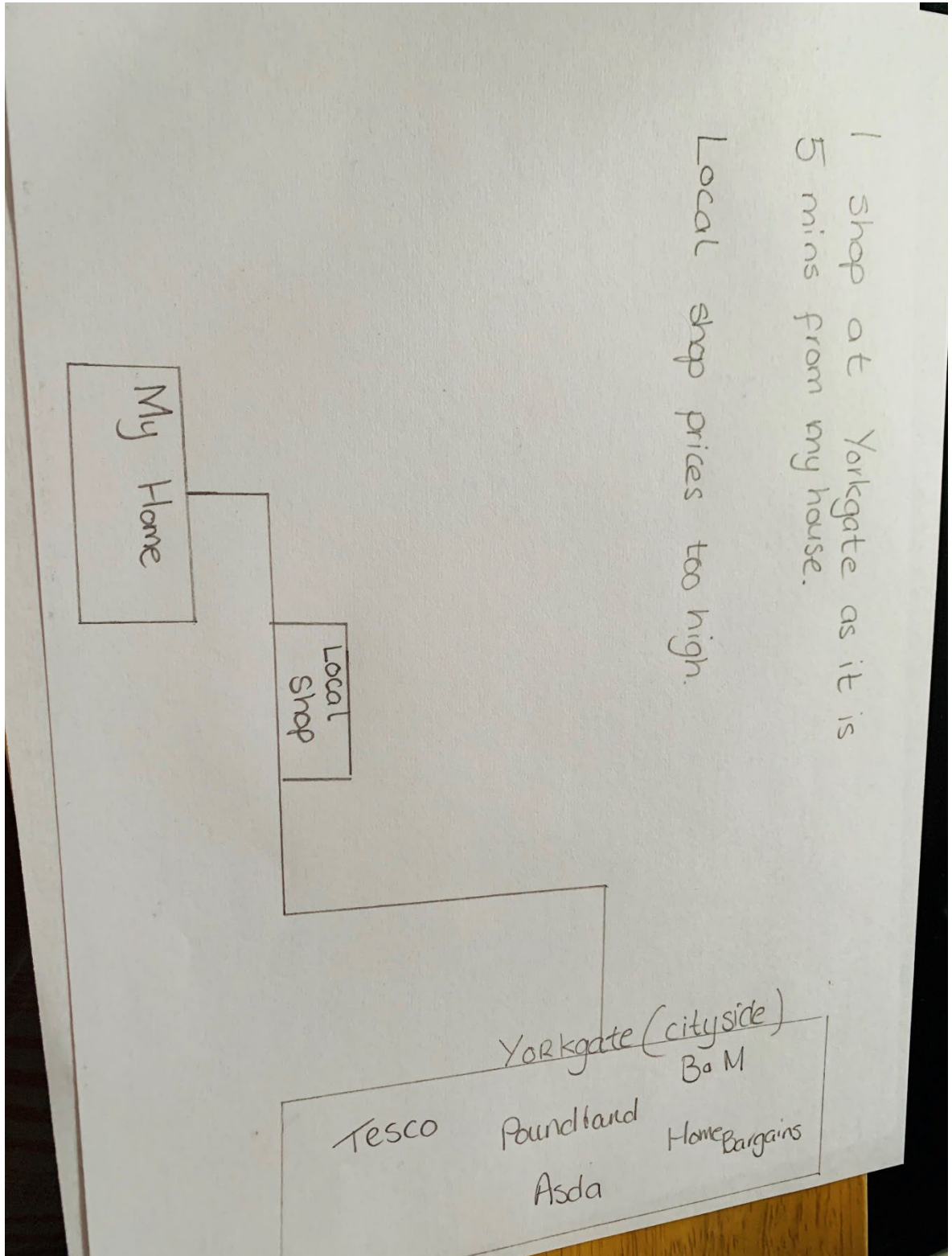
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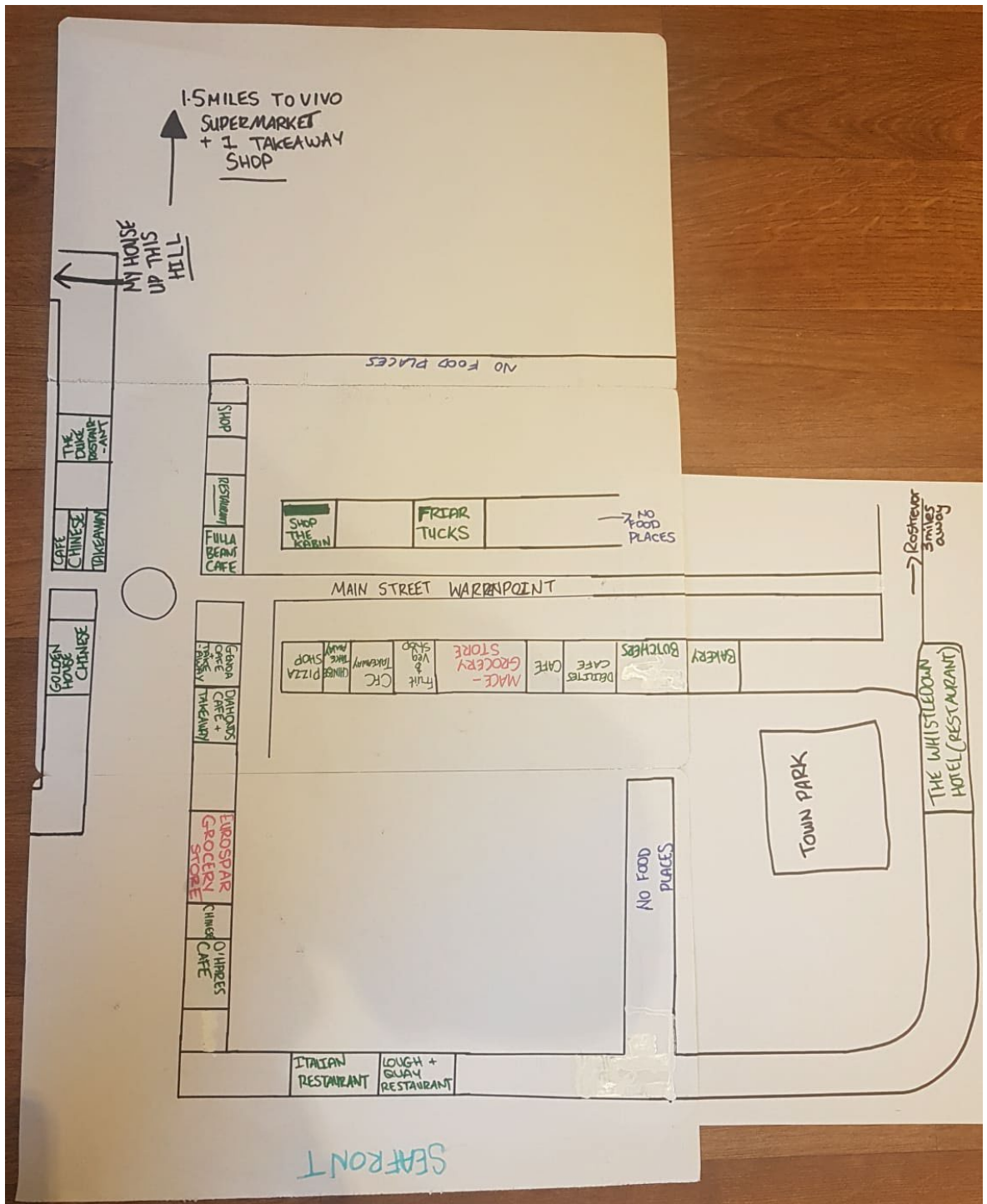
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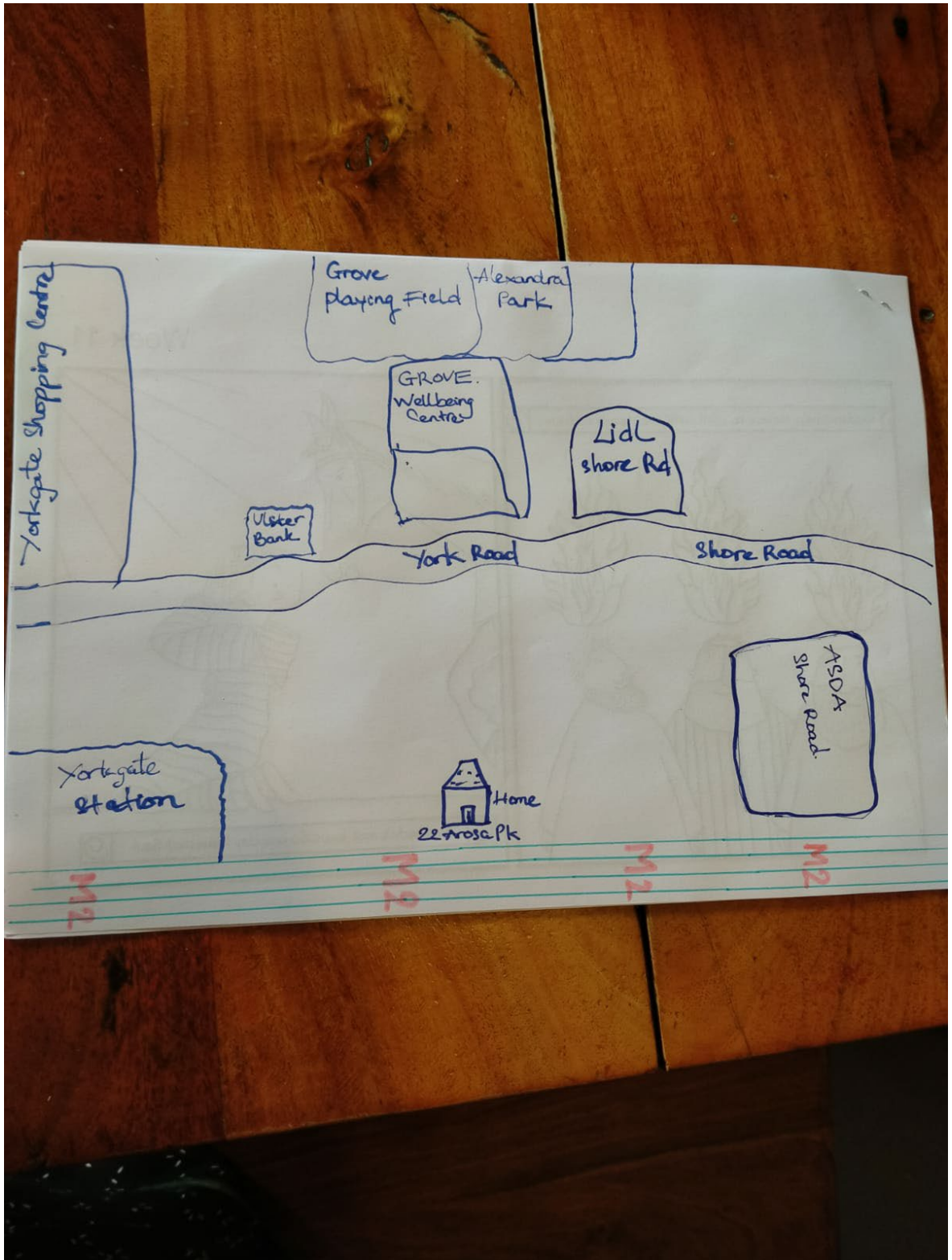




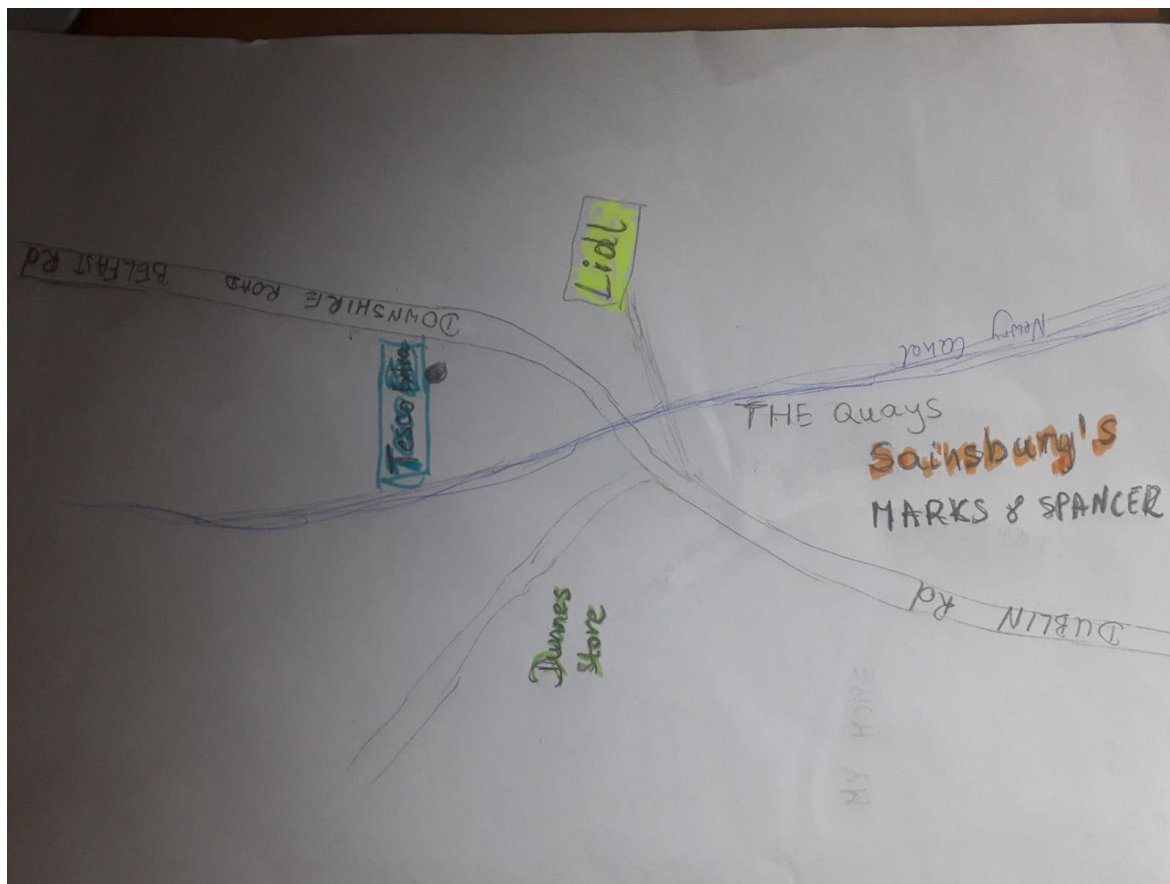
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