Investigating the quality of the diet of foodbank users in the UK

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Declaration

‘I, [Edwina Prayogo] confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signed:

Abstract

The rising demand for foodbanks and increasing hospital admissions as a result of 'malnutrition' are a reflection of growing food insecurity in the United Kingdom (UK). The adverse impact of this on dietary quality, health and general wellbeing is a growing public health concern. This programme of research aimed to explore why people use foodbanks, the factors that influence their quality of diet, and some of the ways to improve the diet of foodbank users.

Mixed-methods were used incorporating interviews with foodbank users (N=18) and personnel (N=12) from 10 London foodbanks. Furthermore, foodbank (N=270) and Advice Centre (AC) (N=245) users from three London boroughs were surveyed about what led to their referral to foodbank, and the relationship of food insecurity, social support, competing expenditure and access to cooking or chilled storage facilities to their dietary quality.

Interview data suggested that income crisis degraded the diet of foodbank users who used extreme coping strategies to maintain food sufficiency, in the face of competing expenditures, lack of social support and access to cooking and chilled food storage. Interviews with foodbank personnel suggest that future interventions should consider using foodbank as a point of contact to improve the diet of its users. This would involve meeting the needs of both foodbank users and volunteers, as well as working with agencies across other sectors such as policymakers and community members. Survey data showed that compared to local people attending AC, foodbank users had poorer dietary quality. This can be seen by a greater proportion of participants classified as having 'not good' overall dietary patterns, and lower consumptions of 'healthy' foods (e.g. oily fish, fruit, vegetables) ($P<0.001$). Furthermore, compared to AC users, foodbank users were more likely to experience severe food insecurity and greater financial strains. They were also more likely to experience adverse life events, lower social support, and had greater competing expenses and difficulties

accessing cooking facilities. Of these, the adverse effect of income crisis on users' quality of diet ($P<0.001$) was mediated by food insecurity.

Impact Statement

The rising demand for foodbanks and increasing hospital-related malnutrition are reflections of growing food insecurity in the UK. Food insecurity and the resulting impact on diet and health of those affected is a public health concern in developed countries. However, little is known about why people need to use foodbanks in the UK. Furthermore, it is not known what the dietary quality of foodbank users is, and what are the factors that influence their diet. This PhD discovered that foodbank users were experiencing financial strain resulting in less than enough money to make ends meet and were making choices between buying food and paying bills. Furthermore, the addition of benefit-related problems due to payment delays or being 'sanctioned', and the experience of adverse life events such as job loss, illness or relationship breakdown led people to be food insecure and needing to use foodbanks. The research concluded that these factors have an adverse impact on dietary quality, of which the effect is fully mediated through food insecurity.

Inside academia, these findings contribute to the limited knowledge on the drivers of foodbank use in the UK and provide an increased understanding of the health and dietary quality of foodbank users. This research also highlights the practicalities and potential challenges of researching in foodbank settings. Outside of academia, the publication arising from this PhD has been used as evidence to support a parliamentary inquiry on the impact of Universal Credit roll-out on food insecurity (Appendix Q). The publication has also been used to support the social media campaign of the Trussell Trust and End Hunger UK in support of the parliamentary bill to measure household food security in the UK.

Locally, the research has been used to support local foodbanks and Advice Centres (ACs) participating in the study to bid for further funding to improve their current provision with the ultimate aim to provide better support for their users in addressing the underlying causes of their crises. Regionally, the peer-reviewed article (Appendix O) was included as learning material for West Midlands Public Health, the British Association for Social Workers, and the Local Government Association (LGA) under

the section on food insecurity and welfare benefits to inform civil servants and health professionals supporting those experiencing income crisis and needing to use foodbanks. The findings of the survey have been summarised as correspondence to MPs, Government ministers and Bishops across the UK in a call to action to improve the effectiveness of welfare benefits as a safety net.

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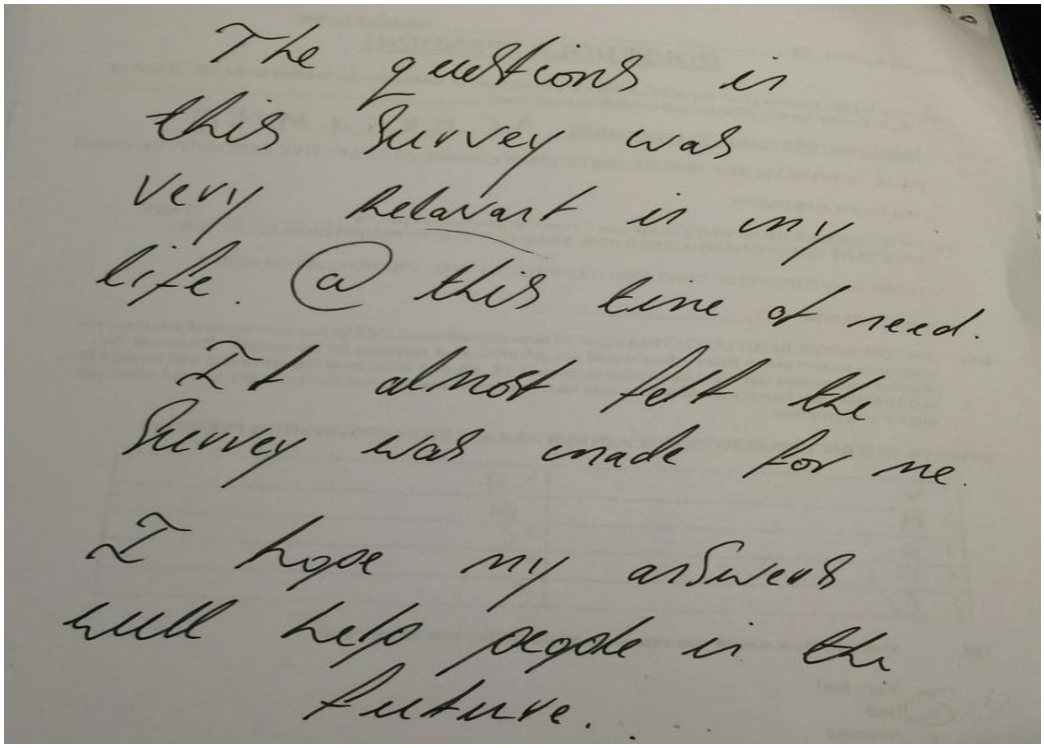

Publications and presentations arising from this PhD

Peer-reviewed article

Prayogo, E., Chater A., Chapman, S., Barker, M., Rahmawati, N., Waterfall, T., Grimble G (2017) Who uses foodbanks and why? Exploring the impact of financial strain and adverse life events on food insecurity, *Journal of Public Health*.

Policy insight and submission to a parliamentary inquiry

Prayogo E, Chater A., Chapman, S., Barker, M., Rahmawati, N., Waterfall, T., Grimble G**.** *UCL Public Policy Insights: Research Briefing on foodbanks.* **Link:** https://www.ucl.ac.uk/public-policy/sites/public-policy/files/foodbanks.pdf
Prayogo, E., Chater A., Chapman, S., Barker, M., Rahmawati, N., Waterfall, T., Grimble G. *Evidence Submission for Parliamentary inquiry on the impact of Universal Credit and Food Insecurity*. (London, November 2017).

Academic Conferences

Prayogo, E., Chater A., Chapman, S., Barker, M., Rahmawati, N., Waterfall, T., Grimble G. *When a 'healthy' diet becomes a luxury: Investigating the impact of income crisis and food insecurity on foodbank users' dietary quality*. Kings' College London (London, April 2018).
Chater, A**., Prayogo, E**., Grimble, G., & Barker, M. *UK Foodbank client experiences and their barriers to fruit and vegetable consumption: A qualitative investigation.* EHPS Annual conference (Cyprus, Sept 2015).
Prayogo, E., Grimble, G., Barker, M. & Chater, A., *Who uses UK Foodbanks? A qualitative investigation of clients' experiences, quality of diet, fruit and vegetable intake and well-being.* BPS Division of Health Psychology Annual Conference (London, September 2015)
Prayogo, E., Grimble, G., Barker, M. & Chater, A., *Who uses UK Foodbanks? A qualitative investigation of client's experiences, quality of diet, fruit and vegetable intake and well-being.* Faculty of Public Health Annual Conference, (Newcastle, June 2015)

Social media engagement

Prayogo, E (2017) We should stop debating and start solving increasing foodbank use. The Trussell Trust blog. Link: https://www.trusselltrust.org/2017/11/14/we-should-stop-debating-start-solving-increasing-foodbank-use/*

Prayogo, E (2017) We should stop debating and start solving increasing foodbank use (reproduced from The Trussell Trust blog). End Hunger UK blog. Link: http://endhungeruk.org/stop-debating-start-solving-increasing-foodbank-use/#more-230

Invited lectures and public engagement

Prayogo, E., Nirmakoh, V., Torsney, P., Chater A., Chapman, S., Barker, M., Rahmawati, N., Waterfall, T., Grimble, G. *Enough is Enough: Tackling Food Insecurity in Lambeth* (London, June 2017).
Prayogo, E., Chater A., Chapman, S., Barker, M., Rahmawati, N., Waterfall, T., Grimble, G. *The Dietary Quality of foodbank users in the UK.* Invited Lecture. University of Reading (February 2017)
Prayogo, E., Chater, A., Barker, M., Grimble, G. Why is this person attending a Foodbank in East London - Austerity or Fecklessness? UCL Grand Round, Division of Medicine (September 2015).
Prayogo E, Grimble G, Chater A, Mould C, Chapman S. *The impact of food poverty on the health and wellbeing of foodbank users in the UK*. UCL Public Engagement Event 2015 20th July 2015; Gustav Tuck Lecture Theater - UCL.

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Thesis overview

A healthy and balanced diet has been shown to be important for the maintenance of wellbeing. However, research from other developed countries suggests that those who attend foodbanks, and experience food insecurity (the inability to afford sufficient food) have been shown to have poorer quality diets, and report a greater number of health issues compared to the average population or those who are not food insecure. It is important to understand what drives people to need to use foodbanks in the UK and understand the impact of their current circumstances on their dietary quality. Such understanding would be pivotal in enabling future researchers to develop recommendations and interventions to improve the quality of diet of foodbank users in the UK.

Chapter 1 introduces the concept of household food security in developed countries, as well as a brief historical overview of food insecurity in the UK. It also discusses the extent of food insecurity in the UK currently, and the reasons believed to contribute to rising use of UK foodbanks. The chapter also reviews the community and government responses to alleviate food insecurity, focusing on The Trussell Trust Foodbank as the case study organisation. This chapter concludes by outlining the motivation to do the research which has shaped the aims of this PhD; developed in part by my previous post-graduate research.

Chapter 2 is a literature review on the dietary quality of foodbank users drawing on literature from other developed countries. The chapter also reviews the key factors that influence the dietary quality and are known to be important in shaping a person's diet. It considers the usefulness of theoretical frameworks to explain behaviours such as the Theoretical Domains Framework (TDF) and the COM-B model (Capability, Opportunity, Motivation and Behaviour) to explore barriers and facilitators to a healthy diet amongst foodbank users.

Chapter 3 presents the first study of the programme of research: interviews with foodbank users exploring why they need to use foodbanks, what are the barriers to

fruit and vegetable consumption, and the acceptability of incorporating fresh fruit and vegetables into foodbank parcels from the users' point of view. Interviews with eighteen foodbank users from 10 London foodbanks were conducted. The interview transcripts were thematically analysed to answer the research aims. The themes that emerged from the interviews were then triangulated with interviews with foodbank personnel during Study two of this programme of research.

Chapter 4 presents Study 2, where 11 foodbank personnel were interviewed. These included foodbank distribution managers, project managers, trustees and staff from The Trussell Trust foodbank network. The purpose was to understand the perspective of those who work with foodbank users who are best placed to understand the challenges of working with this population. Their views played an important role in not only validating earlier findings from the interviews with foodbank users but also in informing future recommendations and interventions. They provided insights on the potential challenges and practicalities of improving access to fresh produce within the foodbank setting.

Chapter 5 presents the third study which aimed to identify the environmental and social factors that are strongly correlated with quality of diet as identified in Study 1 and Study 2. The survey was administered to foodbank users (N=270) and Advice Centre (ACs) (N=245) users in three London boroughs. AC users in the local area were included as a comparative group and proxy of a community-based low-income sample. Both foodbank and AC users are low-income groups who seek help from frontline crisis providers. Validated scales were used to examine how income crisis could affect users' dietary quality, as measured by a Food Frequency Questionnaire (FFQ).

Chapter 6 summarises and reflects on all the research work undertaken during this PhD. It identifies how this new knowledge contributes to this field of study, filling some of the gaps identified from the literature review. Given what has been learned from Studies 1, 2 and 3, it concludes with recommendations for community and

policy groups on what can be done to improve the diets of foodbank users, and how foodbanks can be used as a venue to engage this ‘hard to reach’ population.

Chapter 1 Introduction

1.1 Food insecurity in developed countries

Early research on food insecurity was driven by the need to develop a tool to measure hunger in developed countries (National Research Council, 2006). Assessing hunger can be problematic as hunger is deemed to be a personal issue and is not discussed publicly. Furthermore, hunger in 'rich' nations occurs where national food supply is abundant and the manifestation is unlikely to be captured using anthropometric (e.g. weight and height), biochemical or clinical measurements (Campbell, 1991). The earliest known research was conducted by interviewing low-income mothers in the USA to understand what it meant to be 'hungry' and food insecure (Radimer *et al.*, 1990). The qualitative findings indicated that hunger was experienced at both the household level and individual level, and the four components of food insecurity experienced were described as:

- **Quantity** - refers to the depletion of food supplies at the household level, and insufficient food intake at the individual level.
- **Quality** - means unsuitable food supply at the household level, and eating food that does not meet the 'ideal' diet at the individual level.
- **Psychological** - refers to the feeling of anxiety felt due to the uncertainty that the food bought would last at the household level, as well as the sense of deprivation and lack of choice at the individual level.
- **Social** - means the experience of acquiring food in unacceptable ways at the household level, and being unable to maintain socially prescribed ways of eating at the individual level.

Based on this study, an expert panel report derived a consensual concept of food insecurity as the limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire foods in socially acceptable ways *(*Anderson*, 1990)*. In developed countries, the notion of non-socially acceptable ways refers to other methods of acquiring food that is outside of the socially

acceptable norm such as buying foods from a shop. This could include getting food from emergency food charities (e.g. foodbank, soup kitchen), stealing, begging or other unorthodox ways.

This early study played an essential role in the development of a tool to measure household food security (Radimer *et al.*, 1990), also known as the Household Food Security Module (HFSM) (Coleman-Jensen, 2012). The tool has been widely used as part of the health survey to monitor household food security in the USA (United States Department of Agriculture (USDA), Not dated,) and in Canada (Statistics Canada, 2017). HFSM consists of eighteen questions, of which ten focus on household's food supply, and experiences of the adults in the household, and a further eight questions account for the children's food security. The questionnaire captures experiences of managing food insecurity regarding anxiety over the food supply, the perception of food depletion, nutritional inadequacy and disruptions in eating patterns due to resources constraints (Radimer and Radimer, 2002a). The questionnaire refers to either the past 12 months or 30 days and specifies This is important to account for respondents who may change their food intake due to dieting or being too busy to eat. The concept of food insecurity as a managed process is consistent with the findings from other literature on food insecurity in other developed countries such as in the UK (Dowler, 1997; Garthwaite *et al.*, 2015; Douglas *et al.*, 2015), Canada (Hamelin *et al.*, 2002b), and Germany (Pfeiffer *et al.*, 2011).

Since the development of the HFSM, Kempson and colleagues (2003) have identified an additional 95 coping strategies to maintain food sufficiency, which highlight household resourcefulness to 'manage' the experience (Kempson *et al.*, 2003). The strategies ranged from modifying shopping practice to make the food budget stretch, getting extra money through formal or informal ways, interacting with informal support systems (e.g. identifying someone to live with), relying on the resources provided by the community, and changing eating patterns.

There are also consistent narratives from food insecurity research in developed countries which state that parents often prioritise their children's food needs above their own. The parental sacrifice might partially explains the disparity of prevalence of food insecurity between adults and children (Nord and Parker, 2010), and the diet of the children in food insecure households is not as affected as the adult(s) (Hanson and Connor, 2014). The terms 'hunger', 'food poverty', and 'food insecurity' are frequently used interchangeably in the UK research and media (Dowler and O'Connor, 2011). For this PhD thesis, the notion of household food security (Anderson, 1990) will be used throughout and is not referring to the instability in national food supplies (National Research Council, 2006).

1.2 History of household food insecurity in the UK

Food insecurity has a long history in the UK. Hunger in the UK historically was linked to low national food supplies due to war, administration issues, or famine (Burnett, 1989; Sitwell, 2016; Vernon, 2007). In contrast, 'modern' hunger in the 21st century occurs when food supply is plentiful.

The Great Hunger in Ireland that occurred in the 1840s was due to a fall in food production where the potato blight caused the failure of potato crops, causing millions of people to experience hunger across Europe. Ireland, which was still part of the UK at that time, was the most affected by this hunger as they were heavily reliant on potatoes as their main food source. From 1850 onwards, food availability started to improve, even for the poorest populations. However, the 1920s – 1930s was an exception, despite there was no famine or issues with food production; unemployment was widespread across the UK during the time of the great depression, which made Britons unable to afford adequate food (Burnett, 1989).

In 1936, John Boyd Orr did a survey to understand the role of income in achieving an adequate and healthy diet across six household income groups. His definition of 'adequate' diet was based on the physiological ideal defined as – "*a state of*

wellbeing such that no improvement can be effected by a change in diet" (p269). His analysis focused on the adequacy of calories, carbohydrate, fats, proteins and minerals (e.g. Vitamin A, Vitamin C and Iron). He reported that Group 1 (the poorest) spent a greater proportion of their income on food (up to 50 per cent) when compared to Group 6 (the wealthiest) (up to 20 per cent). His research also showed the diet-inequalities existed across income gradients. Group 1, had an inadequate diet needed for perfect health for all of the nutrients being considered; Group 2 had sufficient intake for total fat and total protein requirements; Group 3 had adequate intake of calories, and fat; Group 4 and 5 were only deficient in calcium; and only Group 6 exceeded the nutritional requirements for all aspects. Frazer (1943) in his review commented on Boyd-Orr's work on the link between poor diet and income that "*It is not so much ignorance – that could be remedied – but plain inability to purchase anything better was the true cause*" (p18).

Food supply remained scarce during the Second World War as well as during subsequent years. During this time, the Minister of Food, Lord Woolton, was appointed to oversee the rationing program in the UK in 1940 which lasted for 4 years. The program was in place to ensure everyone, including the poorest, would have something to eat (Burnett, 1989). Although food was rationed, there were no shortages, except bacon was in short supply for a short-time (Drummond, 1946). Lord Woolton appointed Sir Jack Drummond who was the professor of Biochemistry in UCL as the wartime scientific advisor. Jack Drummond advised the minister on the content for the proposed food rationing on the basis of his "sound nutritional principles" based on Boyd Orr's publication on "Food and the People". The rationing work was essential because one-third of the population could not afford an adequate diet, and around 10 per cent of the British population were undernourished (Boyd-Orr, 1936). During the rationing period, each adult and child would receive a ration book containing coupons to buy foods which could be collected at the local Ministry of Food offices. The 'energy' foods such as carrots, potatoes, and root vegetables were unrationed, but were often short in supply, which is why the government encouraged households to grow their own (Vernon, 2007). Foods such as meat, sugar, fat and cheese were rationed by using an allowance coupon. Non-perishable

foods such as tinned foods, cereal, biscuits and dried fruits were rationed using a point system which changed according to the demand and availability of products. Priority allowances for functional foods such as eggs and milk were given to a 'high priority' group such as expectant mothers and children. Under Milk and Vitamin Schemes, children would have the allowance to get milk, fish liver oil and concentrated orange juice to boost their dietary quality (Frazer, 1943). In general, there was an improvement in the diet and food security of the British population. The poor showed an increase in the consumption of healthy foods, while the rich reduced their intake of fats, sugar and meats (Frazer, 1943). The health improvement was particularly significant for certain groups such as pregnant women and children, which manifested in lower child mortality, fewer stillborn babies, and lower rates of tooth decay (Sitwell, 2016). With a relatively generous welfare state established after the Second World War and the fall in food prices, hunger was no longer a pressing issue in the UK for the second half of the 20th century (Sitwell, 2016).

In the 21st century, however, food insecurity has re-emerged as a significant public health concern. In 2013, the Trussell Trust, which is the largest charity behind the 'Foodbank' movement in the UK dominated the headlines of UK newspapers between 2012/13 (Wells and Caraher, 2014). The charity reported 913,138 people were receiving emergency food parcels in 2013/14, which was nearly an 8-fold increase in the demand compared to 2011/12. This statistic was followed by a letter published in the British Medical Journal at the end of 2013 highlighting that the 'rising' use of foodbanks and the doubling of malnutrition-related hospital admissions could be the next public health emergency (Taylor-Robinson *et al.*, 2013). The letter was followed by an open letter to the prime minister from the Faculty of Public Health (FPH) on behalf of 170 public health professionals, which highlighted the urgency to monitor household food security in the UK (Ashton *et al.*, 2014).

Unlike the USA or Canada, household food security is not regularly monitored in the UK. The last household food security monitoring was carried out in 2003 - 2005 as part of the Low Income Diet and Nutrition Survey (LIDNS), where they found that nearly a third of UK low-income households were food insecure (Nelson *et al.*,

2007a). In the absence of household food security data, the Trussell Trust Foodbank annual statistics remain the most commonly used proxy of food insecurity by the British media and politicians (Wells and Caraher, 2014). However, data on foodbank use underestimate the true prevalence of food insecurity, as not everyone who is food insecure uses them (Loopstra and Tarasuk, 2015), and it does not account for users who come to the foodbanks multiple times.

Since 2014, further research has provided revised estimates of the prevalence of food insecurity in the UK. The UN survey measured food insecurity across over 140 countries, where 1000 Britons were interviewed by telephone. Despite being the 6th wealthiest nation in the world, the United Nations (UN) data derived from the Food Insecurity Experience Scale (FIES) showed that 8.4 million Britons were food insecure (Taylor and Loopstra, 2016), which is 17 times higher than the number of people using foodbanks in 2014/15. The UK was in the bottom half of the "league" of European countries who experience food insecurity, just above Eastern European countries such as Latvia, Poland, Lithuania and Romania, Greece and Ireland. The survey was nationally representative, it employed a probability-based sampling and covered both urban and rural area. However, due to the relatively small sample size, the UN data was deemed as "preliminary data" (Cafiero *et al.*, 2016). More recently, the Food Standard Agency (FSA) incorporated measurements of household food security for the first time as part of their national 'Food and You' survey (Bates *et al.*, 2017). The survey consisted of 3118 interviews with a representative sample of adults aged 16 and above across the UK using a multi-stage, random probability cross-sectional sampling process (Bates *et al.*, 2017). The survey showed that 13% of Britons were mildly food insecure (i.e. they were anxious about food availability, but the quality and quantity of food they consumed was not substantially reduced) and 8% lived in moderately food insecure household (i.e. reduced quality and desirability of diet, but no major disruption in eating patterns) or severely food insecure households (i.e. reduced food intake and reporting hunger).

1.2.1 "Food Aid" as a response to food insecurity in the UK

Charitable food providers such as foodbank have long been in existence in the UK (Lambie-Mumford *et al.*, 2014a). However, none of them regularly measured the demand for their services like the Trussell Trust Foodbank. The dramatic increase in demand for emergency food parcels from the Trussell Trust Foodbank has unmasked the existence of food insecurity in the UK. In response to the 'rising' use of foodbanks, a review was commissioned in 2014 by the Department for Environment, Food and Rural Affairs (DEFRA) to look at the response available to tackle food insecurity in the UK. The investigation starts by defining the term 'food aid' as:

'Any type of aid-giving activity which aims to provide relief from the symptoms of food insecurity and poverty. It includes a broad spectrum of activities, from small to large scale, local to national, one-off emergency operations or well-established foodbanks (p15). (Lambie-Mumford *et al.*, 2014a).

The review highlighted the lack of Government initiative to ensure food security in the UK, except schemes such as 'Healthy Start' vouchers and free school meals, which target low-income children (Lambie-Mumford *et al.*, 2014a). The review also pointed out that most of the food aid providers were Non-Governmental Organisations (NGOs) which comparatively still in their infancy in their establishment compared to Canada and the USA. The review broadly classified types of charitable food provision in the UK as providing a hot meal (i.e. soup kitchens) or providing free groceries (i.e. foodbanks). Soup kitchens give a hot meal to be eaten in, or taken away and usually target the homeless, refugees and other marginalised groups. The report identified that the Trussell Trust Foodbank and FareShare are the biggest 'food aid' providers in the UK with a national scale operation.

Fareshare is a charity which focuses on surplus food redistribution with the aim to overcome hunger while reducing food waste. The charity receives surplus foods from UK retailers (e.g. Asda, Sainsbury's and Tesco) which is stored in twenty depots across the country. In 2014, Fareshare distributed food to 2,029 charities and community groups including homeless hostels and breakfast clubs to prepare a

healthy and balanced meals'. Fareshare acts as a 'middleman' in the food provision supply chain and have no direct contact with the people being helped. As the current study aims to explore who uses foodbanks, with the focus on the diet of its users, it was decided to limit the scope of the research to the Trussell Trust foodbanks, as they have direct contact with the end users. A detailed explanation of the Trussell Trust Foodbank network as the case study organisation is described in Section 1.3.

1.2.2 Why do people need to use foodbanks?

When the current research began in 2014, the reasons 'why' people need to use foodbanks were only available from the Trussell Trust Foodbank annual statistics. The data suggested that benefit-related problems such as delays in receiving the payment or changes (including sanctions) were the most common reasons for referral, followed by low income, and unemployment (The Trussell Trust, 2016).
Benefits claimants are expected to follow the rules and responsibility, otherwise they may lose their benefits or have them significantly reduced. The length of benefits sanction could range from 4 weeks to 3 years, depending on the level of offences made (Department for Work and Pension, 2016)

In light of the lack of UK research exploring why people need to use foodbanks, and who uses them, (Lambie-Mumford, 2011; Lambie-Mumford, 2013) any reasons for foodbank use was highly debatable. On the one hand, some politicians believed that the increase in foodbank use was due to free food being more freely available, thus it was due to an increase in supply rather than an increase in demand (Williams, 2013). Others believed that foodbank users were leading a feckless lifestyle (Bennett, 2014), lacked cooking skills and made poor food choices (Elgot, 2014) which made them unable to live resourcefully within a tight budget. On the other hand, it is believed that a combination of rising living costs (including food prices) coupled with stagnating wages would mean the value or 'real income' (i.e. purchasing power) would decline. The reduction of 'real income' would mean that household would find it challenging to afford sufficient, and nutritious food, which led

them having to use foodbank to cope with food shortages (Wales and Taylor, 2014; Lambie-Mumford *et al.*, 2014b). An analysis from the Institute for Fiscal Studies (IFS) suggests that households 'cope' with the rising food cost after the financial crisis by trading down to buy foods that are cheaper and filling, and families with children bought fewer fresh fruit and vegetables to cope with the squeeze in living standard (Griffith *et al.*, 2013). However, it is likely that those in the lowest income decile, who spent a greater proportion of their income on food, have nothing to be traded down (Department for Environment Food & Rural Affairs, 2014). Thus, compromising quality may not be an option, which leads to household forced to compromise on the quantity of foods eaten or having to get extra foods from foodbanks (Garthwaite *et al.*, 2015)

Furthermore, it is believed that the Welfare Reform in 2012 contributed to the increase in foodbank demand. The reform aimed at reducing spending on welfare through the introduction of policies such as benefit caps, more frequent health assessments for disabled claimants, and the lengthening duration of benefit sanctions (Beatty and Fothergrill, 2013 ; Lambie-Mumford, 2014). However, the minister of Work and Pension accused the Trussell Trust of scaremongering and responded that the suggested link between the growth of the network to the welfare reform was an act to seek publicity (Helm, 2013). In response to this criticism, the Trussell Trust, Oxfam and the Church of England published a joint report to investigate the drivers of foodbank use in the UK through interviews with foodbank users and staff. The report highlighted that many foodbank users were experiencing benefit-related problems such as delays in payment, or being 'sanctioned'. During this time, claimants did not receive any benefits for a month up to 13 months (Perry *et al.*, 2014). The report also highlighted that claimants were unaware of the emergency grants or financial aid they were entitled to apply to while experiencing benefit-related problems (Perry *et al.*, 2014). The report supported the Trussell Trust Foodbank statistics which showed a total loss of income due to benefit-related issues was a major trigger for foodbank referral. Around the same time, the All Party Parliamentary Group (APPG) on food poverty was formed. The group published their first official inquiry to investigate the increases in foodbank use and hunger in the UK

(Forsey, 2014). The report affirmed earlier findings (Perry *et al.*, 2014) highlighting the link between benefit-related problems and financial hardship which linked to the Welfare Reform (Forsey, 2014). However, the report was dismissed by the Government due to its heavy reliance on case studies and anecdotal observations submitted by individuals and charities, which deemed to be unreliable and filled with self-selected 'anecdotal' evidence (Butler, 2014).

Since the current research began, more findings have emerged in recent years exploring why people need to use foodbanks (Perry *et al.*, 2014; Loopstra *et al.*, 2015; Garratt *et al.*, 2016). These research affirm the Trussell Trust statistics which linked benefits-related issue as the main cause of referral to a foodbank. Loopstra et al (2015) showed that foodbank referral increased by 0.09% for every increase in 1% of benefits sanction in the local area (Loopstra *et al.*, 2015). Furthermore, qualitative research with North East foodbank users showed that users were often struggling with disability and ill-health that prevented them from working. This ill-health was made worse due to benefit-related problems that lead to acute food insecurity and challenges in managing their disability (Garthwaite *et al.*, 2015).

1.3 Case study organisation: The Trussell Trust Foodbank Network

The Trussell Trust foodbank was first set up in 1999 in Salisbury, United Kingdom where it was established as an official not-for-profit organisation in 2004 (The Trussell Trust, Undated-c). The Trust is a charity founded on Christian principles[1], with the mission to end hunger and poverty by providing help in compassionate, practical and dignifying ways while challenging injustice (The Trussell Trust, Undated-b). The Trust runs on a franchise model which allows communities or

[1] The Trussell Trust quoted Matthew 23:35-36 as the basis of their Mission Verse: "*For I was hungry and you gave me something to eat, I was thirsty and you gave me something to drink, I was a stranger and you invited me in, I needed clothes and you clothed me, I was sick and you looked after me, I was in prison and you came to visit me.*"

churches to open a foodbank by makinh a one-off contribution fee of £1,500 on the first year, and an annual membership fee of £360 per year for each consecutive year. The foodbanks in the network would receive support, training and access to the database, and corporate partnership the trust has at a national level (Lambie-Mumford, 2014). Foodbanks within the Trussell Trust network have access to training and support from the main office, as well as access to the Trust database for data collection and corporate partnerships the Trust holds with retailers or other organisations.

Foodbanks in the Trussell Trust network work strictly by referral only to help individuals in crisis and were set up as part of an emergency, time-limited intervention. This mode of operation distinguishes them from foodbanks in Europe (Neter *et al.*, 2014), the US (Food pantries, 2018) or Canada (Greater Vancouver Foodbank, 2018) which allow users to return weekly and monthly, relying on income thresholds to assess their users' needs. Foodbanks work with frontline care professionals in the community such as doctors, schools, or Job Centres who act as 'voucher holders' and identify people in crisis. The voucher holders assess and validate the need of their clients before issuing a food voucher. Foodbank users may then bring their voucher to the nearest distribution centre where it can be redeemed for a food parcel that can last for a minimum of three days for their entire household.

The Trussell Trust Foodbank distribution centres are set up in a 'café-style' layout with light refreshments provided to create a relaxed and welcoming environment. The users meet volunteers who check the voucher and go through a food list to make a note of user's dietary requirements. The volunteers are trained to provide a 'listening ear' and signpost users to further support (The Trussell Trust, Undated-a). At the beginning of this research (2014), the Trussell Trust had a policy that individuals could receive up to three vouchers within a 6-month window (which has now changed to per crisis) (The Trussell Trust, 2018b). However, if their crisis requires more than 3 vouchers before it can be resolved, users can access further vouchers through an agreement between the local foodbank manager and voucher partner. The 'three vouchers in six months' rule was imposed so that foodbank

assistance does not promote dependency or take away the urgency for voucher partners to resolve their users' cause of crisis.

The Trussell Trust Foodbanks provide a minimum of three-days' nutritionally balanced, non-perishable, tinned and dried foods. The Trust claimed that they worked with nutritionists to develop a parcel that would meet the nutrient requirements for adults and children (The Trussell Trust, Undated-d). A typical food parcel includes pasta or rice; soup; tinned meat; tinned fruit; tinned vegetables; cereal; lentils, beans or pulses; tinned fruit; UHT milk and fruit juice. The Trust also increasingly provides non-food items such as toiletries, baby supplies and hygiene products to help those in crisis to maintain their dignity (The Trussell Trust, Not dated,)

Members of the public donate most of the food via schools, churches, and the supermarket collection. The donated food is sorted, dated and stored in local distribution centres to be given to people referred by the voucher partners. However, foodbanks are unable to provide fresh fruit and vegetables which are important for health and wellbeing. This is due to a lack of appropriate logistics and facilities within foodbanks, as most foodbank sessions are run in a church hall. Furthermore, the high reliance on non-perishable foods has created concern amongst nutritionists who deemed that the parcels exceeded the recommended intake of sugar, salt and fat for adults (Preston and Burley, 2015). The excess intake of such nutrients could be a concern for those who need assistance for a longer-term (Turnbull and Bhakta, 2016). However, such concerns should be weighed against the fact people accessing foodbanks are in a severe food crisis. Nearly 60% of foodbank users reported that they had not eaten for whole days, compared to only 2% nationally (Hughes and Prayogo, 2018)

1.4 Situating this research

Before the beginning this programme of research, a smaller project with foodbanks was completed as part of the researcher's MSc thesis (Prayogo, 2013; Prayogo *et al.*, 2014). The project focused on investigating the feasibility and impact of improving access to fresh fruit and vegetables in two East London foodbanks. The primary aim was to see whether offering discounted fruit and vegetable vouchers could improve fruit and vegetable intake, which has been shown to be effective in increasing fruit and vegetable intake in a low-income French population (Bihan *et al.*, 2011). The research also aimed to explore if such improvement would be followed by an improvement in psychological wellbeing, as reported elsewhere (Blanchflower *et al.*, 2013).

The study involved 115 participants recruited from Hackney and Tower Hamlet foodbanks acting as the intervention and control group respectively. The intervention group received vouchers which allowed them to buy fresh fruit and vegetables at a local farmers market in the London borough of Hackey for half the normal selling price, while the control group received general supermarket gift cards which could be used to buy anything.

The findings suggest that most foodbank users had a poor diet, with over half of the participants (55.7%) not eating fruit and vegetables daily, and nearly all (90%) participants in both groups being food insecure (Townsend *et al.*, 2001). Affordability (71.2%) and difficulty in preparing fruit and vegetables (24.2%) were cited as barriers to habitual fruit and vegetable consumption. At the baseline, the fruit and vegetable consumption, and well-being scores in the intervention and control groups were not statistically different ($P>0.05$). The fruit and vegetable consumption for the intervention and control group were 1.05 ± 1.27 and 0.71 ± 1.32 portions daily, respectively. The psychological wellbeing was measured by using the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) (Tennant *et al.*, 2007). The wellbeing scores of the intervention and control groups were 40 and 41, respectively out of a maximum score of 70.

At follow up, which happened 5 weeks later, 25 participants (15 from the intervention group and 10 from the control group) returned to their respective foodbanks to complete the follow-up questionnaire. After 5 weeks, there was an increase in fruit and vegetable intake in the intervention group (1.00±1.65 portion/day, $P<0.05$), whilst there was a non-significant reduction of fruit and vegetable consumption in the control group (0.05±0.76 portion/day, $P>0.05$). Furthermore, there was a trend towards an increase in psychological wellbeing scores by 4±11 and 7±11 in the intervention and control groups, respectively although these changes were not statistically significant ($P>0.05$).

The voucher uptake was low (12%), anecdotal evidence from participants who returned suggested that they still could not afford the discounted fruit and vegetables, and the cost of the bus fare to exchange the voucher outweighed the benefits of the discounted produce. This research also highlighted the challenges of keeping in contact with this population which resulted in low retention rates. These earlier difficulties encountered in the MSc research indicated the need to understand why individuals resorted to foodbanks, their circumstances before coming to a foodbank and the factors that influenced their dietary quality (i.e. the barriers of fruit and vegetable intake). It pointed out the need to improve the research design to ensure it fits the nature and challenges of working with foodbank users to maximise recruitment rates when engaging with this population. This need helped to build this programme of research and will be explored in more details in the subsequent chapters.

CHAPTER 2 Literature review

2.1 The importance of dietary quality on health and wellbeing

2.1.1 How good diet is defined

According to the World Health Organisation (WHO), a healthy diet is characterised by high consumption of 'healthy' food items such as fresh fruits and vegetables and low consumption in 'unhealthy' nutrients such as fat, sugar and salt (World Health Organization, 2015). The Food and Agriculture Organisation (FAO) has collated all food-based dietary guidelines across the world (Food and Agriculture Organization, Undated). Based on their findings, most of the guidelines bear similarities to each other as outlined by WHO guidelines, such as, encouraging daily consumption of at least 5 portions of fruit and vegetables, and limiting the intake of oil or fat. The FAO guidelines highlighted minor differences in the types of food or drink to be consumed for each country to reflect the local public health and nutrition agenda better. For instance, developing countries (e.g. Africa, Indonesia) would include the advice to drink clean water as part of their nutritional guidelines which is not applicable to the developed countries guidelines.

In the UK, the Eat Well Plate Guide (Figure 1) resembled the nutritional guidelines in other developed countries which recommend: eating at least 5 portions of a variety of fruit and vegetables daily, or fruit and vegetables making up 40% of the plate. Carbohydrates should make up 38% of overall dietary intake, and whenever possible, wholegrain varieties should be chosen rather than highly processed and refined varieties; proteins should make up 12% of overall food intake; oily fish should be consumed at least twice per week; dairy and its alternatives (e.g. soya drinks) should make up no more than 8% of overall food intake; and only a small amount of foods rich in salt, Non-Milk Extrinsic Sugar (NMES), or saturated fat (<1%) should be consumed daily.

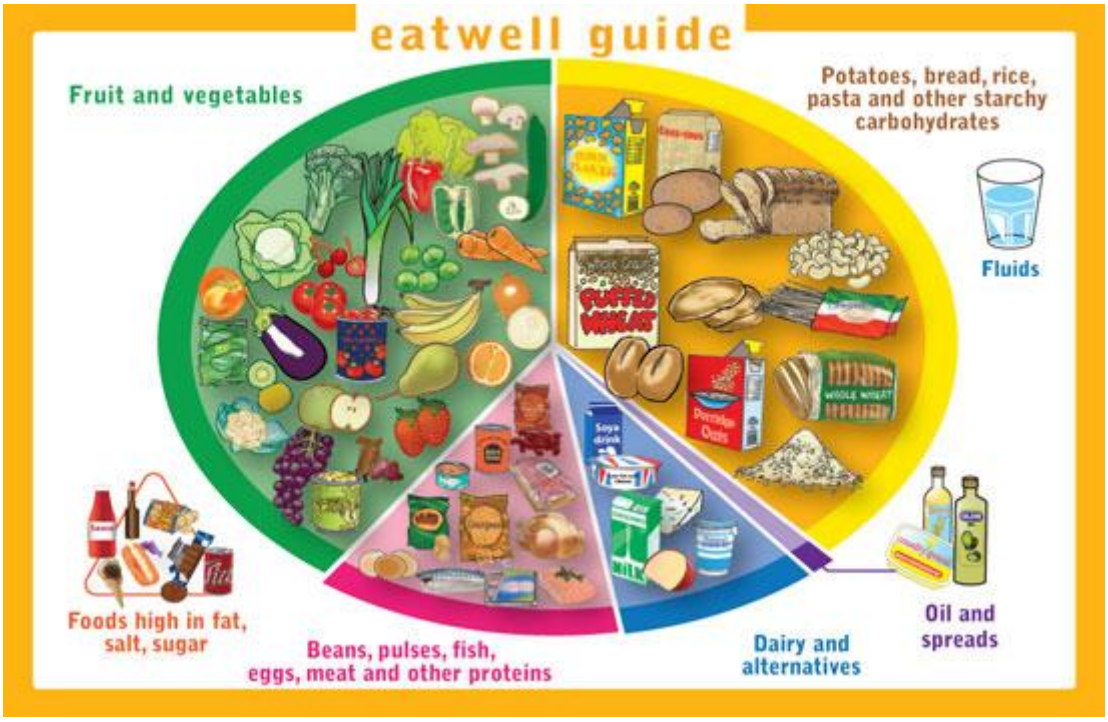

Figure 1 Dietary Guidelines from the UK Government

Source: (Public Health England, 2017a)

All of the dietary guidelines were based on epidemiological evidence which found an association between the consumption of certain foods and the protective effect of the foods in developing chronic diseases. Evidence has consistently shown that dietary patterns which are rich in fruit, vegetables, and unsaturated fats help to maintain a healthy weight (Hooper *et al.*, 2012) and reduce the risk of developing chronic diseases such as cardiovascular diseases (Mente *et al.*, 2009), certain types of cancer (Couto *et al.*, 2011; Catsburg *et al.*, 2015), Type II diabetes, neurodegenerative diseases (Medina-Remón *et al.*, 2018), and a reduction in overall mortality from chronic diseases (Liese *et al.*, 2015). Furthermore, a healthy diet has been shown to improve psychological wellbeing (Blanchflower *et al.*, 2013) and to reduce the risk of anxiety and depression (Jacka *et al.*, 2010). Despite the increasing acceptance of the importance of a healthy diet in maintaining good health and wellbeing, evidence has emerged that food insecure individuals are, perhaps unsurprisingly more likely to have poorer dietary quality.

2.1.2 Food insecurity and its impact on dietary quality, health and wellbeing

Food insecurity is a serious public health threat in developed countries, as food insecurity individuals are more likely to report adverse health outcomes than those who are food secure. Examples of such adverse health outcomes include: being classified as overweight or obese (Pan *et al.*, 2012), having Type-II diabetes and poor management of the condition (Seligman *et al.*, 2007), poor overall physical health (Seligman *et al.*, 2010) and poor mental health (Heflin *et al.*, 2005). Food insecurity is also linked to increases in the annual healthcare cost including prescription drug, inpatient hospital care, and the number of visits to an emergency department) (Tarasuk *et al.*, 2015). Compared to the food secure household, the annual healthcare cost of households classified as marginally, moderately and severely food insecure are 15%, 32%, and 76% higher, respectively (Tarasuk *et al.*, 2015).

Orr and colleagues showed that half of food insecure women stopped breastfeeding exclusively by 2 months, which is significantly shorter and below the recommended duration of 4 months exclusive breastfeeding when compared to food secure women (Orr *et al.*, 2018). The authors cautioned that early cessation of breastfeeding would lessen the infants' ability to reap the physical and emotional benefits of breastfeeding (Horta and Victora, 2013) and health benefits gained by women such as: reduction in the risk of obesity, developing Type 2 diabetes, and certain types of cancer such as ovarian and breast (Ip *et al.*, 2007).

It is plausible that poor dietary quality amongst food insecure households could contribute to poorer health outcomes amongst this group. Poor dietary quality is shown to be the top risk factor of the global burden of diseases (Mishamandani, 2015) with high intakes of saturated fat and sugar and low intakes of fruit and vegetables contributing significantly to disease-related mortality (Vos *et al.*, 2017). It has been shown that those attending foodbanks (also known as food pantries in the USA) and those from food insecure households are less likely to meet the nutritional

guidelines than the general population. Such observations have been reported in the literature from other developed countries such as Holland (Neter *et al.*, 2017), France (Castetbon *et al.*, 2011), Canada (Starkey and Harriet, 2000; Tarasuk and Beaton, 1999) and the USA (Robaina and Martin, 2013; Duffy *et al.*, 2009b; Bell *et al.*, 1998; Tarasuk and Beaton, 1999). Those who are food insecure are shown to have suboptimal intakes of fish, fruit and vegetables, and a large proportion did not meet the recommended intakes of vitamins A, B, C, D, and E, and minerals such as iron, zinc and magnesium. The mineral deficiency is shown to be more pronounced amongst food insecure women who use foodbanks (Tarasuk and Beaton, 1999)

To date, there is no dietary data of foodbank users in the UK. The closest comparison could be drawn from the Low-Income Diet and Nutrition Survey (LIDNS). The findings from LIDNS showed that low-income populations had poorer dietary quality than the UK general population (Nelson *et al.*, 2007a). This is evident from the discrepancies in the types of food being consumed as the source of the micro-nutrients. The survey showed that low-income households obtained their potassium from low-quality sources such as potato or savoury snacks, whereas the general population would obtain potassium from higher quality sources such as fruits and nuts. The survey also showed that low-income UK populations ate fewer portions of fruit and vegetables than the general UK population, highlighting the existence of dietary inequalities in the country. However, LIDNS was conducted in 2003-2005, therefore the findings may not capture any changes in the diet of the low-income populations in recent years. Furthermore, the sample in the LIDNS was in the bottom 15% of the income distribution in the UK, which suggests that although they might be on low-income, they still have resources to buy food which allow them to exert some choices during food purchasing. In contrast, those attending foodbanks in the UK reported ‘income crisis’ where they experienced a significant reduction or total loss of their income which made them unable to afford to buy foods and thus having to resort to charities for foods (Perry *et al.*, 2014). The report from the Joseph Rowntree Foundation suggests the income of foodbank users was so low that they could be classified as ‘destitute’ (i.e. unable to afford essential items such as food, heating, electricity over the past month) (Fitzpatrick *et al.*, 2016). Therefore, identifying the

dietary quality of those attending UK foodbanks is an area of interest and would fill the research gap.

2.1.3 Factors influencing dietary quality

The scoping literature review was conducted with the aim to understand the factors influencing the dietary quality of foodbank users in developed countries. However, there was not enough published literature in the area to conduct a systematic review. A scoping review was conducted following the process of systematic review. The electronic databases including PubMed (Medline), EBSCO, Scopus, and PsychInfo were used alongside Google Scholar to conduct the literature search.

All study types including cross-sectional, longitudinal and qualitative studies were included in the search strategy if they were written in English. Studies were included if the research was conducted in high-income countries as defined by the World Bank (The World Bank, Not dated). Studies were excluded if they were conducted outside of high-income countries, not in foodbank settings (e.g. soup kitchen, or a homeless drop-in centre), and the article was not written in English. Given the limited number of published research focusing on the factors influencing the diet of foodbank users in 2014, studies that were conducted with disadvantaged and low-income populations were included in the review.

The following search terms were used for dietary quality (e.g. fruit, vegetables, nutrition, diet, dietary quality, Healthy Eating Index (HEI), and food choice), foodbank or disadvantaged population (e.g. food pantry, foodbank, food aid, food assistance, low-income, deprivation, socioeconomic, low-education, poverty), and with terms to explore influencing factors (e.g. predictors, barriers, facilitators).

From the scoping review, dietary quality can be influenced by factors which are broadly classified as environmental, physical capability, social and psychological.

2.1.3.1 Environmental factors

Environmental factors such as lack of access to shops that sell healthy and affordable foods (known as food deserts); constrained material resources; and lack of access to cooking and chilled food facilities have been shown to influence dietary quality.

Those who live in food desert areas, and do not own a car were shown to have poorer dietary quality and eat fewer fruit and vegetables than those who live outside such areas (Wrigley, 2002). Food deserts are areas which lack shops selling affordable healthy foods. The shops in the food desert area tend to be small and stock less fresh fruit and vegetables, or if they do, these are more expensive than in supermarkets. The concept of food deserts in the UK has been challenged. On the one hand, access to a supermarket seems not to be an issue, even for those not owning a car (White *et al.*, 2004; Whelan *et al.*, 2002). Others showed that the shops in deprived areas often sell foods at similar, or even lower prices than in affluent areas (Cummins and Macintyre, 2002). On the other hand, others pointed out the existence of food deserts in London boroughs such as Islington and Hackney (Bowyer *et al.*, 2009; Greater London Authority, 2013).

Other environmental factors such as lack of cooking and fresh food storage facilities (e.g. fridge or freezer) can also be barriers to healthy eating. The lack of access to a fully-functioning kitchen can limit the household's ability to cook food from scratch or buying fresh foods. Those who are homeless and live in temporary accommodation such as a bed and breakfast or emergency hostels frequently reported having limited access to kitchen facilities (Mitchell *et al.*, 2004). Others who live in shared and temporary accommodation find it challenging to access communal kitchen facilities and store their food safely in communal fridges (Pennington and Garvie, 2016; Share and Hennessy, 2017). The narratives of families living in temporary accommodation in the UK found that they are more likely to rely on non-perishable foods or ready meals to mitigate the lack of cooking facilities, which inevitably less nutritious than cooking from scratch (Pennington and Garvie, 2016; Share and Hennessy, 2017).

The lack of access to fresh food storage facilities also means households are not able to buy some foods in bulk which might enable cost-savings.

Furthermore, the cost of healthy eating and affordability are cited as the main barriers to a healthy diet for low-income families in the UK (Nelson *et al.*, 2007b). The narratives involving low-income families have consistently highlighted the priority to buy food that is filling and cheap to ensure they have sufficient money to pay for other household expenses and other bills (Antin and Hunt, 2012; Dowler, 1997). Such choices might be partially explained by the fact that the minimum wages is insufficient to provide a household with a healthy food basket (Morris *et al.*, 2000). In the UK, the healthiest food basket which is rich in fruit, vegetables, pulses and fish costs twice as much as the least healthy basket which lacks fruit and vegetables but is high in refined sugar (£6.63/day and £3.29/day, respectively) (Morris *et al.*, 2014). Research has shown that foods that are high in fats and sugar allow households to meet energy needs at the lowest cost, whereas nutrient-dense foods such as fresh fruits and vegetables tend to cost more to meet the energy requirement (Drewnowski and Darmon, 2005). Therefore, if a household wished to substitute fats and sugar with more fresh fruits and vegetables, it could significantly inflate their food spending and make it unaffordable (Drewnowski *et al.*, 2004). The cost of healthy eating might explain the success of monetary interventions to improve the dietary quality amongst low-income groups. Offering a discount on healthy foods have been shown to improve fruit and vegetable consumption (Olsho *et al.*, 2016; Bihan *et al.*, 2011; Klerman *et al.*, 2014), and a significant increase in the proportion of low-income shoppers switching to a healthier variant of milk (e.g. semi-skimmed) (Stead *et al.*, 2017). Similarly, the UK Government food-scheme such as Healthy Start, which gives low-income families with young children a weekly voucher to buy fresh fruit, vegetables and milk has been shown to improve the quantity and variety of fruit and vegetables consumed (McFadden *et al.*, 2014). However, it remains to be elucidated whether dietary changes following monetary interventions would be sustained once the intervention or incentive has ended due to the challenge of monitoring and following up on this ‘chaotic’ population (Bihan *et al.*, 2011).

2.1.3.2 Physical capability

Having a physical capability such as cooking skills could influence dietary quality. Those who have the skill to cook are shown to be more likely to cook from scratch, eat more vegetables and consume less ready meals or takeaway foods (Hartmann *et al.*, 2013). Having the skills to cook would also mean households could be creative and resourceful in their food preparation which is essential to create a healthy meal on a budget. However, it remains debatable whether there is a lack of cooking skills amongst low-income households, and its role in explaining the poor diet remains in this population. A community-based intervention which focused on improving food skills in low-income Scotish populations showed it to be 'promising' in improving participants' confidence in cooking, and fruit and vegetable consumption (Wrieden *et al.*, 2007). However, the findings of the intervention should be interpreted with caution, a high attrition rate (>50%) in the study could introduce a self-selection bias, where those persisting until the end of the intervention might be more health conscious, and more motivated to change their diet. Other UK studies have found that low-income groups are more likely to cook from scratch than those in higher income groups (Caraher and Lang, 1999). The author highlighted that it is important that interventions targeting cooking skills' in low-income groups should not *'ghettoise'* the issue (Martin *et al.*, 1999), or blaming the poor diet of those in poverty due to lack of skill or fecklessness. The author added that other competing factors might be at play which shapes the low-income groups' food choices. Other studies confirmed that low-income groups have adequate cooking skills (McLaughlin *et al.*, 2003). More recently, Canadian study affirms that there is no evidence of a lack of cooking skills among low-income groups, and having a good cooking skill does not protect a household from being food insecure (Huisken *et al.*, 2017). Furthermore, a Canadian study has shown that food insecure households are more likely to be budget conscious while shopping, which brings to question to what extent does being highly resourceful, budget conscious and skilled in food preparation compensate for the lack of income in a food insecure household (Tarasuk, 2001b). A healthy diet could be challenging to achieve amongst those with low-income and in receipt of benefits (Morris *et al.*, 2000), as most of the out-of-work benefits only cover up to a third of

the Minimum Income Standard (MIS) required for living in the UK (Padley and Hirsch, 2017). This is an issue that must be noted.

2.1.3.3 Social factors

Eating can be considered as a social behaviour that happens amongst other daily activities happen at home, school, community or the workplace (Delormier et al., 2009). Eating patterns are formed in relation to other people, as food is often used to mediate and symbolise a relationship in society (Menzies, 1970). Meals eaten with others influence the duration and the amount of food being eaten, as well as the food choices. For instance, women tend to eat less when eating alone, while meals eaten with others or family members produce a feeling of relaxation and disinhibition which results in larger meals being consumed (de Castro, 1994; Pliner and Mann, 2004). Crookes and colleagues (2016) showed that those with better social support are more likely to eat healthier, be more physically active, more motivated to make other positive lifestyle changes, and maintain the newly adopted behaviours than those who lack social support (Crookes *et al.*, 2016).

For low-income households, having good social support is important in maintaining food security and a healthy diet. Those who are socially isolated are at a higher risk of food insecurity (Tarasuk, 2001a). Interviews with 30 low-income UK households demonstrated that having social support whether in the form of practical, informational or emotional was essential in managing poverty (Hill *et al.*, 2016). In practical terms, other family members could give extra foods, lend money or help care for young children which help in easing the financial burden. Another small study with UK foodbank users (N=5) suggested that those attending foodbanks lacked social support, as interviewees highlighted that they would rather rely on a familiar source (e.g. family or friend) instead of seeking help from a charity (Lambie-Mumford *et al.*, 2014b).

The presence of children in the household can influence the types of food being bought and prepared, in both positive and negative ways. The interviews with low-income parents suggested that they became health conscious after the birth of their children, as they value their children's health and wellbeing above their own (Carty *et al.*, 2017; Lovelace and Rabiee - Khan, 2013). However, having children could also have a negative impact on low-income parents' diets. In a family where the budget is tight, the parents may be reluctant to prepare food that they are unsure their children would eat. Low-income parents were also less likely to experiment when cooking or introducing new foods to their children, as they cannot afford to waste food (Hayter *et al.*, 2015). The negative reaction to the previously rejected foods would discourage parents to buy them again (Carty *et al.*, 2017). Persuading their children to eat more fruit and vegetables has been described as a 'battleground' where both children and parents would end up upset, and mealtimes take longer than usual (Hayter *et al.*, 2015). Longer mealtimes could be another barrier to incentivise low-income parents to provide healthy meals, as they find it challenging to balance between multiple low-paid work commitments and family responsibilities (Devine *et al.*, 2006). Thus food preparation was seen as a 'chore' or burden at the end of a working day, instead of activity to be enjoyed (Lovelace and Rabiee - Khan, 2013).

2.1.3.4 Psychological factors

Psychological factors such as nutritional knowledge and cognitive factors such as beliefs about consequences, self-efficacy and emotion have been implicated as determinants of a healthy diet. Positive beliefs about the health benefits of a healthy diet have been shown to be positively associated with the consumption of fruit and vegetables (Anderson *et al.*, 2000). Self-efficacy can be defined as a personal sense of control to undertake an action (akin to confidence) and is assumed to be implicated in every phase of personal change. This includes changes in motivation, the perseverance needed to succeed, as well as changing and maintaining newly-adopted health behaviours (Bandura, 2004). Self-efficacy has been associated with better dietary quality amongst low-income populations. Interventions aim to improve

self-efficacy have been shown to result in greater fruit and vegetable consumption (Steptoe *et al.*, 2003), and avoidance of high-fat foods (Guntzviller *et al.*, 2017). The literature highlights how the relationship between self-efficacy and health outcomes become stronger as nutritional literacy increases (Cha *et al.*, 2014). Whilst having high perceived self-efficacy might be important in the adoption and maintenance of positive health behaviour, those experiencing poverty tend to have lower levels of self-efficacy than those who are not in poverty (Callander and Schofield, 2016). A self-management diabetes intervention which gave low-income participants support via the telephone showed improvements in diabetes self-efficacy, which was followed by better glycemic control (Lyles *et al.*, 2013). Given the reduction of food availability and variety for those experiencing food insecurity, it could be argued that they would be less able to manage their diabetes than those who are food secure.

Having a good nutritional knowledge and awareness of recommended dietary intake has been associated with a better diet (e.g. more consumption of fruit and vegetables) (Steptoe *et al.*, 2003). It could be argued that nutritional knowledge could improve one's dietary quality by influencing decision-making during food purchases. Research on the dietary quality of foodbank users in Holland and the USA suggests that users need to be given nutritional education to improve their diet (Mello *et al.*, 2010; Neter *et al.*, 2017). Such beliefs are also held by foodbank providers in the UK and Canada, where users were given nutritional education coupled with skill-building activities to improve their diets (Food Banks Canada, 2013; The Trussell Trust, Undated.). These initiatives and recommendations were based on the assumption that enhancing nutritional knowledge would be translated into a better diet, which is not always the case (McLeod *et al.*, 2011). Having a good nutritional knowledge alone is not enough to change dietary behaviour (Darmon and Drewnowski, 2008; Worsley, 2002), as knowledge only partly mediates the relationship between socioeconomic position and dietary quality (McLeod *et al.*, 2011). A large intervention with low-income French participants showed that giving dietary advice alone to improve one's nutritional knowledge did not result in an improvement in fruit and vegetable intake, whereas the group who received both a discounted voucher and dietary advice showed significant improvements in their fruit

and vegetable intake (Bihan *et al.*, 2011). Such findings suggest that it is important to address the cost of healthy eating, as the qualitative study with North East foodbank users highlighted that users were acutely aware of the importance of habitual fruit and vegetable consumption, but it was considered an 'unaffordable luxury' when they are struggling to afford sufficient food and having to use foodbanks (Garthwaite *et al.*, 2015).

Emotions such as positive or negative mood can have an impact on food choices and the amount of food eaten (Greeno and Wing, 1994). A lab-based study to imitate the effect of stress on food preference found that individuals are more likely to choose more energy-dense and high-fat foods under stress (Oliver *et al.*, 2000). These findings have been replicated elsewhere showing that the emotional effect of changes in eating behaviour is more pronounced in women than in men (Christensen and Brooks, 2006). Eating has been cited as a way to cope with stress among low-income American women (Bove and Olson, 2006). A positive relationship between food and mood has also been reported (White *et al.*, 2013; Blanchflower *et al.*, 2013), whereby increase in consumption of fruit and vegetables was associated with improvement in psychological wellbeing. There is a dose-dependent effect of fruit and vegetable consumption on wellbeing, whereby wellbeing peaks when 7 portions of fruit and vegetables were consumed daily (Blanchflower *et al.*, 2013). However, the studies that look at the relationship between food and mood should be interpreted with care, as most were cross-sectional in nature, which made it challenging to determine the causality.

Another study in the USA suggests that living in materially deprived households is associated with a high rate of obesity which is partly explained by the stress, and anxiety associated with living in poverty (Sarlio-Lähteenkorva and Lahelma, 2001). There is an indication that food insecure households who are reliant on food stamps (i.e. food purchasing assistance for low-income Americans) have a tendency towards disordered eating patterns (Bove and Olson, 2006). Households in-receipt of food stamp would cycle between a period of overeating and undereating at the beginning and the end of the month, respectively (Sarlio-Lähteenkorva and Lahelma, 2001;

Alaimo *et al.*, 2001). Both involuntary and voluntary food restriction altered eating behaviour, whereby participants had a tendency to overeat once the food became available (Polivy, 1996). The anxiety and stress of managing an uncertain food supply could influence the types of food being bought in order to stretch the food budget to last as long as possible. Therefore, an anxious household may cope by selecting foods that are cheap, yet high in sugar and calories to meet the energy needs at the lowest cost (Drewnowski and Darmon, 2005).

2.2 Theoretical Domains Framework (TDF) and the Capability, Opportunity, Motivation – Behaviour (COM-B) model

The evidence presented in this chapter highlights that the multiple factors which influence people's dietary quality are broadly affected by their environment (resources), social support, psychological capability and cognitions relevant to motivation.

Changing behaviour is complex, thus, there is a growing acceptance that any effort to change behaviour should be drawn from appropriate theories of behaviour as outlined by the Medical Research Council (MRC) guidelines (Craig *et al.*, 2008). However, the guidelines do not specify how to select an appropriate theory for a specific purpose, which makes it challenging for a non-psychologist to select behavioural theory (Michie *et al.*, 2005). Furthermore, there is an overlap of constructs across theories which makes it difficult to select the terms for referring to the similar construct (i.e. self-efficacy and perceived behavioural control). The Theoretical Domains Framework (TDF) was developed in response to the issue of multiple theories and overlapping constructs (Cane *et al.*, 2012)

The TDF was developed by a multi-disciplinary team of health service researchers and psychologists, with the ultimate aim to make theories more accessible to intervention designers, even those with no prior knowledge on psychological or behavioural science (Michie *et al.*, 2014). In its construction, relevant theories were

identified, integrated and broken down into theoretical domains. The original framework assimilated 128 explanatory constructs from 33 theories of behaviour, which further refined to 84 component construct across 14 domains (Cane *et al.*, 2012). The TDF consists of 14 domains of theoretical constructs that work to influence behaviour. The definition of each domain and the relevant construct is summarised in Table 1.

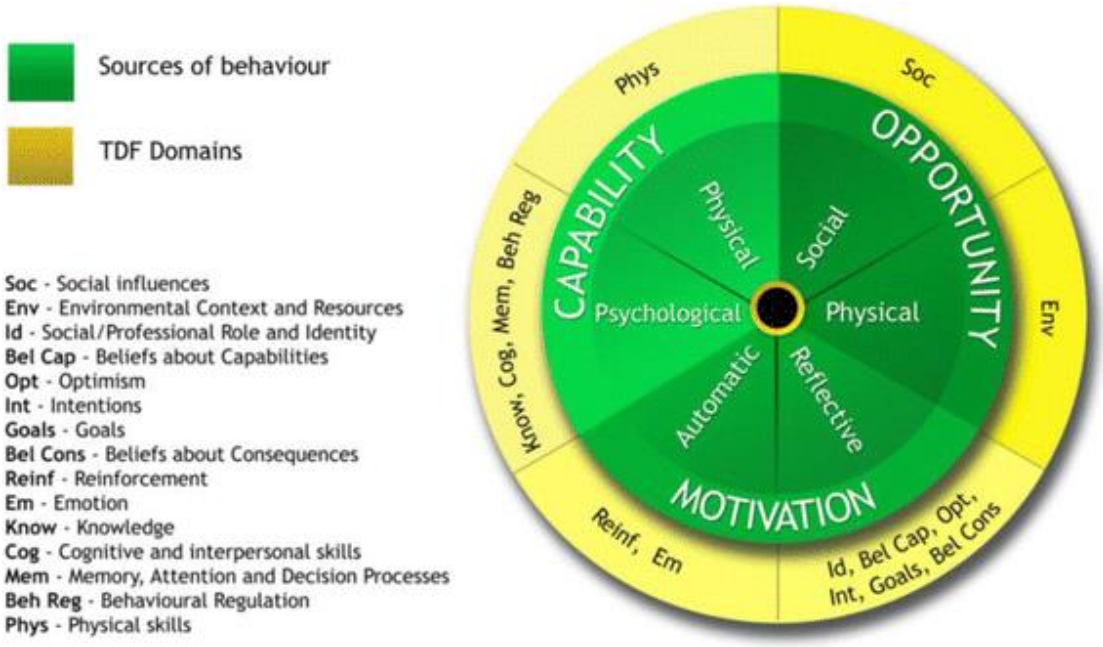

Figure 2 A diagram illustrating how the TDF framework can fit into the COM-B model of behaviour

(Source: Atkins et al., 2017)

Table 1 Fourteen domains of Theoretical Domain Framework, accompanied with definitions and individual constructs

Source: Cane et al (2012)

Domain	Definition	Constructs
Knowledge	An awareness of the existence of something	Knowledge (including knowledge of condition/scientific rationale), procedural knowledge, knowledge of task environment
Skills	An ability or proficiency acquired through practice	Skills, Skills development, Competence, Ability, Interpersonal skills, Practice, Skill assessment
Social/Professional Role and Identity	A coherent set of behaviours and displayed personal qualities of an individual in a social or work setting)	Professional identity, Professional role, Social identity, Identity, Professional boundaries, Professional confidence, Group identity Leadership, Organisational commitment
Beliefs about Capabilities	Acceptance of the truth, reality, or validity about an ability, talent, or facility that a person can put to constructive use	Self-confidence, Perceived competence, Self-efficacy, Perceived behavioural control, Beliefs, Self-esteem, Empowerment, Professional confidence
Optimism	The confidence that things will happen for the best or that desired goals will be attained)	Optimism, Pessimism, Unrealistic optimism, Identity
Beliefs about Consequences	Acceptance of the truth, reality, or validity about outcomes of behaviour in a given situation	Beliefs, Outcome expectancies, Characteristics of outcome expectancies, Anticipated regret, Consequences
Reinforcement	Increasing the probability of a response by arranging a dependent relationship, or contingency, between the response and a given stimulus	Rewards (proximal / distal, valued / not valued, probable / improbable), Incentives, Punishment, Consequents, Reinforcement, Contingencies, Sanctions.
Intentions	A conscious decision to perform a behaviour or a	Stability of intentions, Stages of change model, the

	resolve to act in a certain way	Transtheoretical model.
Goals	Mental representations of outcomes or end state that an individual wants to achieve	Goal priority, Goal/target setting, Goals (autonomous/controlled) Action planning, Implementation Intention
Memory, attention and decision processes	The ability to retain information, focus selectively on aspects of the environment and choose between two or more alternatives	Attention, Attention control, Decision-making, Cognitive overload/tiredness.
Environmental Context and Resources	Any circumstance of a person's situation or environment that discourages or encourages the development of skills and abilities, independence, social competence, and adaptive behaviour	Resources / material resources, Organisational culture /climate Salient events / critical incidents, Person and environment interaction, Barriers and facilitators.
Social influences	Those interpersonal processes that can cause individuals to change their thoughts, feelings, or behaviours	Social norms, Group conformity, Social comparisons, Group norms, Social support, Power, Intergroup conflict, Alienation, Group identity, Modelling
Emotion	A complex reaction pattern, involving experiential, behavioural, and physiological elements, by which the individual attempts to deal with a personally significant matter or event	Anxiety, Affect, Stress, Depression, Positive or negative affect, Burn-out.
Behavioural Regulation	Anything aimed at managing or changing objectively observed or measured actions	Breaking habit, Action-planning

Once the factors influencing behaviour have been identified from the TDF, they can then be targeted for future intervention development. For example, if knowledge or memory was identified as a barrier to behaviour, an intervention which aims to educate and remind the person could be given, respectively.

The TDF has been shown to be well-received in diverse clinical environments (Phillips *et al.*, 2015), and applied to the theoretical understanding of health behaviours such as increasing compliance to nutritional guidelines (Seward *et al.*, 2017), increasing the uptake of alcohol screening in secondary care (O'Neill *et al.*, 2015), and implementing physical activity guidelines for obese pregnant women (McParlin *et al.*, 2017). The TDF may enhance the understanding of the barriers and facilitators to healthy eating (high consumption of fruit and vegetables) amongst the UK foodbank users and will be drawn upon in this programme of research alongside the Capability Opportunity, Motivation - Behaviour (COM-B) model of behaviour (Michie *et al.*, 2011).

The COM-B model has been linked to TDF constructs (Cane *et al.*, 2012) (Figure 2). The model is recommended to be used in place of TDF where time is limited, i.e. if a shorter interview or questionnaire is required (Atkins *et al.*, 2017). The central principle of the model is that for any behaviour to occur there must be capability, opportunity and motivation to do the behaviour. Capability can be broken down as ‘physical’ (e.g. strength, skills or energy) and ‘psychological’ (e.g. knowledge, memory or attention) capability to perform the behaviour. Opportunity could be ‘social’ (e.g. social cues, cultural norms, or influence of others) or ‘physical’ (e.g. what the surroundings facilitate or impede, such as time, resources, and other physical barriers). Motivation could be ‘automatic’ (e.g. impulse, emotional reaction) or ‘reflective; (e.g. self-efficacy, outcome expectancies or intention). These components work synergistically to produce a behaviour as illustrated in Figure 3 by the interlinking arrows. For example, motivation could be enhanced by increasing capability or opportunity. The increase in motivation could then lead people to do things that will eventually improve their opportunity or capability by

changing behaviour. For instance, owning fully working cooking facilities (opportunity), being able to cook and being aware of the importance of cooking healthy meals (capability) could increase motivation to cook and eat well. However, motivation alone will not improve cooking skills or afford access to fully working kitchen facilities unless the person acts (behaviour) on this motivation to get a fully working kitchen, fix broken appliances or practise cooking.

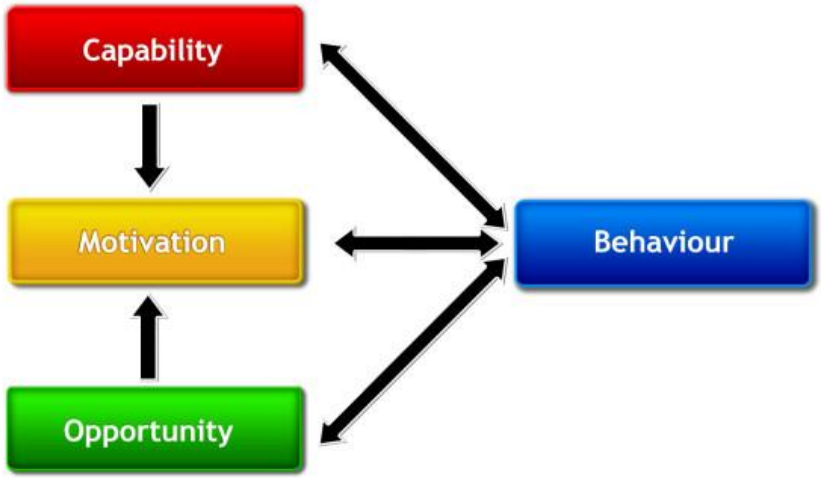

Figure 3 The Capability, Opportunity and Motivation (COM-B) model of Behaviour

(Source: Michie et al., 2011)

Using the COM-B framework could assist in giving a holistic and evidence-based understanding of whether a person has the capability, opportunity and motivation to engage in healthy eating, and identify relevant domains acting as barriers and facilitators of a behaviour. It is important to understand these, as most interventions within foodbanks (Caspi *et al.*, 2017), including the Trussell Trust own intervention known as 'Eat Well Spend Less' programme (The Trussell Trust, Undated.), aims to improve the quality of diet of its users by just improving the cooking skills (physical capability) and nutritional knowledge and budgeting skills (psychological capability). However, whether foodbank users in the UK lack such capabilities, alongside their opportunity and motivation to eat healthily remains unknown. Therefore, without exploring these drivers of

behaviour, interventions that target only one domain are at risk of targeting factors that may not enhance the dietary quality of foodbank users.

2.3 Aims of the research

The evidence presented in the Introduction (Chapter 1) and Literature Review (Chapter 2) highlights the scarcity of literature that aims to understand why people need to use foodbanks in the UK, and factors that may influence dietary quality in a low-income population. It is essential to understand this phenomenon and how the reasons identified from their referral could affect their dietary quality.

The review of factors that influence dietary quality highlight the complexity of understanding what influences people's diet and how to improve it. From the review, it can be seen that it is not enough to increase awareness of healthy eating. We also need to explore whether they have the physical and social opportunity that enables them to have a healthy diet. Understanding more about the different factors acting as barriers to healthy eating is important for improving the diet of this target population. Past research has suggested that food insecurity, which is highly prevalent in the foodbank setting, has a negative impact on diet, health and wellbeing, making it a serious public health threat in developed countries.

Whilst there is an extensive body of literature identifying the dietary quality of food aid users in other developed countries, little is known in the UK setting. No known literature that focuses on exploring factors that influence the diet of foodbank users who experience food crisis and food insecurity in the UK. This is important to understand to improve the diet and health of those coming to foodbanks. The best way to begin this process is to explore the lives of foodbank users in more detail, which allows a more detailed understanding of their lived experiences.

This programme of research has three broad aims:

Aim 1: To explore why people need to use foodbanks in the UK.

The first aim of this programme of research is to explore the drivers of foodbank use. The administrative data from the Trussell Trust Foodbank reveals that benefit-related problems (e.g. delays, changes and sanctions), low-income and unemployment were the top three reasons for referral to foodbanks. However, there was a lack of published research available exploring the drivers to foodbanks in the UK when this research began (April 2014). Understanding why people need to use foodbanks would be informative to explain how it could influence the dietary quality of its users. Studies 1-3 in this programme of research aim to uncover who uses foodbanks and why.

Aim 2: To understand the factors that influence the dietary quality of foodbank users.

The second aim is to explore what are the factors that influence the diet of foodbank users. Many factors are influencing one's diet such as environmental, psychological and social factors. Previous studies have explored factors that influence the quality of diet of low-income or low-socioeconomic groups. However, no known research has explored factors that influence the diets of those in a food crisis who use UK foodbanks. Evidence from other developed countries suggests that food aid users who are also food insecure have poorer dietary quality and are less likely to meet the dietary guidelines when being compared to the general population. However, it remains to be elucidated if such findings apply to UK foodbanks. Therefore, this programme of research aims to understand the factors that influence the dietary quality of foodbank users and the barriers and facilitators to fruit and vegetable consumption.

Aim 3: To identify recommendations from foodbank personnel on how to improve the quality of diet of foodbank users

The third aim of this PhD is to make recommendations as to what should be considered to improve the quality of diet of foodbank users. The final aim is expected to form a set of evidence-based recommendations on what needs to be done to improve the quality of diet of foodbank users to be used for future intervention development and to inform policymakers and community groups.

CHAPTER 3 Study 1: Why do people use foodbanks in the UK and what factors influence their dietary quality? A qualitative investigation

3.1 Introduction

Chapter 1 briefly reviewed the history of food insecurity in the UK and highlighted the rising use of foodbanks in the UK. Despite the richness of literature, presented in Chapter 2, from other developed countries on why people need to use foodbank, little is known about what influences the dietary quality of these users. Furthermore, there is no literature which focuses on exploring the factors that influence the diets of foodbank users in the UK and their experiences of managing food insecurity. There may also be barriers to consuming healthy foods (e.g. fruit and vegetables) that are specific to these groups which are not yet well understood. Therefore, Study 1 aims to:

1. Explore why people need to use foodbanks;
2. Explore the barriers and facilitators to a healthy diet, with a focus on fruit and vegetable consumption; and
3. Gain users' perspectives on the acceptability of incorporating fresh fruit and vegetables through foodbanks to improve the nutritional quality of the food parcels.

3.2 Methods

3.2.1 Design

This study employed a qualitative research design using a semi-structured interview. This approach was chosen to gain an in-depth understanding of what brought people to foodbanks, the perceived barriers and facilitators to a

healthy diet, and their views on the acceptability of incorporating fresh fruit and vegetables into foodbanks to improve the nutritional quality of the food parcel.

3.2.2 The rationale for semi-structured interviews

3.2.2.1 The contribution of qualitative research to health research

Dietary choice is a complex behaviour, which requires thoughtful science and research to understand the nature of what motivates people's food choices, and the social and environmental factors that act upon them (Kelly and Barker, 2016). In addition, capturing the complexity of recent adverse life events that bring people to use foodbanks, and how it impacts on them emotionally can also be challenging. Addressing health inequalities would require evidence-based information, most preferably using the information obtained from the target population. There was limited literature available on UK foodbanks when this study began in 2014, including a small qualitative study with foodbank users and managers (Lambie-Mumford, 2011; Lambie-Mumford, 2013), letters in medical journals highlighting the 'rising' use of foodbanks (Ashton *et al.*, 2014; Taylor-Robinson *et al.*, 2013), and a review of 'food aid' in the UK (Lambie-Mumford *et al.*, 2014b). Only a few of the UK foodbanks saw coverage in the media before 2013-2014, after which coverage increased dramatically (Wells and Caraher, 2014). However, none of these literature was sufficient to understand why people use foodbank and what were the dietary qualities of their attendees. One could argue that inference could be made from the research from other developed countries (e.g. Canada or the USA) where foodbanks are more well-established, and well-researched. However, the differences in social policy, welfare state provision and foodbanks operation in each country would limit their generalisability to the UK setting. It is also beyond the scope of this research to explore the policy implication of foodbanks and their use. Therefore, qualitative methods which offer flexible and explorative approaches were selected to initiate this project, and are

particularly useful when there is limited research that could be referred to (Pope *et al.*, 2002).

Qualitative research methods (e.g. interviews and focus groups) are increasingly being used in dietary research (Barker *et al.*, 2008), health inequality (Williams and Elliott, 2010) and intervention design (Tonkin-Crine *et al.*, 2011). Qualitative research is able to provide an in-depth analysis of meaning, feelings, beliefs and attitudes (Mays and Pope, 1995) in an open, and explorative manner which cannot be catered for in quantitative methods (Alderson, 1999). To illustrate, a quantitative study has consistently shown that food insecurity (i.e. inability to afford or obtain sufficient food) is highly prevalent in foodbank settings, which is associated with poor diet and low fruit and vegetable consumption (Hanson and Connor, 2014). However, quantitative methods cannot explain why such associations are observed, or explain why foodbank users made poor dietary choices. Surveys are also unable to capture users' journeys that lead them to need to use foodbanks, which literature from other countries have described the feeling and experience as complex, and multi-factorial (Tarasuk and Reynolds, 1999; Chilton and Booth, 2007; Tarasuk and Eakin, 2003; Hamelin *et al.*, 2002a).

For this programme of research, a semi-structured interview was selected due to its logistic superiority and suitability to explore sensitive research. This method was deemed a pragmatic way to collect data from a chaotic population that can be challenging to engage in research (Prayogo, 2013). Furthermore, food insecurity and foodbank use could be deemed as a private and sensitive issue which many may not wish to discuss in a group setting, further supporting the advantages of using interviews over focus groups (Kaplowitz, 2001; Kaplowitz and Hoehn, 2001).

3.2.2.2 Fundamentals of qualitative research

Qualitative research focuses on the narrative meaning rather than the numerical results. Therefore, it requires the researcher to 'think qualitatively' by

understanding and exploring the ways people conceptualise meaning (Braun and Clarke, 2006; Braun and Clarke, 2013). Qualitative research values subjectivity and reflexivity. For subjectivity, researchers and participants bring their knowledge, perspectives, values and beliefs (e.g. political, religious, cultural) into the research. This is where the researcher has to be critically reflective of his/her position, beliefs and values, which may influence the knowledge gained from the research. Reflexivity can be considered a quality control of qualitative methods, where the process begins on onset by keeping a research journal throughout the research process. This should contain details of the participants' expressions, surroundings, as well as the researcher's reflection on how the interview went. It is important this reflection is done continuously to improve the quality and approach of the next interview.

Furthermore, qualitative research aims to produce both detailed and holistic views of the phenomena under study (Coyne, 1997). It is also explorative rather than hypothesis testing, and the samples are therefore purposively selected to gain a range of views from the population of interest by age, gender, household types rather than randomly assigned (Pope *et al.*, 2002). There is no formula to determine sample size, but data collection should stop once thematic saturation is reached (i.e. the researcher no longer hears anything new) (Guest *et al.*, 2006; Bowen, 2008). This is why it is essential for the analysis and data collection to be done concurrently, so the researcher knows when data saturation has been reached. Just like quantitative research, qualitative research has a checklist for a publication known as the Consolidated criteria for Reporting Qualitative research (COREQ) (Tong *et al.*, 2007) which assesses the quality and validity of the research. The COREQ checklist guidelines assess three major domains: research team and reflexivity; study design; and analysis and findings. The differences in qualitative and quantitative research are adapted and summarised in Table 2 (Braun and Clarke, 2013).

Table 2 Comparison of the key features of qualitative and quantitative research methods

	Quantitative	**Qualitative**
Research aim	Predict, explain and describe	Discover, explore, identify
Research focus	The focus is on numbers and statistical analysis.	The focus is on words spoken or written as units of analysis Data is analysed in themes and descriptions. It is reported using the quotes of participants
Sample size	Large, mostly randomly selected sample size, relying on power calculations.	Small, purposively selected sample size, relying on thematic saturation
Analysis approach	Values are 'detached' and objective during analysis	Value is in personal experience, to promote reflexivity and subjectivity

3.2.2.3 Interview schedule

An interview schedule should be dominated by 'open-ended' questions, avoiding closed questions. The former generates a richer response, rather than 'yes' or 'no' answers. The interview schedule should contain sufficient prompts to guide the interviewees if they seem lost, but, the prompts should not be given excessively, as it might influence the response to the interview. Interview schedules should be piloted before use to check for coherence, timing and clarity of the questions. Researchers should critically review the schedule after the pilot to ensure they obtained the kind of data needed, and it should be treated as 'evolving' instead of fixed during data collection. The interview questions should be sequenced logically and clustered in the topic-based discussion. The interview should begin with easy and general questions as a 'warm-up' or use a funnelling technique, which moves from general to specific questions.

3.2.2.4 Conducting the interview

Qualitative research is interested in participant responses in detail, allowing them to use their own language to represent the topic under investigation. Thus, it is important to gain participant's consent for the interview to be recorded and transcribed verbatim (i.e. word for word). Making notes could lose the richness and details of participants' accounts, and it would be difficult to maintain a rapport if the researcher is busy writing notes instead of actively listening to what the participants say.

Building a rapport is important as it helps to generate 'rich' qualitative data by gaining the interviewee's trust and promotes openness. The interviewer should demonstrate interest, warmth and friendliness throughout the interview. This could be reflected in the interviewer's eye contact, body language (e.g. nodding) as well as assuring participants that they are being listened to with para-verbal communication (e.g. '*ah-ha*', '*mmm, 'uh-huh*'). It is advisable for researchers to memorise the interview schedule and have a clear sense of the overall purpose of the study. This will help in making on the spot decisions about whether the discussion is relevant or not. The interview should always end with a closing question, which allows participants to raise issues that are important to them but have yet to be covered in the interview. The location for the interview has to be selected to ensure both a participant and a researcher feel safe and comfortable with the arrangement. It is preferable to have a place that is quiet and private to obtain good quality data and maintain rapport.

Individual interviews can be draining and time-consuming for both participants and researchers. Therefore, it is essential to choose a mutually convenient time to do an interview. An interview could last between 30 minutes to a few hours as it includes: negotiating consent, having a pre- and post-interview conversation, and completing any additional questionnaires for the research. Therefore, it is recommended not to have more than one interview per day, as interviews require intense focus and the researcher may miss or mix up a point due to fatigue (Braun and Clarke, 2013). If the researchers are transcribing the

interview themselves, it is important to factor in the time needed between interviews, as it could take up to 10 hours to thoroughly transcribe a 1-hour interview (Braun and Clarke, 2013). It is therefore recommended that transcription should be done as soon as possible after the interview, as the conversation is still fresh in the interviewer's mind, and thus it would be easier to recall any unclear sentences. Transcribing alongside data collection also allows the researcher to reflect and adjust his/her interviewing style, which is pivotal for good qualitative research (Braun and Clarke, 2013).

3.2.3 Setting

This study was conducted in ten London foodbanks located in the boroughs of Richmond, Merton, Wandsworth, Islington, Barking, Greenwich, Lambeth (n=3) and Southwark.

3.2.4 Participants

Foodbank users were recruited from 10 foodbank distribution centres from November 2014 to February 2015. The main inclusion criteria were: adult aged 18 years old and above; holding a valid and in-date foodbank voucher; having sufficient English literacy; and was collecting food for themselves. If they come as a group, only the adult whose name was written on the foodbank voucher was invited to participate. The sample size was determined after thematic saturation was reached (i.e. when no new data is emerging during the interviews) (Guest *et al.*, 2006).

3.2.5 Materials

3.2.5.1 Demographic questionnaire

A socio-demographic questionnaire was used to gain information on participants' age, gender, marital status, types of accommodation, ethnic group, current benefits entitlement, household size and composition, and current employment status. Three foodbank-related questions were asked including; the primary reason for referral to the foodbank voucher, the name of the referral agency that issued the voucher, and the number of foodbank vouchers received in the past six months.

3.2.5.2 Household Food Security Module (HFSM)

The six-item United States Department of Agriculture (USDA) household food security scale was used to assess household food security in the last twelve months (Blumberg *et al.*, 1999). The questionnaire asks about food consumption, whether individuals can afford sufficient food or if they are anxious if the food will run out. The sum of affirmative responses to the six items was then used to classify a household as: high food security (score of 0-1); low food security (score of 2-4); or very low food security (score of 5-6).

3.2.5.3 Semi-structured interview schedule for foodbank users

The interview schedule was developed to explore the study aims, namely: 1) why they need to use foodbank; 2) barriers to a healthy diet, with a focus on fruit and vegetable intake, and 3) acceptability of improving access to fresh produce within foodbanks to improve the nutritional quality of the food parcels. Initially, thirty questions were developed for the interview schedule, of which 24 questions were developed using the Theoretical Domains Framework (TDF) as discussed in Chapter 2 to explore the barriers and facilitators to fruit and vegetable consumption.

As part of the interview, participants were asked to give feedback on two possible interventions that could be used to improve access to fruit and vegetable intake within foodbanks. Trials of these interventions have been conducted previously (in 2013) by the research team as part of a series of MSc projects separate to the current programme of research. These projects aimed to improve access to fresh fruit and vegetables in foodbanks by: a) giving a discounted 'freshwell voucher' that could be exchanged for fruit and vegetables in a local market (2013) and b) giving a 'fresh fruit and vegetable bag' containing an assortment of fresh fruit and vegetables in addition to regular foodbank provisions (2014 & 2015). This previous work showed that the 'Freshwell' voucher uptake (a) was very low (<25%). Those who returned for a follow-up cited the price of the fruit and vegetables, even at a discounted rate, coupled with the challenges to access the farmer's market stalls (i.e. cost of travel to the market) were the barriers to using the vouchers. Both approaches had the potential to improve fruit and vegetable intake in this population. However, the high attrition rate (up to 70%) made it difficult to gain participants' feedback on the intervention. Therefore, the participant was asked for their views' on the acceptability of these two approaches. The interview schedule was piloted with a convenience sample of work colleagues and friends to ensure coherence, the flow of the questions and potential timing of the interview.

3.2.5.4 Amendment to the interview schedule and focus of the interview with users

The first three interviews were transcribed, reflected upon and discussed with the research team. It was felt that questions relating to the barriers to fruit and vegetable consumption, which was originally the main focus of this study, were perceived to be of little importance given the participants' wider issues and circumstances. In addition, the wording of questions had some repetition given the theoretical framework used (TDF). It was felt that the initial interviews did

not obtain ‘rich’ enough data since participants were visibly bored and not interested in healthy diet discussions. Therefore, a pragmatic approach was taken to reduce the questions on fruit and vegetable consumption by regrouping the 24 questions constructed from the TDF into the simpler model of the Capability, Opportunity, Motivation, and Behaviour (COM-B) (Michie *et al.*, 2011) as described in Chapter 2. The main concept of the framework is that Capability (C), Opportunity (O), and Motivation (M) work synergistically to explain Behaviour (B). Using COM-B, the new interview schedule included 24 questions of which 11 of them focused on fruit and vegetables (Appendix B). The researcher and her research team felt that the new interview schedule improved the quality of the interviews, as evident by improvement in the duration of the interview, and the richness of the data obtained.

3.2.6 Procedure

3.2.6.1 Contacting London foodbank centres, recruitment and the interview process for foodbank users.

All London foodbank managers were invited to take part in the study. The London network manager of the Trussell Trust Foodbank sent a letter of invitation on behalf of the research team explaining the purpose of the study. This approach was recommended by the London network manager, as managers were overwhelmed with requests from researchers and students to conduct research locally after the heavy media coverage in 2013/14 (Wells and Caraher, 2014). After one month, ten foodbank distribution centres located in the London boroughs of Richmond, Merton, Wandsworth, Islington, Barking, Greenwich, Lambeth (N=3) and Southwark agreed to participate.

3.2.6.2 Conducting the Interview

Participants were opportunistically recruited to represent the wide range of different demographic groups amongst foodbank users (The Trussell Trust, 2016). Most of the interviews (16 out of 18 interviews) were conducted at the foodbank centres, which were deemed to be safe and welcoming environments for participants. Two interviews were conducted in coffee shops near to where the participants lived. Foodbank volunteers minded participants' children in the 'play area' to minimise any distraction during the interview. Most interviews (N=17) were conducted only with the presence of the researcher and participant. One participant requested to be accompanied by a family member.

Foodbank volunteers approached the potential interviewee was during a welcome session. The managers recommended such an approach, as most users were anxious upon arrival and more so if approached by non-foodbank member. If users were interested in taking part, they were referred to the researcher who explained the study in more details. Those who agreed to take part were given an information sheet explaining the purpose of the study (Appendix A), the reimbursement for their time (£15 in cash), the duration of the interview, and how the data acquired would be handled. The value of the incentive given is comparable to similar foodbank studies (Perry *et al.*, 2014). It was believed to be a sufficient recompense for the inconvenience of taking part in the study without clouding participants' judgments.

Participants were given the opportunity to ask any questions before deciding to take part in the study. They were also aware of their rights to decline to answer any questions and to withdraw at any point. Those who agreed to participate gave their signed consent and agreed that their quotes could be used using a pseudonym for the thesis and future dissemination. The interviews were conducted in a quiet corner or a room that had been allocated for the researcher. All interviews were audio-recorded. The study had approval from the UCL Research Ethics Committee (No: 4475/001).

3.2.6.3 Analysis Strategy

The recorded interviews were transcribed verbatim and a third party listened to the audio-tapes to check the accuracy of the transcripts. The transcripts were also read and re-read bearing in mind the aims of the study. The data were coded both inductively and deductively, using themes identified from the transcripts and a priori codes according to the COM-B framework, respectively. The coding frame was developed to address very specific questions: a) why people need to use the foodbank, b) what are the barriers and facilitators to fruit and vegetable consumption, and c) what users thought of the acceptability of including fresh foods within foodbanks.

The researcher thematically analysed the data using thematic analysis (Braun and Clarke, 2013), using a constant comparative method (i.e. newly collected data is compared with previous data) to compare and contrast any differences and similarities that may exist. In the data reduction stage, the identified codes and quotes from the transcript were pasted into a new Microsoft Excel document, with corresponding participant numbers, and the transcript line number. The narratives were then compared to find patterns in the data (Boyatzis, 1998). Under each theme, a brief description was written to define the theme and a verbatim quote was included to illustrate each theme. The data analysis was an iterative process and was conducted concurrently with data collection. This approach helped to identify issues or data that needed further enrichment (Silva and Fraga, 2012), whilst also being aware when 'thematic saturation' had been reached (Guest *et al.*, 2006). These codes were refined through discussions with the research team. The process involved collapsing and expanding codes into themes, charting, indexing and developing a thematic understanding of the data. The relationship between themes was summarised in a thematic map to illustrate the hypothetical pathway that was derived from the narratives. This map went through a series of iterations until the research team felt that it fully represented the data.

Twenty per cent of the transcripts were independently double coded using the finalised themes and sub-themes by A.C and E.P. The inter-rater reliability was high with 92.1% level of agreement reached (Cohen's kappa: 0.91). Any disagreements were resolved through discussion until an agreement was reached. Quotes from participants were presented to illustrate each theme. All quotes were presented and labelled with the participant's number, gender and age. A 32-item consolidated criterion for reporting qualitative studies (COREQ) was completed to meet the good reporting guidelines for qualitative research (Appendix D).

3.3 Results

Eighteen foodbank users were recruited from 10 foodbank distribution centres. More than half of the participants were women (55.6%), with a median age of 45 years old. Most were single (never married; 83.3%) and currently unemployed (83.3%). The most common reasons for foodbank referral were benefit-related problems such as delays in receiving payments (27.8%) and changes in entitlement (11.1%), followed by low-income (22.2%). Nearly half of foodbank users were attending for the first time (44%). All foodbank users were food insecure, of which 78% and 17% were classified as experiencing very low and low food security, respectively. The characteristics of the interviewees were summarised in Table 3.

Table 3 Sociodemographic status of foodbank users interviewed

Variables		Median (min-max) (N=18)
Age (years)		45 (28 – 66)
		N (%)
Gender	Men	8 (44.4)
	Women	10 (55.6)
Ethnicity	White	9 (59.0)
	Black	3 (16.7)
	Asian	3 (16.7)
	Mixed	3 (16.7)
Marital status	Single (never married)	15 (83.3)
	Divorced or separated	2 (11.1)
	Cohabitating	1 (5.6)
Household composition	Single man/woman	8 (44.4)
	Single parent	6 (33.3)
	Adults with children	1 (5.6)
	Adults without children	3 (16.7)
Employment status	Unemployed	15 (83.3)
	Part-time work	2 (11.1)
	Fully retired from work	1 (5.6)
Education level[a]	Low (<16 years)	9 (50.0)
	High (>16 years)	8 (44.4)
Primary reasons for referral to the foodbank as indicated by voucher partner	Benefit delays	5 (27.8)
	Low-income	4 (22.2)
	Benefit changes	2 (11.1)
	Unemployment	2 (11.1)
	Homelessness	2 (11.1)
	Others	3 (16.7)
Total no. of voucher received in the last six months	1	8 (44.4)
	2	6 (33.3)
	3	2 (11.1)
	4 or more	2 (11.1)
Household Food Security Classification[a]	Very low food security	14 (77.8)
	Low food security	3 (16.7)

[a] Missing data = 1

The interviews aimed to understand why people needed to use a foodbank, what their barriers and facilitators to a healthy diet were, and to gain insight on improving the nutritional quality of foodbank provision through incorporating fresh foods in foodbank parcels. The duration of the interviews ranged from 31 minutes to 140 minutes.

The thematic analysis suggests that people come to foodbanks because of an income crisis, due to unexpected adverse life events that happened on top of ongoing financial strains. We identified four themes on how income crisis influenced foodbank users' diets, namely: 1) coping strategies to maintain food sufficiency, 2) lack of social support, 3) lack of access to food preparation and chilled food storage and 4) competing expenditures (Figure 4). Participants described their current diet as 'poor' and being monotonous, insufficient and having a lack of fresh fruit and vegetables. They also spoke about the impact of changes in their food intake on their health. Using COM-B as a framework for interpreting the data, lack of opportunity (physical and social) was identified as the major barrier to fruit and vegetable consumption; participants exhibited good motivation to eat fruit and vegetables and the capability (knowledge and cooking skills) to prepare healthy food.

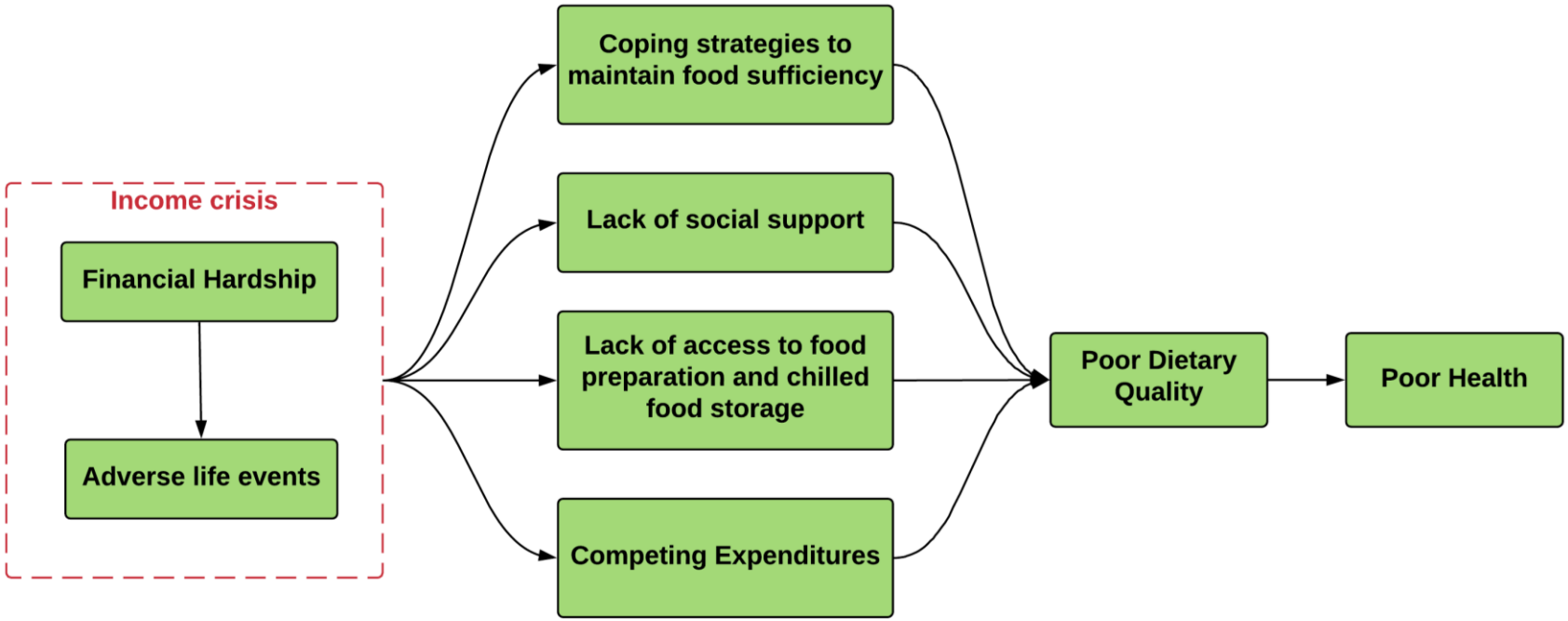

Figure 4 A thematic map depicting the relationship between the income crisis and the factors that influence foodbank users' quality of diet.

3.3.1 The cause of ‘income crisis'

Income crisis was identified as the underlying reason why people need to use foodbank. The interpretation from the analysis suggests that income crisis is a state where participants experience a significant reduction or total loss of income due to unexpected adverse life events and expenses that occurred on top of ongoing financial strains.

3.3.1.1 Adverse life events

Participants mentioned a wide range of identifiable adverse life events that precipitate foodbank visits. The events can be broadly classified as a financial shock (e.g. job loss, welfare benefit-related problem, unexpected large expenses or bills), or personal events (e.g. relationship breakdown, bereavement or illness). These life events could lead to income crisis through a total loss of income (e.g. benefit delays, unemployment) or additional costs incurred as a result of the adverse events such as domestic abuse:

“*I have to phone the 0800 number trying to get away from the abuse of an ex-partner, my phone bills were like £192… I am currently living at [outside of the borough] in an emergency accommodation, like I said it is a long trip to get to school, I do not have any money to buy food because another thing that has to come first such as taking my children to school which cost me £70 to 80 pounds/week.”* **ID 2, 28 years old, single woman, two children.**

The benefit-related problems experienced by foodbank users included being sanctioned for not meeting the conditions required to continue receiving benefits, or delays in the processing stage before entering the benefits system. Only two interviewees mentioned that they received the ‘reduced’ amount of benefit that they were entitled to whilst sanctioned, whereas the rest were left without any money:

"I get nothing for two weeks then after two weeks, I will get 40% of what I normally get." **ID 16, Male, 54 years old, a single man, no children.**

Single adults without children were particularly vulnerable to destitution whilst experiencing benefit-related problems. For this group, if they lost their main out-of-work benefits, they would also lose the other means-tested benefits (e.g. housing benefit or council tax benefit). In contrast, those with children could rely on their 'add-on' benefits such as child benefit and child tax credit to cushion the loss of income from the main out-of-work benefits. Even so, participants highlighted that the amount of the '*add-on'* benefits were very low compared to the main out-of-work benefits, which left them with nothing for food after paying for other expenses. To illustrate, the narrative of the participants below show the contrasting effect of benefit-related problems for a single person (ID 11) and parents (ID 13), respectively:

"They stopped the benefits on 19th of December, and today is 21st [January]. So I have been living without. All they could do for me is to give me a voucher... to get some food while I wait." **ID 11, 49 years old single man, no children.**

"During the 6-weeks [of benefits sanction] I wasn't receiving my ESA benefits[2], so we were just living off child benefits and tax credit, [but] I have to pay my gas and electric bill, some of it has to go towards a bit of food... I don't have any money to pay for anything else". **ID 13, 33 years old, single woman, two children.**

[2] Employment Support Allowance (ESA) is a welfare benefit for those who are unable to work due to long-term illness and disability.

Some participants reported experiencing poor health which were linked to other adverse life events (e.g. job loss, relationship breakdown), which could lead to or aggravate the pre-existing financial strains:

"I had a gas explosion, and burned in the fire pretty badly, I was in a coma for a week… [As a carpenter] It is all very heavy work which I used to be able to do, but because of my injury, I can't do it, so the money has been very erratic… It makes you feel absolutely worthless, especially when someone offers me work and I can't do it, as I got the children" **ID 10, 44 years old divorced man, four children.**

3.3.1.2 Financial strain

Most of the interviewees indicated that they were financially strained due to unemployment or being in precarious employment. Many wished to return to work, however, ill health or a substantial caring responsibility prevented them from doing so. For parents, they were unable to afford childcare, thus they had to reduce their working hours or quit their job completely. Most participants were receiving out-of-work benefits at the time of the study, which made it difficult to make ends meet despite meticulous budgeting. Those in unstable and low-paid employment found themselves feeling that they were not much better off at work. Yet this group felt that their earnings were not sufficiently low enough to entitle them to receive state help such as free school meals:

"*I can't afford anymore school dinner, and I don't get free [school meal] because they said that I work… Sometimes you give up work and get everything free that will be better. But, I don't want to give up my job [as a nurse], I work there for more than 17 years."* **ID 12, 45 years old woman, separated, three children**

3.3.2 What are the factors that influence foodbank users' quality of diet?

The income crisis seemed to lead to the adoption of coping strategies to maintain food sufficiency, one of which is to attend a foodbank. These coping strategies combined with lack of social support, lack of facilities to cook and store food and competition for resources from other necessary expenses compromise foodbank users' quality of diet as can be seen in the visual representation in Figure 4. The following present evidence for these themes:

3.3.2.1 Coping Strategies to Maintain Food Sufficiency

Participants shared various coping strategies employed to maintain food sufficiency. Prioritising quantity over quality during food shopping and eating was a commonly adopted strategy, but one which clearly led to reductions in participants' quality of diet. For instance, buying foods that are cheap and filling (e.g. frozen chips, bread) was made a priority whereas buying fresh produce was deliberately avoided as it was felt to be an unaffordable luxury at a time of crisis:

"Normally I have chips once a week, or once every fortnight. But when you are not working, you tend to have them every day... which is not good for you but it is cheaper" **ID 16, 54 years old single man, no children.**

Participants would reduce the size of a meal or go without food for days which led to a dramatic loss in weight due to the severity of food insecurity. Those with children were anxious about running out of food, and would only eat their children's leftovers. Parents in the interview shared that they would give up their meals to protect their children from hunger. However, during the most difficult times, there is even a discussion of child hunger:

"Whatever's leftover that she doesn't want [to eat]. Very unlikely I have a plate of food for myself" **ID 17, 29 years old single woman, one 1 child**

"*I lost over 16 stone in a year and a half. I am just not eating… I didn't eat for two days before the foodbank opened… Sometimes I eat twice a week*" **ID 10, 44 years old divorced man with four children.**

"One of the children [at school] said that she wolfed her lunch down like an animal, which made her quite self-conscious as people were pointing it out, noticing that she was hungry" **ID 13, 33 years old, single woman with two children**

3.3.2.2 Lack of Social Support

Participants felt that social support was an important factor to maintain a good diet. Participants shared that the support from their social circle is crucial to maintaining food sufficiency and getting extra non-food help. Participants elaborated that they would seek help from their social circle such as friends or family before foodbank visits. They often ran out of people to turn to in times of need, which negatively affected their dietary quality:

"I can go to my friend at about five o'clock and they always offer me a bit of dinner or my mom. But, when there are five of you, you can't do that". **ID 10, 44 years old, divorced man with 4 children**

For lone parents, there was little to no mention of support from the absent parent:

"I tried to contact their father, I texted him but no response. He doesn't want to pay for the maintenance." **Participant 12, 45 years old woman, separated with three children**

3.3.2.3 Lack of cooking and fresh food storage facilities

Some interviewees reported having limited access to cooking and fresh food storage facilities due to homelessness. Others felt that fixing broken cooking appliances was not a priority given the current financial circumstances. Cooking time was perceived as problematic for those who lived in a homeless shelter or shared temporary accommodation. Participants with children found it challenging to cook in the shared kitchen. Thus, they had to rely on easy to prepare meals (e.g. pot noodle, frozen meals) or buying non-perishable food items to mitigate the lack of chilled storage facilities and cooking facilities, which made it challenging to maintain a good quality diet:

"I am in shared facilities [women refuge hostel] and I'm not allowed to leave the children in the room on their own. So, they have to come into the kitchen with me and standing for 40 minutes while I am cooking… I don't have the time to cook with proper fruit and vegetables … So, I just do what's quick and easy, which is usually noodles and stuff like that, for a ready meal" **ID 2, 28 years old, single woman, two children.**

Homeless users were not allowed to access kitchen facilities, thus they had to rely on the shelter food, which was predominantly unhealthy and highly processed foods:

"Currently I am living in the shelter 3 days a week, and 3 days I have to stay in the park. In the shelter, they got a kitchen, but we are not allowed to use it. So they cooked the pie, chicken, fried chicken, some chips" **ID 1, 64 years old man, divorced, no children.**

3.3.2.4 Competing expenditures

Participants reported that income crisis made it challenging to prioritise paying for essential expenses. The interviewees mentioned that rent and bills would be paid first, and that food expenditure is something they could cut back:

"I have to pay gas and electric first, then [it would be] bills, travel, food would be [the] last" **ID 16, 54 years old single man, no children.**

Some seasonal expenses were mentioned such as larger than usual heating bills, children's meals and Christmas presents. Parents highlighted that the absence of free school meals during school holidays added more pressure on the family budget, which they found stressful to make ends meet:

"School holiday was a really hard time. I can give them a proper meal, and two minutes later, they go like "I am hungry", and I was like "I got no food to give you, and I know you are hungry"…it is actually quite disheartening you can't give the food your child needs" **ID 2, 28 years old, single woman, two children.**

The discussion on 'heat or eat' trade-off was commonly discussed with most interviewees choosing to eat rather than to heat. Participants shared that lack of heating can be substituted by wearing an extra layer of clothes indoors. However, those with chronic illnesses found choosing whether to 'heat or eat' difficult, as both were equally important for the maintenance of their health. In desperate times, however, some were forced to pick one:

"If I don't have any gas my health [diabetes] deteriorates… In those months, you are very short because you're considering whether to put your money on your food or gas. To me, I prefer to be kept warm." **ID 7, 60 years old single man, no children.**

Two participants acknowledged that income crisis forced them to refocus their spending priorities. Both decided to stop smoking and not getting takeaway meals so they could afford to pay for the essential items:

"I used to order a lot of takeaways when I have money, but I can't afford it now." **ID 9, 66 years old, a single man, without children**.

3.3.3 Barriers and facilitators to fruit and vegetable consumption: Linking to the Capability, Opportunity and Motivation (COM-B) model of behaviour

3.3.3.1 Capability: Physical and Psychological

Participants exhibited good physical and psychological capability in relation to fruit and vegetable consumption. Physical capability involves the skills required to prepare a healthy and nutritious meal and psychological capability includes knowledge of healthful foods alongside resourcefulness in food shopping, meal planning and managing their budget. Participants shared that they would cook in bulk, and freeze any leftover foods to minimise waste. Many aspired to provide healthy and balanced meals should resources permit:

"I go to the market to get frozen fruits… I'd look for the cheapest value one… I am a very confident cook, that's my favourite thing at home… When I have [fruit and vegetables] I feel like I am doing a good thing for myself and my family, encouraging them to eat healthily". **ID 15, 31 years old single woman, two children**

However, participants felt that day-to-day planning was seen to be a stressful and time-consuming task, especially when there are children involved. Yet,

they also highlighted that being spontaneous or disorganised could be catastrophic to their finances:

"*It is very time consuming, it is hard work... if you don't plan, you can't afford to live… I've done it when I don't plan for the day, and that's when I find myself spiralling out of control and not being able to pay my bills and pay for food"* **ID 17, 29 years old single woman, 1 child**

3.3.3.2 Opportunity: Physical and Social

The lack of physical opportunity was highlighted as a major barrier to fruit and vegetable consumption. During a crisis, participants felt that buying fruit and vegetables was an unaffordable luxury. Significant loss of income also meant that meeting energy requirements at the lowest cost was prioritised instead of healthy, yet expensive foods such as fruit and vegetables. Some felt that lack of money as opposed to cost was the barrier to fruit and vegetable consumption. Thus, improving their finances such as resolving benefit-related issues, gaining employment, and increasing the minimum wage or the value of Healthy Start[3] vouchers were deemed to be facilitators to a healthier diet:

"Money, that's it!! I love fruit and veg... [they] don't cost that much but when you don't have anything, you can't buy it" **ID 3, 48 years old man, cohabitating, 5 children**

"If they could give a little bit more [value of Healthy Start voucher], so we can get more vegs on it. It takes a good £10 off your shopping list when you put your fresh vegs and fruit." **ID 17, 29 years old single woman, 1 child**

[3] The healthy start scheme is a benefit which gives a £3.10 per week voucher to buy fruit, vegetables or milk, the scheme is targeted at the low-income family with young children under the age of 4 years-old).

A lack of social opportunity, linked to social support and the ability to visit friends and family at mealtimes, was also a major barrier to being able to consume fresh fruit and vegetables. Those who relied on others for extra foods also limited the types of food being provided to them which had an impact on their food choice:

"*My sister is diabetic, so she eats a lot of vegetables… my mom is totally different, she doesn't have any health condition, she is obese, so she will eat cake until 9 o'clock at night. I feel when I go there… I don't think I eat as healthy as I think should…so social situation has an impact.*" **ID 2, 28 years old, single woman, two children.**

3.3.3.3 Motivation: Reflective and Automatic

Participants were highly motivated when it came to fruit and vegetable consumption. This motivation was demonstrated through positive beliefs about the consequences of consuming fruit and vegetables. Parents felt that providing fruit and vegetables was part of their duties of being good and responsible parents:

"If you got fresh fruit and you're just grateful, you know, you feel [like a] mum again, you feel responsible" **ID 6, 39 years old, single woman,2 children.**

Participants were able to link the improvements in their mood and energy levels due to fruit and vegetable consumption, which motivated them to consume more:

"If you are having those fruit and vegetables and the salad and stuff, you feel more energetic, you feel more alive." **ID14, 51 years old, single woman with adult children.**

Participants discussed that their motivation to habitually consuming fruit and vegetables, and their keenness on preparing healthy meals from scratch were instilled from their previous generation. They aspire to pass the same message to their children. There was a consensus that parents do not have any difficulties persuading their children to eat fruit and vegetables:

"I have a box of sweets I've been given for Christmas that can stay for a year at home... my kids don't eat sweets, they eat fruits… but I can't afford it" **ID 12, 45 years old woman, separated with three children**

There was an indication that the lack of physical opportunity seems to affect participants' reflective motivation. Participants perceived consuming '5 a day' of fruit and vegetables as "out of reach" during a time of crisis:

"[Having '5 a day' is] a good thing but it is a costly thing for people like me" **ID 1, 64 years old man, divorced, single without children.**

Linking the findings to the COM-B model it can be seen that despite participants perceived their diet as poor, insufficient and lacking fruit and vegetables, they demonstrated good motivation to eat well. They also showed a good level of nutritional knowledge and cooking ability (capability). However, the lack of physical opportunity such as money or access to cooking facilities, and social opportunities such as support and extra help from their social circle were the major barriers to a healthy diet. These barriers impacted participants' reflective motivation such that they would deliberately not purchase fruit and vegetables to 'stretch' their food budget for longer.

3.3.3.4 The relationship between poor diet and poor health

Participants perceived their diet as poor, insufficient, and lacking in fresh fruit and vegetables. They elaborated on how a poor diet has a negative impact on their physical and psychological health. Those with pre-existing health

conditions and disabilities elaborated how their poor diet has a debilitating impact on their health:

"When I am not eating properly, my diabetes makes me feel very ill, and I've been in intensive care five [times] in the last year for not eating properly.. because I am not eating, I can't take my painkillers and insulin, if I do not take insulin I get ill."" **ID 10, 44 years old divorced man with four children.**

"*I was anaemic because I wasn't eating the right food, that makes me feel quite weak and tired all the time…I drink a lot of water in between when I take medication, so I don't feel too drowsy and collapse… I don't have the choice because as I said I have to live for the children"* **ID 15, 31 years old single woman with two children**

3.3.4 Exploring the acceptability of a future intervention to improve access to fresh foods in foodbanks

Most participants were grateful and satisfied with the foods given by foodbanks. Those with chronic health problems (e.g. diabetes) felt that foodbanks were an important nutritional 'safety net' to maintain their health:

"[The food] helped me because my health was deteriorating and my health problem was arising due to not eating in time… [the food] is very good, and they are very careful how they give it" **ID 1, 64 years old, divorced, a single man without children.**

However, some parents found it challenging to persuade their children to eat what was given by foodbanks, which created tension in the household:

"*My partner [and I] would eat whatever, but, the children are finicky, they do not understand the situation that we are in… if you give them a tin of*

tomatoes, a tin of green beans, they are not gonna eat it" **ID 3, 48 years old man, cohabitating with 5 children**

The most requested fresh foods were bread, fruit and vegetables, these were felt as unaffordable essentials at times of crisis:

"[I got] 6 tins of beans, 4 tins of tomatoes, but I got nothing to go with it, bread would be very handy from the foodbank… I have to send them to school and all they got to eat is cold Christmas pudding, I tried to give them [baked] beans but there's no toast.." **ID 10, 44 years old, divorced man with 4 children**

3.4 Discussion

3.4.1 Summary of the findings

Benefit-related problems such as delays and changes were the most common reasons for referral to the foodbanks. However, the primary reason indicated on the foodbank vouchers did not capture the complexity of the users' circumstances prior to their visit to the foodbank. A thematic analysis suggests that people come to foodbanks because of 'income crisis' where users' experienced a significant reduction or total loss of income due to unexpected adverse life events (e.g. financial shock, relationship breakdown, illness) that happen on top of ongoing financial strains. In households where budgets are already marginal, income crisis can lead to the adoption of coping strategies to maintain food sufficiency which range from reducing the size of a meal to going without food for days. These coping strategies combined with a lack of social support, lack of facilities to cook and store food and a competition for resources from other necessary expenses compromise their quality of diet. Drawing from the COM-B model of behaviour, the key barrier to obtaining a quality diet during this time was lack of a physical opportunity. While having the motivation (i.e. aspiration to eat well) and capability (i.e. knowledge of the benefits of healthy eating and cooking ability) seemed to be

present, the opportunity to eat well (governed by lack of money to buy food and facilities to store and cook healthful food) was limited.

Participants also spoke about the impact of a poor diet on their health and described their current diet as being unvaried and insufficient in quantity. Negative changes in their diet and food intake impacts them both physically (e.g. worsening of pre-existing medical conditions) and psychologically (e.g. anxiety, feeling ashamed, and failing their parental responsibilities). Foodbank users welcomed the suggestion of additional fresh foods within their food parcels. This addition would boost their overall diet, complement the current food given, and allow more balanced meals to be made from the parcels.

3.4.2 Why do people use foodbanks?

Benefit-related problems were the most common reason for foodbank referral, which is in agreement with the Trussell Trust statistics in 2015/16 (The Trussell Trust, 2016). Furthermore, interviews suggest that users were experiencing income crisis at the time of referral, which is in agreement with other UK literature (Fitzpatrick *et al.*, 2016; Perry *et al.*, 2014). Welfare benefits were the primary source of income for foodbank users, which only covers up to 60% of Minimum Income Standard (MIS) needed to live in London (Padley *et al.*, 2015). Therefore, savings for emergencies and unexpected events might be unlikely, which puts households lacking liquid assets on the brink of crisis (Gundersen and Gruber, 2001).

From the interviews, it was evident that most of the participants were not receiving any financial support whilst experiencing benefit-related problems. This was surprising as claimants are entitled to 'reduced' benefits whilst being sanctioned (Department for Work and Pension, 2014) or access to advanced benefits payments which are like a loan that should be paid back once claimants' receive their benefits (Department for Work and Pension, 2017). Such payments are available to ensure claimants would not fall into

destitution, yet low awareness of the scheme has also been reported by others (Perry *et al.*, 2014; Chapman, 2017).

The discussion on how ill health could lead to income crisis or *vice versa* was discussed. The latter scenario was due to loss or limited capability to undertake employment, and the extra costs associated with managing long-term illness and disability, such as transport, and extra heating bills. Therefore, making ends meet was increasingly challenging for those with poor health, which mirrored the experience of foodbanks users in the North-East England UK on negotiating ill health and income crisis (Perry *et al.*, 2014; Garthwaite *et al.*, 2015) and the UK low-income households in the UK (Hill *et al.*, 2016).

Furthermore, income crisis could lead to poor psychological health. Parents interviewed felt like failures, plagued with the anxiety of not being able to provide sufficient food for their children. Similar narratives were reported amongst those living below the MIS (Fitzpatrick *et al.*, 2016; Hill *et al.*, 2016).

3.4.3 What are the factors that influence users' dietary quality and act as barriers to fruit and vegetable consumption?

This study identified a cluster of interrelated factors that bring people to foodbanks, alongside social and environmental factors that may influence dietary quality. Our participants' descriptions of their diets mirrored the narratives of food insecure households in other developed countries. They would describe their diet as monotonous, unbalanced, and insufficient (Chilton and Booth, 2007; Hamelin *et al.*, 2002a). Most participants were severely food insecure, as evidenced by discussions on child hunger which only emerge under the most severe food insecurity (McIntyre *et al.*, 2012). Food insecurity has an adverse impact on dietary quality. In the mildest form, households would be anxious on running out of money to buy food and would change the types of food bought (Drewnowski and Darmon, 2005;

Drewnowski and Specter, 2004). However, for those severely food insecure, trading down might not be an option, as there will be a shift in how households prioritise their budget, of which to pay for the most basic needs (e.g. housing, sufficient food or children-related expenses) before getting the extra items which are perceived to be luxuries (e.g. fruit and vegetables). Such prioritisation was also reported by other UK findings whereby households would perceive modest and inexpensive treats (e.g. fruit for snacks) as 'luxury' and unaffordable (Hill *et al.*, 2016). Such observations were also reported by narratives from Canadian (Hamelin *et al.*, 2002a), Scandinavian (Nielsen *et al.*, 2015) and American (Quandt *et al.*, 2006) studies.

There was no evidence of lack of cooking skills, nutritional knowledge or budgeting which could be implicated in poor diets amongst foodbank users. Such observation mirrored past research with UK low-income populations (Tarasuk, 2001a; Dowler and Calvert, 1995; Dowler, 1997), and foodbank users in Scotland (Douglas *et al.*, 2015). The studies highlighted that having good physical and psychological capability during income crisis can only go so far, which might explain why an intervention that aims to enhance cooking skills or nutritional knowledge only show short-term improvements in one's diet that are not sustained after follow up (Caspi *et al.*, 2017). It is plausible that participants would revert to previous cooking and eating habits when faced with a lack of money.

Juggling competing expenses was frequently discussed by the interviewees, which were also identified as a pivotal strategy on managing a budget for low-income household (Hill *et al.*, 2016). Our participants prided themselves on finding the best deals, planning their food shopping and preparation, and not being wasteful, which is similar to other findings (Hill *et al.*, 2016; Tarasuk, 2001c; Hamelin *et al.*, 2002a). However, our participants were clearly at the limit of being able to manage these competing expenses, and healthy food such as fruit and vegetables was something they felt they had to swap for a cheaper substitute (Andreyeva *et al.*, 2010). Low-income groups already

spend a larger proportion of their income on food than those with higher income, thus they find it difficult to juggle between affording a healthy diet and other household expenses (Brown *et al.*, 2017).

Participants' experiences of social support confirmed that it plays an important role in maintaining a good quality of diet. Social support has been recognised as pivotal for those managing on a low budget (Hill *et al.*, 2016). It provides extra resources such as material (e.g. borrowing extra money or getting extra foods) or practical (e.g. childcare) help which could transform work opportunities and boost one's disposable income to achieve a better diet. However, the participants perceived themselves as lacking social support. It is plausible that this could be due to a high proportion of single adults and single parents being interviewed, as these groups are reported as having lower social support than other group (Lipman *et al.*, 1997).

Our findings of the problem of accessing cooking facilities and chilled food storage were in agreement with others (Douglas *et al.*, 2015). Some of our participants were homeless, thus cooking could be problematic in shared or temporary accommodation. Participants feared they could not store their fresh foods in communal fridges securely and lacked access to kitchen facilities to prepare fresh and nutritious meals. These physical barriers mean households would rely more on non-perishable foods or ready meals to cope with lack of access to cooking and chilled food storage, which was also reported by other studies looking at those living in homeless hostels in the UK (Pennington and Garvie, 2016; Share and Hennessy, 2017).

3.4.4 Strengths and limitations of the study

There are some study limitations to be acknowledged. Firstly, it is a small qualitative study conducted at foodbanks in London, England. Therefore, participants' views are not necessarily representative of those of the whole population of interest. It is acknowledged that the findings presented here represent one possible interpretation of the data. Different researchers may

identify different themes and produce different thematic representations, which are partly influenced by their backgrounds and experiences. However, we believe that the details of the methodology provided, the rigorous method taken and the quotes chosen to illustrate the themes will convince the reader of the value of this particular interpretation of the data.

Despite these limitations, this qualitative inquiry provides rich, detailed descriptions of participants' lived experiences prior to their foodbank visit. This data captures the complexity of interrelated circumstances and life experiences leading to income crises, which is unattainable through structured surveys or foodbank statistics (The Trussell Trust, 2016). This research contributes to the limited body of literature on the health and dietary quality of UK foodbank users (Garthwaite *et al.*, 2015; Perry *et al.*, 2014; Douglas *et al.*, 2015). Through this qualitative inquiry, it has been identified that the consumption of fruit and vegetable was perceived as a distant aspiration for foodbank users who were severely food insecure. Thus, although the initial aim of the study to identify barriers to fruit and vegetable consumption was not entirely met, it was an important discovery to refocus this line of inquiry in this programme of research in the subsequent studies. This study also generated some hypotheses about the relationships between the factors that lead to income crises and the quality of diet of foodbank users. These relationships are depicted in the thematic map (Figure 4) and each of the associations deduced proved amenable to testing with interviews foodbank personnel, and the quantitative testing in Study 2 and Study 3, respectively.

3.4.5 Reflection on using qualitative research

In qualitative research, being reflective requires the researcher to question the methods used, and reflect on the process of data collection (Koch and Harrington, 1998). This section will discuss and reflect on the experience of

using qualitative methods, and how the difficulties encountered were overcome.

This was the first qualitative piece of work I had undertaken, so it was a learning experience. I had attended one day of training within UCL and read literature on the best practice and process involved in qualitative research (Braun and Clarke, 2006; Braun and Clarke, 2013; Patton, 2002). I had also piloted the interview schedule before data collection. However, unforeseen challenges arose during data collection. For example, I noticed that as the first three interviews progressed, my participants looked visibly bored, irritated, and disengaged. This is where it is important to be reflective while undertaking data collection, transcription and data analysis as suggested in the literature (Braun and Clarke, 2013). Through reflection, it became clear that the schedules of earlier interviews focused too much on exploring the barriers to fruit and vegetable intake. Yet, my participants perceived the topic as having little relevance in their circumstances. Therefore, our research team felt that it was a pragmatic decision to explore the barriers to fruit and vegetable intake using a more condensed model of behaviour, the COM-B model instead of the original and longer TDF framework. The changes resulted in fewer questions exploring fruit and vegetables, I also felt less pressured to go through all the questions, which made it easier to build trust and rapport with participants.

I am aware that my experiences, background and beliefs could have shaped how I did my data collection and the analysis differently. Outside of my PhD research, I am a volunteer in a local foodbank. Other UK researchers have shown that being a volunteer can help in research because it aids the researcher in building rapport and in gaining participants' trust (Garthwaite, 2016). However, one of my research aims was to understand how users felt about using foodbanks and their feedbacks on the current food provision. Thus, it is important that I presented myself differently from a foodbank volunteer. I deliberately did not use identifiers such as nametag, or foodbank uniform which are reserved for the volunteers. I also carried myself differently

from the volunteers, namely: displaying minimum emotion and reaction to what was shared by participants, and trying to help or signpost participants only after the interview had ended. Two of the interviews were conducted in a coffee shop near where participants lived. It was not felt that conducting the interviews outside of foodbanks had an impact on data quality. This was evident from the duration of both interviews (40 and 120 minutes) which were comparable in duration to the other 16 interviews.

Exploring sensitive topics such as the experience of income crisis, or managing food insecurity can be upsetting to both users and researchers. I followed all precautionary steps and ethical considerations. At a minimum, I portrayed a non-judgmental attitude throughout the interview. I made sure that participants were made aware that they were free to refuse to answer any questions that were too upsetting, or offered a break if they looked visibly upset. For instance, I noticed that parents tend to be emotional when discussing the impact of income crisis and food insecurity to their children. Listening to such stories had an impact on myself, as I had to '*enter the lives of others'* at a time of crisis and ask my participants to recall these experiences (Dickson-Swift *et al.*, 2007). I often finished an interview feeling a mixture of emotions ranging from privileged, grateful, angry, or drained, as *'collecting data can break one's heart' (Rager, 2005).* At first, I was culturally perplexed to witness strangers, especially men, became emotional during the interview (Davis *et al.*, 2012; Bond, 1993). It was also upsetting to witness a participant with visible signs of domestic abuse, but I had to maintain my neutrality during the interview and not to probe unless participants disclosed such information voluntarily.

To avoid feeling overwhelmed, I paced the interviews to not doing more than one interview per day. Therefore, I was able to 'let go' of some of the information and have space to validate the emotional thoughts accompanying these narratives, which was also recommended by others (Beale *et al.*, 2004). Breaks also helped me in keeping up with transcription while details can still

be recalled easily after the interview. Peer debriefing with the supervisory team was important, as not only was I able to share the emotional challenges encountered, but it also provided an opportunity to receive support and feedback on my performance which is integral for a new researcher undertaking sensitive research (Dickson-Swift, 2008).

Despite the challenges encountered, it was a privilege to know that participants were comfortable and trusted me during the interviews. They are willing to share the intimate details of their lives which were not shared with others:

"*If my ex-partner knows that I am struggling this bad**,** she won't let me see the children**,** because she's very money oriented… I won't talk with anyone about it**,***I am only talking to you like this because you do this interview....because people like you, go helping people like me**,** if I can pay back in any way I can, I would*" **ID 10, 44 years old divorced man, four children.**

The participants' openness during interviews benefitted both of us. I gained an insight into their predicament whilst participants often found the experience cathartic:

"*if it wasn't for foodbank, and the lady I am speaking to right now, maybe yesterday would have been an awful day for me, having to speak to people like that, make you feel so much better*" **ID 17, 29 years old single woman, one 1 child**

Other researchers have reported on this phenomenon (Birch and Miller, 2000). Some participants even offered to be contacted again if our group ever needed further information, a few of whom were invited to speak at a public engagement event (Prayogo *et al.*, 2015). I believe that hearing from those with living experiences of income crisis, and how it affected their health and quality of diet was an impactful way to communicate the issue.

3.5 Conclusion

Most foodbank users were food insecure, and described their diet as poor, insufficient, lacking variety and lacking fresh fruit and vegetables. However, there was no indication that foodbank users lacked nutritional knowledge, cooking skills, or budgeting which could impact their diet. Participants demonstrated a great deal of resourcefulness to prepare healthy meals and enjoyment in cooking despite being financially restrained. There was an obvious priority for foodbank users, first to eat food, and second, to eat food that confers a special health benefit, like fresh fruit and vegetables. A series of social and environmental factors that could affect dietary quality were identified. These findings will be validated further qualitatively with the foodbank personnel as 'experts' in Chapter 4 (Study 2: Interview with foodbank personnel) and quantitative testing in Chapter 5 (Study 3: A Cross-sectional survey on dietary quality of foodbank users). This study also discovered that the users would welcome the addition of fresh foods such as bread, fruit and vegetables alongside regular, non-perishable food provision. In the next chapter, qualitative findings obtained from the users will be compared with foodbank personnel who are the 'experts' due to their extensive experience in the front line. The process will help us to validate the findings obtained and identify other factors that lead people to use foodbanks and may influence their quality of diet, which might otherwise remain uncaptured in this study. It will also gain foodbank personnel's views on how to improve the dietary quality of foodbank users, through exploring the acceptability and feasibility of improving access to fruit and vegetables in foodbanks.

CHAPTER 4 Study 2: Exploring how to improve the dietary quality of foodbank users - interviews with foodbank personnel

4.1 Introduction

In Chapter 3, benefit-related problems such as delays and changes in entitlement were found to be the most common reasons for referrals to foodbanks. However, a deeper exploration of why participants needed to use foodbanks suggested that the primary cause of crisis cited in foodbank voucher was insufficient to capture the complexity of their circumstances that led them to experience income crisis. Income crisis was caused by an unexpected life event that happened on top of ongoing financial strains. The unexpected life event was frequently the tipping point that led to foodbank referral, as it resulted in a significant reduction or total loss of income.

Study 1 findings have been invaluable in gaining qualitative insight into why people need to use foodbanks and the factors that influence their diet. The themes identified need to be validated against other sources to enhance the validity of the findings (Patton, 1999; Flick *et al.*, 2004). Foodbank users responded positively on the proposal to incorporate fresh fruit and vegetables into foodbanks. It is also important that foodbank personnel were made aware of such demand, and the operational barriers foodbank personnel saw to providing fresh foods. Foodbank personnel including project managers, trustees and the Trussell Trust staff could be considered as the 'experts'. They work at the front line on a daily basis which made them best placed to understand the needs of its users and how to meet such needs. The Trussell Trust staff and the trustee of local foodbanks and can also be considered as stakeholders, their involvement is invaluable in identifying challenges and practical considerations to feed into designing future research or interventions in the wider network. Stakeholder involvement is recommended by the

Medical Research Council (MRC) guidelines for developing complex interventions (Craig *et al.*, 2008). Thus, this study aims to explore foodbank personnel's perception of:

1. Why people need to use foodbanks and what factors influence a user's quality of diet
2. How to improve the quality of diet of foodbank users.

4.2 Methods

4.2.1 Design

This study adopted a qualitative approach using semi-structured interviews. In qualitative research, triangulating multiple sources of data to validate conclusions reached is considered best practice (Braun and Clarke, 2013). Methods of triangulation might include showing interview transcripts to participants for verification or conducting focus groups or interviews with other informants about the same issue (Carter *et al.*, 2014; Patton, 1999). It was therefore decided to interview the foodbank personnel who had extensive experience working with both foodbank users and volunteers. Foodbank personnel are the 'gatekeepers' because they stand between researcher and potential participants. Furthermore, they are well placed to give their operational insight into what could be the most practical and efficient way to engage with our target population (Craig *et al.*, 2008). The involvement of key informants like foodbank personnel is required when the target population has unique or underexplored needs (Bowen *et al.*, 2009).

4.2.2 Participants

Participants were invited to be part of the study by e-mail or phone call. This was an opportunistic sample, as the research group knew those invited from the previous stage of the research (Study 1). A variety of perspectives were pursued and the recruitment was open and flexible. One trustee of a local foodbank and one member of staff from the Trussell Trust Foodbank network were invited to participate. Personal identifiers such as job-role, geographical area, gender and length of holding the position were not included. This decision was made as participants could be easily identified based on the local initiatives being described.

4.2.3 Materials and Procedure

All participants signed a consent form and agreed for the interview to be audio-recorded (Appendix F). Interviews took place between June and August 2015. Most interviews were conducted in the respective foodbank distribution centres, and one was conducted in the participant's home due to childcare commitments. This study has received ethical approval from the UCL Research Ethics Committee (ID 4475/001).

The interview guide (Appendix G) was structured to explore the issues identified in the discussion guide from the interviews with foodbank users. These included the causes of income crisis and the factors that were known to influence their quality of diet. Foodbank personnel were also asked how they thought the diet of foodbank users could be improved. Interviewees were given examples in the form of vignettes to help the decision on potential interventions. The vignettes described two interventions that had been used in previous pilot works to improve access to fresh fruit and vegetables within foodbanks (Section 3.2.5.3). The vignettes described interventions that were 1) 'Freshwell' vouchers where a discounted vouchers were given to users to be exchanged in the local market for fresh fruit and vegetables, or 2) Giving

an additional bag of fresh fruit and vegetables alongside the standard, non-perishable food parcel. A printed slide representing the thematic map from Study 1 (Figure 4) was shown throughout the interview, whereby interviewees were asked to reflect on the finding. The duration of the interviews ranged from 30 to 90 minutes, which was comparable to the duration of the interviews with foodbank users. Thematic saturation (i.e. no new information emerging) was reached after the 8th interview. However, as the aim of this study was to include the views of all of the foodbanks personnel who participated in Study 1, the researcher continued interviewing all foodbank personnel who had responded to the invitation.

4.2.4 Analysis Strategy

The analysis of this data was carried out using the same approach as that in Chapter 3 (interviews with foodbank users). In brief, following transcription, the material was sorted into themes identified from the interviews using the thematic analysis method as specified by Braun and Clarke (Braun and Clarke, 2013). The recorded interviews were transcribed verbatim. A third party listened to the audio-tapes to check the accuracy of the transcripts. The researcher read and re-read the transcripts, being aware of the aim of the study. The aims include whether the foodbank personnel agreed on the drivers of foodbank use, the factors believed to influence the quality of diet identified from Study 1. The interview also looked for discussion that aim to translate these findings into a recommendation or intervention to improve the diets of foodbank users.

A coding frame was developed by sorting and summarising the opinions and experiences described in each transcript. The coding process involved cutting the transcript into smaller, meaningful parts and pasting the quotes into a new Microsoft Excel document. The emergent codes were categorised together into a similar cluster where they were then collapsed or expanded to themes or sub-themes. Verbatim quotes were added under each theme and sub-theme for illustration. For validation, the findings from interviews with users

were compared with personnel views to identify any agreement, disagreement or newly identified factors. At each subsequent reading, the themes and thematic map were refined to ensure the representation was coherent to the data. This iterative process was repeated three times until the themes and thematic map provided a coherent model for the data collected. The themes 'Meeting needs' and 'Making change happen" were identified as the themes on how to improve the diet of foodbank users (Figure 5, page 102). A 32-item consolidated criterion for reporting qualitative studies (COREQ) was completed to meet the good reporting guideline for qualitative research (Appendix H).

4.3 Results

Twelve foodbank personnel were interviewed for this study: project managers (N=8), distribution managers (N=2), a local trustee (N=1), and a representative from the Trussell Trust Foodbank (N=1). Participants had worked for or being part of the Trussell Trust Foodbank network between 1 – 5 years. The result section was divided as two parts: 1) gaining foodbank personnel's perspective on the cause of income crisis and factors that influence user's dietary quality, and 2) how to improve the diet of foodbank users.

4.3.1 Foodbank personnel perspective on the cause of income crisis and factors that influence users' dietary quality

Foodbank personnel largely agreed with the findings from the interviews with foodbank users (Study 1) on why people need to use foodbank and the factors that were believed to influence users' diets. Foodbank personnel stated that benefit-related problems such as delays or changes in entitlement were the most common reason for referral to a foodbank. Most agreed with the definition of income crisis derived from the earlier interview whereby users

experienced a significant reduction or total loss of income. Financial strain was discussed extensively, unemployment was a common issue among foodbank users, primarily because of ill health or substantial caring responsibilities. The interviewees added that those in precarious work (e.g. zero-hour contracts or self-employed) were vulnerable to income crisis. This financial strain coupled with unexpected adverse life events or expenses would often become the 'breaking point' leading to foodbank use. Interviewees believed that the primary cause of crisis indicated on the vouchers (e.g. homelessness, benefit changes or domestic violence) was often just the 'tip of the iceberg' of the users' circumstances:

"He was on a six-figure salary, ran his own business, was in a relationship, had somewhere nice to live. The recession hit a few years ago, and his business suffered, which caused his relationship to suffer, and now he found himself homeless… started drinking because that's kind of, you know, a way to sort of numb the reality of it" **ID 9**

Some interviewees linked the rise in the number of foodbank referrals and the impact of an increasingly harsh and punitive welfare conditionality (i.e. behavioural conditions that claimants must meet to continue receiving state support (Watts *et al.*, 2014)). They highlighted that single adult and those with poor mental health were particularly vulnerable to income crisis. One interviewee elaborated that single adults vulnerabilities was due to the absence of 'add-on' benefits (e.g. child benefit, tax credit) to cushion the loss of income:

"*[Single people] get Job Seekers Allowance [if they are fit to work yet unemployed] or Employment Support Allowance [if they are ill and out of work], but they also get housing benefit, council tax benefits, so if one goes, they all go. Whereas if you are a single mother, you still have child benefit and child tax credit to fall back on.*" **ID 5**

The interviewees also added that those with disabilities or poor mental health were also vulnerable to income crisis. The interviewees linked that it could be attributed to the policy where the Government requires claimants receiving disability benefits to undergo a Work Capability Assessment (WCA) and provide evidence of their health more frequently. The interviewees also highlighted the lack of sensitivity of the current health assessment to detect those with mental health issues or learning difficulties. One interviewee gave her illustration of a time when she accompanied a foodbank user with mental health issues for a WCA at a Job Centre Plus:

"I went to the Job Centre with her, the advisor said "Right, so you have been on this benefit for six months, you need to go into the work [related-activity] group… Monday to Friday, 9 to 5 starting from next week". And I said to the advisor "I am really sorry, but do you really think that is appropriate given the situation you can see in front of you now?" and I swear that the advisor said, "No it is probably not but that is what the computer is telling me". **ID 6**

Others added that those with poor mental health and learning disabilities lacked the mental capacity to navigate the complex benefits system. Those with mental health issues lack awareness of their own issue and are less likely to seek much-needed assistance or legal representation from the Citizen Advice Bureau (CAB), or Law Centre. Having sufficient mental capacity is also important in order to comply with their responsibilities as claimants, as well as filling in a lengthy benefits form where a new application is required:

"[*The GP] knew she has had mental health issues for all her life, [Th GP] said you're losing weight too... she said nothing, but, eventually, it came out that she didn't have any benefits. She was only receiving the child benefit and she [and the 5 children] were living on that… [Previously] she had been on the benefit that didn't require her to sign on every week. [Now,] they took her off that benefit, and she had to go on unemployment [benefits]... she needed to*

fill out a new form, but she is dyslexic and can't fill out a form. [When] she told them that, they said it wasn't their job to teach her how to write." **ID 3**

The foodbank personnel largely agreed on the factors that could influence foodbank users' diets in Study 1 such as: coping strategies to maintain food sufficiency; lack of social support; competing expenses; and lack of access to cooking and chilled food storage. They identified other coping strategies to maintain food sufficiency which were unidentified in Study 1. The newly identified strategies can be considered as harmful and beyond socially acceptable ways of acquiring food including stealing food from supermarkets, begging, or eating litter. The interviewees argued that stealing may not directly reduce the quality of diet, but a conviction for stealing could, however, be a barrier to future employment. They added that such extreme strategies were employed out of desperation, often to provide for their children:

"We also have people who shoplifted food, and feel dreadful about it and said, I didn't know how else to get food for my children" **ID 6**

One interviewee highlighted that food insecurity was prevalent in the community. The interviewee was approached by a local hospital to provide foodbank vouchers to support their patients after being discharged. The hospital was concerned on the vicious cycle of poor health and poor diet amongst its patients. It is likely that patients would be readmitted for the same reason (e.g. malnutrition) if they were left unsupported upon discharge:

"They collapsed because they haven't eaten for 2-3 days, and now [a local hospital] have dealt with them, send them back home, and there's still no food, so what will happen? They will come back again" **ID 1**

Foodbank personnel had conflicting views on users' proficiency in cooking and budgeting skills, which some would link the lack of such skills could contribute to poor diet. On one hand, some interviewees felt the need to

upskill users' in cooking and budgeting skills in order to improve their dietary quality. On the other hand, most agreed with earlier findings that it was not so much a lack of skills, but a lack of money which was the main barrier to a sufficient and healthy diet. Therefore, the extra cost of buying healthier foods (e.g. fruit and vegetables) could affect their ability to afford to meet their other basic needs:

"That's not our experience at all at the foodbank, people often have an ingenious way [to cook] as healthy as possible, a family meal out of hardly anything… they are already on a financial tightrope and any little thing can actually make the difference between being able to pay their bills or not." **ID 6**

4.3.2 How do these findings inform an initiative to improve the quality of diet of foodbank users?

The second aim of this study was to gain foodbank personnel's insights into how the findings from this programme of research can be translated into initiatives and recommendations to improve the diet of foodbank users. Two broad themes emerged from the analysis of interview material: first 'Meeting Needs' and second 'Making Change Happen'. Figure 5 illustrates the themes and sub-themes identified from the interviews.

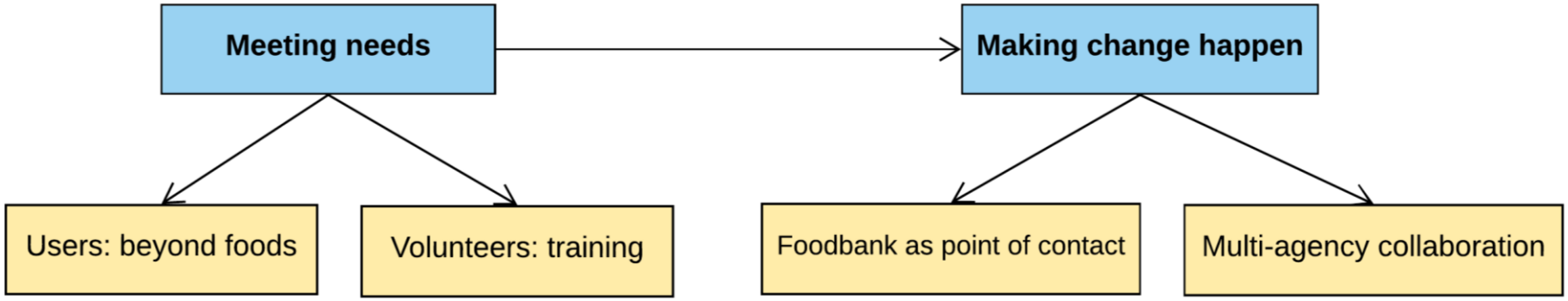

Figure 5 A thematic map representing the results from the interviews with foodbank personnel

4.3.2.1 Meeting needs

The first overarching theme to improve the dietary quality of foodbank users was meeting the needs of both foodbank users and its volunteers. The interviewer was initially interested in fruit and vegetable intake and how to improve its access in foodbanks. The interviewees, however, had other pressing issues such as meeting the needs of its volunteers. They also believed that an initiative to improve the diet of foodbank users should focus on meeting users' needs beyond food.

4.3.2.1.1 The user's needs: beyond food

Foodbank personnel strongly believed that income crisis was the cause of poor diet amongst its users. Therefore, addressing the cause of users' income crisis should become the priority, over providing the 'healthiest' food parcel in the foodbank. They felt that the former would improve users' diet in a more sustainable and dignifying way, which aligned with their mission as part of the Trussell Trust network:

"I'd be reluctant to focus on doing a lot of work just to provide fresh fruit and the best diet in the foodbank… [what] if they were to leave and still not have enough money to buy suitable food?…the feeling of not being able to feed your family in that week and the weeks coming." **ID 4**

Many users experienced multiple adverse life events upon arrival to the foodbank. They were also frequently unaware of where to get extra help for their issues. For this reason, the interviewees emphasised the importance of signposting to relevant external agencies to resolve users' issues:

"*We don't want people just relying on foodbanks… We are here to provide emergency food for a crisis, so we signpost people to get out of their crisis.*" **ID 10**

However, some interviewees were sceptical of the effectiveness of the signposting being offered. They remarked on how users would return to a foodbank with the same issues. One interviewee suspected that users might feel overwhelmed if they have to retell their circumstances to external agencies:

"We are looking at is having as much of a service as we can in-house. They have come here, they have cried [in the foodbank], they have to tell the story again over there… For a lot of them after 6 weeks, 6 months they are back again with the same problem." **ID 3**

Others felt that signposting was not enough to resolve users' crisis. There is need to focus on an initiative to enhance users' financial resilience. Some local initiatives were mentioned with the ultimate aim to boost one's employability. The initiatives ranged from checking CVs, offering volunteering opportunities in local foodbanks, or linking up users with local businesses for job opportunities. One interviewee strongly believed on the importance of work to achieve financial resilience:

"*Foodbank isn't the major thing that we do any more, [we helped with] food, advice & support, and now we are helping people get back into work… the only way out [of poverty] is to work."* **ID 5**

4.3.2.1.2 The needs of foodbanks and their volunteers

Throughout the interviews, foodbank personnel showed pride in their volunteers' ability to build trust and rapport with its users. The interviewees felt such abilities were essential in effective signposting, as most users arrived feeling embarrassed and apprehensive. However, foodbank personnel felt that their volunteers are unprepared to process distressing information disclosed by their users. A quarter of those interviewed had contacted mental health professionals to provide such training to the foodbank session leaders:

"*Some of our leaders trained at the moment ideally we would put on something that's for our volunteers, so there is definitely a need*" **ID 4**

Some interviewees were concerned about the impact of listening to users' harrowing stories on their volunteers' wellbeing. The interviewees were concerned that such exposure could leave volunteers feeling helpless and unprepared:

"We are only a foodbank and not psychologists, what do you want us to do? Do you want me to give you some food?" And he said 'no ma'am I just wanted somebody to listen to me… now I'm going to kill them at the Job Centre and I'm going to kill myself' **ID 3**.

"They are listening to this dreadful stuff all the time. Giving people a few cans and dried food seems like an inadequate response…But I am certain that the client goes away and they are still in a better place than when they came in. They become so focused on making the client's journey better, but they've almost forgotten themselves" **ID 10**

Some foodbanks were less well-resourced whereby they had fewer regular volunteers and a low volunteer-to-client ratio. For these less well-resourced foodbanks, effort should be placed to recruit and retain sufficient volunteers. This should be a matter of urgency before delivering training or an intervention:

"*The turnover of staff [and volunteers] is high as well, not high actually but always getting new people in so you can only capture [who] you can capture.*" **ID 7**

4.3.2.2 Making change happen

The second overarching theme was a focus on what was required to make change happen. What emerged from the interviews was that to make change happen, an intervention should be delivered using foodbank as a point of contact. They felt that they are best placed to reach their users. Furthermore, a multi-agency collaboration with other sectors was identified as a means of addressing the complex issues surrounding income crisis and food security.

4.3.2.2.1 Foodbank as a point of contact

The interviewees believed that foodbank should be the point of contact to bring about change for users. They believed that being part of the Trussell Trust network is a 'brand' that is recognised in their local community. The interviewees felt that they are well-placed to identify those in need through contacts with up to 200 public organisations acting as their voucher partners within the borough. A good relationship with the voucher partners is important because it helps overcome the stigma of attending foodbanks.

“ [Voucher partner] know what we are doing.. [so] people come along even though they are a little bit embarrassed.. as they know what we are doing… Our reputation precedes us " **ID 5**

Moreover, foodbank identity as a charity and their independence from statutory organisations allows them to access a ‘hard-to-reach’ population who might be reluctant to ask for help from statutory bodies. The interviewees emphasised the importances of building trust and relationships with its users to engage with this ‘hard-to-reach’ population.

“*People coming here were feeling emotionally distraught, but, the act of sitting down, chatting like a normal person does help… [They might seem as] very*

intangible, and it is very difficult to measure the impact it has on people's lives." **ID 1**

"*They lost their job but it doesn't mean they can't get it back, so it's just somebody to help them, talk to them, just inject a little bit of strength and courage*" **ID 8**

The interviewees demonstrated a shared welcome for an intervention to be led or co-led by local foodbanks. However, if such an intervention were introduced, it should be tailored to fit the nature and capacity of local foodbanks. For instance, some foodbanks were better resourced than others, whereby they have a full-time staff to manage foodbank operations, and a high volunteer to user ratio. The extra resources allow them to provide more services in local foodbanks, such as fostering collaboration with external agencies or spending more time with users to better understand their circumstances.

"*We can only do [all extra things] because of the privileged position we are in - a well-resourced church [with] high volunteer-to-guest ratio"* **ID *6***

The interviewees, however, warned that London foodbanks are relatively better resourced than other foodbanks outside of London. Therefore, special considerations would be necessary to run an intervention in a less well-resourced area of the country:

"*I would like you to go to some foodbanks in very poor parts of the country, because what you see in London doesn't scratch the surface of what's going on in some other areas.*" **ID 10**

Participants were aware of the demand for fresh foods from its users. However, the interviewees felt that the cost and administrative burden of giving fresh foods, including insurance, the extra administrative burden to comply with health and safety regulation, and extra logistic cost prevented

them from doing so:

"*We would love to give fresh food. But, it has a significant impact on cost and regulation. If I had to train all those volunteers in handling fresh foods, the cost of that would be exorbitant. And we need to refresh that regularly, install stuff in here where we could keep that stuff chilled, have the appropriate transport to move it around*" **ID 1**

4.3.2.2.2 Multi-agency collaboration

Foodbank personnel felt that multi-agency collaboration with other sectors was needed to address users' cause of income crisis. The interviewees shared that as part of the Trussell Trust network they have to follow the "three-voucher per crisis" rule (formerly "three-voucher per 6 months"). A voucher partner can give up to three vouchers at their discretion, but special arrangements would need to be made once users have received more than 3 vouchers.The interviewees highlighted that such a rule was in place to ensure that foodbank intervention did not remove the urgency for voucher partners to resolve users' issues.:

"What we don't want to do is having an indefinite amount of vouchers by default… We take away the sense of urgency for resolving the problem, particularly if there is something like a benefit delay." **ID 4**

However, the interviewees highlighted that they met users with increasingly complex issues. Therefore, they would require longer support and help from other sectors (e.g. charities, local business, or local authority). In response to such complexity, four foodbanks in this study have collaborated with other charities to run advice sessions during foodbank opening hours. The advisor would advise on topics ranging from welfare benefits to housing. Users were also able to access free legal representation, which essential to appeal against unfair benefit-related decisions. The interviewees highlighted that such provision is essential, as many of the benefit-related decisions were

overturned on appeal, which suggests the decisions were incorrectly applied in the first place. However, not all foodbanks have the resources or access to such advisors despite it seemingly promising:

"*If we have someone who knows about the benefits system… it could be someone from the Job Centre, CAB, and he can come like once a week to advise the people, that would really help*" **ID 8**

One manager stated that collaborating with advice centres alone is not sufficient. This motivated the interviewee to work with local businesses, other charities, and local authorities to help its users. The interviewees believed that the 'triage response' was effective in addressing both the immediate issue (e.g. benefits problem, lack of food) and long-term (e.g. gaining employment) causes of income crisis:

"*It's a partnership between [foodbank], welfare rights groups,[and] local authority… local authority provided assistance with council tax [relief], housing benefit and also the local welfare assistance scheme which gives a small donation of money… We also said to [local business] to give jobs to local people and they took one of our clients... Jonny [not his real name] has been working for 2 years. But, when he came to us he was getting £71/week from the Jobseeker's allowance, and the bedroom tax is £35, so he was living on £10 a week."* **ID 5**

Most foodbank personnel believed that policy changes have a significant impact on the rising use of foodbank. Thus, they believed the need to engage with policymakers in the discussions to ensure the policy is implemented compassionately and appropriately:

"*[The government] would do well if they come and understand how the implementation of the policy is creating devastating effects on people's lives. They need to understand that and find out how they can implement it more compassionately*" **ID 1**

"*If we don't influence them [policy makers], we will not go very far... We will become worn out and you will become worn out from helping us practically*" **ID 3**

A collaboration with local business could mean foodbanks have an opportunity to improve the nutritional quality of the food provided. Nearly half of the foodbanks included in this study have partnerships which allow them to mitigate logistic barriers associated with providing fresh foods. These collaborations meant that foodbanks could receive a manageable amount of fresh foods delivered during opening hours which overcome the logistic barriers and the extra cost incurred from handling fresh foods:

"*We are now getting weekly donations of fruit and veg... The person that makes the donation sends one of her drivers a weekly supply, it is at a manageable amount*" **ID 9**

"People absolutely love having fresh stuff… when the stuff comes in, we don't have any left" **ID *2***

Some interviewees suggested that collaboration with retailers to give users a voucher that could be exchanged for fresh foods would be helpful. Some were concerned that the addition of fresh foods directly in the foodbank parcels would make their weight unmanageable:

"It's easier to also have a voucher that they can use another time. The majority of our clients are walking because they don't have any money… the weight of all the tins we are already giving for a large family it can be up to 20 or 25kg" **ID 4**

4.4 Discussion

4.4.1 Summary of the findings

Twelve foodbank personnel were interviewed to validate the findings of Study 1 on why people need to use foodbanks and the factors which influence the dietary quality of foodbank users. This study also explored how the findings could be translated to inform an initative to improve foodbank users' diets. The interviewees largely agreed that benefit-related problems (e.g. changes and delays) were the most common reasons for referral to the foodbank. Interviews confirmed that income crisis, identified by a significant or total loss of income due to adverse life events that happened on top of financial strain, was the cause of foodbank use.

The thematic map produced from Study 1 was presented during the interviews. Foodbank personnel were particularly engaged in the discussion on food insecurity and how it impacted their users' health. It was apparent that the foodbank personnel's priorities were to alleviate the income crisis and lack of food experienced by foodbank users, as opposed to the 'healthy diet' or consumption of fresh fruit and vegetable which were the initial focus of this study. The discussion on helping users beyond the food parcels dominated the interviews. They believed that improving users' financial circumstances should be the priority, as it would be the most sustainable and dignifying way of improving users' diets.

Whilst the research agenda was not fully met, this work provided lessons from those on the front-line on the needs of foodbank users. The interviewees made it clear that the causes of income crisis need to be addressed rather than simply providing more nutritious food parcels. Data presented in this chapter highlighted the challenges of working with this population, and how to best work with foodbanks to reach its users. Undoubtedly, identifying the social and environmental determinants of foodbank users' diets in Study 1 is an important start. However, without the input from those working on the front

line, there is a risk that the researcher may impose his/her research agenda instead of focusing on the pressing needs for foodbank users. The results of the thematic analysis suggest that to improve the dietary quality of foodbank users, it has to first meet the needs of both foodbank users and its volunteers, and multi-agency work with other sectors to address users' causes of income crisis. If such collaboration happens in the future, it should use foodbanks as a point of contact to identify the users and deliver the programme or intervention.

4.4.2 Why do people need to use foodbanks?

As in Study 1, this study found consistent narratives about the impact of an income crisis due to identifiable adverse life events on the drivers of foodbank use in the UK (Garthwaite *et al.*, 2015; Perry *et al.*, 2014). The Trussell Trust model of opoeration might partially explained the 'acute' nature of UK foodbank use. The Trussell Trust works strictly by referral from front-line professionals such as social workers, advice centres or schools who will give foodbank vouchers to those in crisis. In contrast, foodbanks in other developed countries such as some parts of Europe, the USA and Canada use income thresholds to assess household eligibility to access their services (Neter *et al.*, 2014; Food pantries, 2018). Some foodbanks have an 'open door' policy which allows everyone who perceives themselves as 'in need' to use their services, be it weekly or monthly (Winnipeg Harvest foodbank, Undated; Greater Vancouver Foodbank, 2018). It is, however, beyond the scope of this programme of research to compare the differences in welfare systems and foodbank operations in other countries.

Accumulating evidence suggests how foodbank use and food insecurities are sensitive to policies changes whether in the UK (Loopstra *et al.*, 2015; Loopstra and Lalor, 2017; Loopstra *et al.*, 2018) or other countries (Arteaga *et al.*, 2016; McIntyre *et al.*, 2016). Policy initiatives in the UK such as the increasingly complex and conditioned Work Capability Assessment (WCA) had been associated with an increase in the number of vulnerable people with

poor mental health who are wrongfully declared as 'fit-for-work' (Barr *et al.*, 2016a; Barr *et al.*, 2016b; Reeves and Loopstra, 2017). The analysis showed that WCA was more likely to move those with mental health issues from inactivity into unemployment (Barr *et al.*, 2016a; Barr *et al.*, 2016b; Reeves and Loopstra, 2017). Such observations confirm foodbank personnel's concerns from these interviews on the vulnerability of foodbank users with hidden disabilities (e.g. mental health, learning disabilities or chronic conditions) to be wrongfully 'fit for work'. The WCA was also associated with adverse mental health outcomes of those being assessed, such as an increase in the number of suicides, and the number of antidepressants prescribed (Barr *et al.*, 2016b; Barr *et al.*, 2016a). More recently, five learned psychological societies in the UK wrote a joint paper calling on the Department for Work and Pension (DWP) to reform the WCA and the sanctioning system. The joint paper highlighted the WCA's inability to properly assess the mental capacity of claimants has an adverse impact on claimants' mental health (British Psychological Society *et al.*, 2017). Such evidence suggests that policy interventions are needed to address the causes of income crisis, and consequently the poor quality diet of foodbank users.

4.4.2.1 What are the factors that influence the quality of diet of foodbank users?

There were conflicting views amongst the foodbank personnel on how the resourcefulness, cooking skills, and nutritional knowledge of users influenced their diet quality. Such conflicting views were also reported during interviews with the volunteers at North-East England foodbanks (Garthwaite *et al.*, 2015). The authors highlighted that foodbank users were acutely aware of what they are supposed to eat, yet they were frustrated by the healthy advice given by health professionals as this did not consider their financial circumstances.

It remains debatable as to what extent resourcefulness and nutritional knowledge influence dietary quality of low-income groups. The price of healthier foods (e.g. fresh fruit and vegetable) is significantly higher than for processed foods in terms of £/1000kcal (Jones *et al.*, 2014). Undoubtedly, being resourceful could help households stretch their food budget by seeking the best value for their money. However, low-income households already spend a greater proportion of their income on food than those in higher income groups (Department for Environment Food & Rural Affairs, 2017). Incorporating healthier food options (e.g. fresh fruit and vegetables) would greatly limit people's ability to pay for other essentials (Brown *et al.*, 2017). Thus, no matter how resourceful users may be, a healthy diet continues to be a distant aspiration for foodbank users who are in crisis, as one Scottish foodbank user put it: "*You can't help me budget, cause I don't have a budget*" (Douglas *et al.*, 2015).

4.4.2.2 How can these findings be translated to improve the diet of foodbank users?

Foodbank personnel believed that the key to improving foodbank users' diet was to address income crisis. A high proportion of foodbank users were classified as unemployed (Loopstra and Lalor, 2017), which made them vulnerable to food insecurity. Some foodbanks already helped to improve their users' employability, or worked with advice centres to provide free advice to improve their financial circumsances. Such initiatives have made non-health charities such as foodbanks increasingly appreciated when addressing social determinants of health, on top of being strategically placed to reach those experiencing deprivation (Daly and Allen, 2017). Providing access to good employment and restoring finances to afford healthier options has been acknowledged as an important strategy to address health inequalities in the UK (Marmot *et al.*, 2010).

Living in poverty has been associated with high levels of psychological stress (e.g. anxiety, hopelessness, shame), which emerged in interviews with both foodbank users and personnel. A decision which may be perceived to be trivial for a regular household (e.g. food shopping) could be more stressful and have a more adverse impact for low-income groups (Gandy *et al.*, 2016). Those who experience a higher level of daily stressors are more likely to adopt health-damaging behaviours such as smoking, comfort eating or excess alcohol consumption (Bell, 2017). It is known that assisting users with their circumstances, such as advising on issues of debt, welfare or housing has been shown to reduce users' anxiety and improve their wellbeing (Citizens Advice Bureau, 2014). Such improvement is promising, as stressors could undermine any attempt to change the behaviour in low-income groups (Michie *et al.*, 2009). For instance, quitting smoking has been shown to be more difficult during stressful situations arising from poor quality housing and unemployment (Daly and Allen, 2017). Understanding these social functions would help society and politicians not to blame foodbank users for whom poor diet is not a choice, but instead to focus the attention on their resource constraints and stress associated with their crisis.

From these interviews, foodbank personnel believed that effort should be focused on addressing income crisis. As such effort would also bring an improvement that is sustainable and dignifying, which aligns to the value of foodbank as a network (The Trussell Trust, Undated), and its identity as an 'emergency only' intervention (Chapman, 2017). The Trussell Trust encourages foodbanks to signpost users to relevant agencies to assist with their issues (Lambie-Mumford, 2011). Evidence suggests that signposting to a primary care setting (also known as social prescribing) improved patients' wellbeing and health behaviours (e.g. exercise, healthy diet) (White *et al.*, 2010). Health professionals are increasingly interested in such provision, as 20% of their patients were found to be seeking help on non-health issues (e.g. welfare benefits, social isolation or housing) rather than medical needs (Torjesen, 2016).

We found that some foodbanks have successfully incorporated fresh foods alongside their usual provision. The fresh food provision was made possible by collaborating with a local business which allowed them to mitigate the logistic barriers. Such provision has the potential to improve the nutritional quality of the food parcel, which is currently exceeding the recommended intake of sugar, and salt which could be a health concern for long-term users (Turnbull and Bhakta, 2016). The Trust should consider having a 'top-down' agreement with the retailers who have the national presence or work with charities which specialise in food redistribution such as The Felix project (The Felix Project, Undated) or Fareshare (Fareshare, Undated). Such collaboration has been adopted by some foodbanks, which enables them to provide fresh foods into their foodbanks (Hammersmith & Fulham Foodbank, 2017 ; Rose, 2017).

Foodbank personnel were concerned about the impact of listening to users' horrific stories on their volunteers' wellbeing. It is likely that untrained volunteers may experience a mixture of negative emotions such as anger, feeling of injustice towards the system, guilt and frustration at not being able to help (Cyr and Dowrick, 1991). Such feelings have been associated with the feelings of dissatisfaction which affects their decision to continue volunteering (Kinzel and Nanson, 2000). Constant exposure to such negative feeling could lead to compassion fatigue which reduces satisfaction of volunteering. The negative feeling can be minimised by adopting personal and social self-care (Hager and Brudney, 2004), or debriefing to cope with upsetting stories (Kinzel and Nanson, 2000). It is worthy to note that none of these strategies were mentioned during the interviews with foodbank personnel, highlighting the need for foodbanks to invest on such training if they wish for more foodbanks to adopt "More Than Food" programme in local foodbanks (The Trussell Trust, Undated-e).

Engaging 'hard-to-reach' groups such as foodbank users, would require pragmatism, and the needs to adapt an intervention to fit the nature and

needs of the users served (Elissen *et al.*, 2013). Therefore, using foodbanks as a point of contact to deliver an intervention would address the access barrier which has been shown to increase engagement with a disadvantaged population (Bonevski *et al.*, 2014). This had led them to include services such as hosting an advisor during the foodbank session. This direct approach can be an effective way of resolving the reasons for referral to the foodbank (Slingsby, 2016; Chapman, 2017). A direct referral makes each visit an opportunity to resolve the cause of the income crisis, which is important when engaging with 'chaotic' populations such as foodbank users. Another approach to enhance the effectiveness of signposting within foodbank is to train foodbank volunteers with Healthy Conversation Skills (Lawrence *et al.*, 2016; Barker *et al.*, 2011). Such skills have been shown to improve Sure Start Children Centre staff's confidence and competence in having conversations about behaviour change amongst disadvantaged families (Black *et al.*, 2014). The training is based on the understanding that giving users information alone, in this case signposting information, is insufficient to change behaviour. Users must be motivated enough to be supported whilst taking their first step. Healthy Conversations require changes in communication style from traditional advice-giving and signposting to user-centred. The conversation involves having an exploratory conversation with an individual to understand their world, the context of the problem better, and to support and empower users to identify the solution and actions needed to address their issues. Practitioners use of the conversation skills to empower individuals to address their issues proactively and increase their sense of self-efficacy. Such training would be suitable for foodbanks personnel for the following reasons. Firstly, Healthy Conversation Skills places a minimum burden on foodbank staff and volunteers. It uses the existing services to deliver its support for signposting whilst making the most of each foodbank visit. Secondly, the Healthy Conversation Skills training is accessible to all front-line staff, including those who have little or no formal education (Barker *et al.*, 2011). Thirdly, a training intervention would be a sustainable option, because skills are not lost when the volunteers have left, whereas a research-based intervention would end once the study period is over. Lastly, a training intervention can also identify

‘champions’ within the organisation who can ensure ongoing training and support is provided to new volunteers (Aoun *et al.*, 2013). In a foodbank setting, the champion could be a core member of staff, such as a foodbank manager or regular volunteers who will receive training and educational materials.

4.4.3 Reflection on using qualitative methods

There was an agenda gap between how foodbank personnel and I defined what a ‘good’ diet is. Foodbank personnel believed that a ‘good’ diet is the absence of food insecurity. I believed that ‘good’ diet is a dietary pattern that is aligned with the nutritional guidelines such as plenty of fruit and vegetables. Such a gap could be attributed to different professional backgrounds, which shaped our beliefs and approach to improving the diet of foodbank users. Therefore, if I had used more explorative and open questions to ask, “*What could be done to improve users’ diets?*”, instead of “*How we could improve access to fresh fruit and vegetables into foodbank*”, I believe I would have gained a richer data.

This agenda gap was an important learning experience for me. I believe It is important to listen to ‘experts’ who work extensively with the target population, and aware of the most pressing needs of local foodbanks and their users. Moreover, involving foodbank personnel from the early stage of our research allowed us to gain their cooperation and insight into the challenges and practicalities of working with foodbanks and its users.

4.4.4 Strength and limitations

This study involves only foodbank personnel in London. Thus it might not be generalisable to the rest of the UK. Moreover, this study is qualitative, thus the themes identified are just one possible interpretation of the data. Being truthful and transparent and representing the diversity of perception and opinion is the

goal of qualitative work (Braun and Clarke, 2013). Therefore, the themes developed were discussed with other members of the research group on the coherence between the themes and supporting quotes. It was painstakingly time-consuming since it requires many re-reading and reiterations to produce coherent themes. Such discussions minimised subjectivity or bias during analysis and interpretation.

Despite these limitations, this study provides an in-depth examination of the cause of income crisis that was not identified earlier, such as the impact of increasingly harsh welfare conditionality on the rising use of foodbanks. However, it is beyond the scope of this PhD to focus on the impact of changes in social policy on foodbank use. The pressing needs of foodbanks and its users were highlighted, which extend beyond improving the nutritional quality of its current food provision. Guidance on how to translate these findings into practical suggestions to improve the diet of foodbank users has been invaluable to form the recommendation for this programme of research (Chapter 6). The learning and the agenda gap highlighted would have been missed if the research had begun with a survey. This is the first qualitative study of its kind within UK foodbanks which has validated users' narratives with foodbank personnel. The validation means that the themes identified from Study 1 were broadly representative of the occurring phenomenon, corroborated by foodbank personnel. Thus, the factors identified are deemed as valid issues that warrant quantitative investigation, which is the focus of Study 3.

4.5 Conclusion

Foodbank personnel broadly agreed with the Study 1 findings from interviews with foodbank users as to why people need to use foodbanks and the social and environmental factors that are known to influence users' diet. These social and environmental factors identified qualitatively are now subjected to quantitative testing in the next chapter (Study 3: Cross-Sectional survey). This

is where we statistically tested what the significant predictors and mediators of quality of diet of foodbank users, which should be targeted for future interventions and shape recommendations given.

This study provides a fuller view on the impact of policy changes on the ‘rising’ use of foodbank demand. Interviewees, however, felt that foodbanks alone could not address users’ cause of income crisis. Thus, the themes ‘Meeting needs’ and ‘Making change happen’ emerged as essential themes on how to improve users’ income crisis and their dietary quality. Meeting needs involve focusing on helping users beyond food provision, which includes providing holistic support to address the cause of foodbank referral. It is also important to meet the needs of the foodbank and its volunteers. This includes recruiting sufficient volunteers to run its services before providing volunteers with training. Multi-agency collaboration with other sectors is needed to bring about change. Local level initiatives showed a high variability on the provision. This ranged from the provision of fresh fruit and vegetables, and initiatives to reduce the recurrent foodbank visits such as having welfare and legal advisors during foodbank sessions and helping users gain employment with the aim to improve their financial circumstances. These interviews also highlighted the challenges of working with this ‘distracted’ population. Therefore, foodbank personnel believed that a future intervention to help foodbank users should be delivered using foodbanks as a point of contact.

CHAPTER 5 Study 3: The impact of psychosocial factors on foodbank users' dietary quality: a cross-sectional survey

5.1 Introduction

Chapter 3 (Study 1) and Chapter 4 (Study 2) described the findings from qualitative research used to identify the drivers of foodbank use and the factors associated with users' dietary quality. It was found that income crisis was a trigger of foodbank referral when there was a significant or total loss of income due to unexpected adverse life events that happened on top of financial strains. Foodbank users described their current diet as 'poor', monotonous and lacking in fresh fruit and vegetables. Participants also discussed how their current diet has a negative impact on their health and wellbeing. Several factors are believed to influence users' quality of diet, such as: coping strategies to maintain food security, a lack of social support, lack of access to cooking and fresh food storage facilities, and competing expenditures.

This chapter describes the next phase of the research (Study 3), a cross-sectional survey that aims to identify who uses foodbanks and why. This study is also exploring users' health and dietary quality. It also aims to identify which of the social and environmental variables are the significant predictors and mediators of dietary quality as identified in earlier qualitative studies. In Study 3, Advice Centre (AC) users were included as a comparison group, as both foodbank and AC users are low-income people seeking help from frontline crisis providers. ACs are considered to be a proxy for a community-based low-income sample. This study would be particularly interested in identifying factors that can be targeted for future intervention or used as a basis for informing future policy recommendations.

Hypotheses:

i. There are socio-demographic differences between foodbank and AC users.
ii. There are differences in the severity of income crisis as observed by the severity of financial hardship and the number of adverse life events experienced by foodbank users compared to those attending AC.
iii. Income crisis (as defined by a combination of financial hardship and adverse life events) affects dietary quality, and its effect is mediated by factors such as household food security, social support, access to cooking and chilled food storage, and the total number of monthly expenditures.

5.2 Methods

This was a cross-sectional study to explore who uses foodbanks and identify the factors associated with the dietary quality of those seeking help from the emergency service providers from foodbanks and ACs. A feasibility study was carried out before the main study commenced.

5.2.1 Feasibility study

5.2.1.1 Rationale

A survey to assess the feasibility and practicality of conducting a volunteer-led survey was carried out in one foodbank from January to February 2015. The UCL Research Ethics Committee had approved the feasibility study as part of the ethical approval granted for Study 1 (UCL Ethics Project ID No 4475/001).

5.2.1.2 Recruitment of foodbanks

All participating foodbanks in Study 1 were approached to test the feasibility of conducting a volunteer-led survey before the main study started. Only one foodbank agreed to assist the research group in administering the survey. The reasons for refusal were: busy (N=2), lack of volunteers available (N=4), some were carrying out research locally (N=2), and the rest agreed to participate if there was an incentive for the volunteers or users (N=2).

5.2.1.3 Recruitment of participants

The researcher attended the briefing before the start of a foodbank session to instruct foodbank volunteers on how to administer the questionnaire booklet. The booklet consists of a participant's information sheet, a consent form and questions on demographics and household food security as used for Study 1 interviews (Appendix K). Volunteers approached potential participants after their food order had been taken. Volunteers explained the purpose of the study and emphasised that the research was independent of the foodbank. Therefore non-participation would not affect their entitlement to receive foodbank support. The researcher observed the session and recorded the following in her observation notes: 1) the number of volunteers available during the session, 2) the time taken for each participant to complete the questionnaires, and 3) verbal feedback from participants and volunteers on the questionnaire booklet. The most common reasons for participants' refusal and non-eligibility were: lack of English proficiency, busy, or not interested.

5.2.1.4 Issues identified during and change to protocol resulting from the feasibility study

Forty-three foodbank users' completed the questionnaire. The time taken to complete the questionnaire ranged from five minutes to fifteen minutes for

self-administered and interview-led questionnaires, respectively. Several issues were identified: firstly, the quality of data was poor (e.g. unsigned consent form, several answers despite the stated instruction to tick only one answer. Secondly, volunteer-related barriers were encountered, such as a lack of volunteers available during the session, and volunteers forgot to give the questionnaire to foodbank users. Thirdly, the question on the amount of weekly income was perceived to be sensitive and intrusive. To improve responses to the income-related question, it was decided to ask this question in a different way. In future studies, participants would be asked their income range instead of for an accurate estimate of weekly income. A second change was the intention for foodbank volunteers, when available, to help the researcher with recruitment. But, the research team should be responsible for administering the questionnaire, as it was perceived to be too time-consuming for foodbank volunteers. Foodbank managers suggested such an approach as volunteers had built up a rapport with users during the 'welcome' session.

5.2.2 Study 3: A cross-sectional survey

5.2.2.1 Design and study setting

A cross-sectional survey was conducted at the Trussell Trust Foodbanks, and at ACs located in the London Boroughs of Islington, Wandsworth and Lambeth. The study received approval from the UCL Research Ethics Committee (Ethics ID: 4475/003).

5.2.2.2 Participants

Participants were recruited if they were foodbank or AC users aged 18 years old and above and able to communicate in English. Foodbank users were required to be holding in-date and valid foodbank vouchers, and be collecting food for themselves.

5.2.2.3 Selection of comparator group: Advice Centre (AC) users

The attendees of local ACs in the London boroughs of Lambeth, Islington and Wandsworth were selected as a comparator group. AC is a charity which provides free advice and legal representation on many issues ranging from consumer-related problems to welfare benefits (Citizens Advice Bureau, 2017), and most of the Trussell Trust Foodbank work with a local AC as voucher partners. Both foodbank and ACs users are low-income people seeking help from frontline crisis providers. AC users shared a similarity to foodbank users in demographic characteristics (e.g.. gender, family size and composition) and reasons for seeking help (e.g. welfare benefit-related problem and financial issues). However, they still retain socio-economic differences such as differences in employment rate, and home ownership (Reading *et al.*, 2002; Burrows *et al.*, 2011; Abbott and Hobby, 2003). Thus, AC users are a meaningful comparison group for people seeking help from foodbanks and a proxy for a community-based low-income sample. Our previous research suggested a lack of variability within the foodbank group to run planned regression analyses (e.g. dietary quality, wellbeing). Therefore, including AC users' would boost the variability within the group to make such analyses possible.

5.2.2.4 Materials and questionnaire used in the study

A structured questionnaire comprising 98 questions was used (Appendix L). The scoring and references for each questionnaire are summarised in Table 4. The questionnaire was piloted with a convenience sample (N=35) from the researcher's workplace.

5.2.2.4.1 Reasons for seeking help from the foodbank and Advice Centre (AC).

For foodbank users, the information on the number of foodbank visits in the previous six months, the name of referral agency, and the primary reason for their referral to the foodbank (provided on the foodbank voucher) was collected. For AC users, information on reasons for attending AC and whether users had been to a foodbank in the last six months were obtained.

5.2.2.4.2 Socio-demographics

A section of the questionnaires was used to assess individual socio-demographic variables (e.g. age, gender, ethnicity, highest educational attainment, employment status, and current benefits entitlement). Household level questions were asked for income, the number of adults(s) and children.

Table 4 Exemplar items and references for the scale used in the questionnaire

	Variable	Scale	Exemplar item	Scoring / responses	Cronbach's Alpha	Page number
1.	**Reasons for seeking help from foodbank or Advice Centre**	N/A	What is the main reason you are being referred to the foodbank?	Benefit delays – Homelessness	N/A	249 & 266
2.	**Sociodemographics**	N/A	What is your present marital status?	Single (never married) – Cohabitating (11 questions with response categories range from 2 to 11 (except age (in years))	N/A	250-251 & 264
3	**Health**	A Single-item General Self-Rated Health (GSRH)	Overall, How would you rate your health in the last 12 months?	Very bad – Very good (1 item measured on 4 response categories.	N/A	265
		Hospital Anxiety and Depression Scale (HADS) (Zigmond and Snaith, 1983)	I get a sudden feeling of panic	Very often – not at all (14 items, 4 response categories)	0.90	253-254
		Four-item Office of National Statistic (ONS) Wellbeing measure (Self *et al.*, 2012)	Overall, how satisfied are you with your life nowadays?	No at all – Completely (4 items, 10 response categories)	0.79	252
4	**Income crisis**	Pearlin's three-items chronic strains (Conklin *et al.*, 2014)	How do you rate the sufficiency of money to meet needs?	More than enough – less than enough (3 items, 3 or 5 response categories)	0.69	255
		List of Threatening Experience Questionnaire (LTE-Q) (Brugha and Cragg, 1990)	You became unemployed or you were seeking work unsuccessfully for more than one month"	Yes or No (12 items, 2 response categories)	0.68	255-256

5	**Social Support**	Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet *et al.*, 1988)	There is a special person who is around when I am in need	Very Strongly Disagree – Very Strongly Agree (12 items, 7 response categories)	0.94	257
	Household food security	Ten-item USDA Household Food Security Module (Coleman-Jensen, 2012)	The food that I bought just didn't last and I didn't have money to get more.	Often true – Never true (10 items, 3 response categories)	0.92	258-259
6	**Access to cooking and fresh food storage**	N/A	Do you have any difficulties in accessing cooking or chilled food storage facilities?	Yes or No (2 items, 2 response categories)	0.67	260
7	**Health behaviours**	Smoking status (World Health Organization, 2011) Alcohol Consumption	(Smoking) What would best describe your current smoking status (Alcohol) How often do you have a drink containing alcohol?	(Smoking) Current cigarette smoker – former smoker (2 items, 3 response categories) (Alcohol)	Smoking = 0.88 Alcohol = 0.89	261
8	**Dietary Quality**	20-item Short food frequency questionnaire (SFFQ) (Cleghorn *et al.*, 2016)	Over the past month, how often do you eat at least ONE portion of Fruit (tinned/fresh)	Rarely or never – 5+ a day (20 items 8 response categories)	0.74	262-263
9	**Total number of monthly expenditure**		What is your priority when spending your monthly income?	Food – Transport (10 items, respondent will be asked to number between 1 – 10 based on priority)	N/A	265

5.2.2.4.3 Dietary quality

The 20-item Short Form Food Frequency questionnaire (SFFFQ) was used to assess dietary quality (Cleghorn *et al.*, 2016). The SFFFQ has been validated in a UK cohort study and shown to have good reliability against the previously validated 217-item FFQ, and compared against a four day diet record (Cade *et al.*, 2015).The FFQ assess the healthiness of the diet by looking at the consumption of food groups which are known as an indicator of good dietary quality such as: fruit, vegetables, oily fish, fats, and non-milk extrinsic sugar (NMES) (World Health Organization, 2003). A picture prompt of the standard portion size of each food items was provided to help participants to recall portion size and, hence, their food intake. Using visual cues improves the accuracy of quantifying portion size and food being eaten (Subar *et al.*, 2010; Lucas *et al.*, 1995). The frequency of consumption of 20 food groups was entered into Diet and Nutrition Tool for Evaluation (DANTE) software, provided by the Leeds University research group who developed it. The software converts the frequency of food consumed in standard portion sizes into an estimated weight of food groups consumed per day. The amount of fruit, vegetables, oily fish, fat and NMES were summed to estimate the daily total weight (in grams) of intake for these food groups. A score of 1-3 was assigned for each food group, a score of 3 meaning the dietary recommendation for that food group was met. The overall Dietary Quality Score (DQS) was calculated by summing the score of each food group, which give rise to 5 to 15 for diet score. For classification purpose, a dietary quality score of 5-8, 9-12, and 13-15 were classified as “poor”, “moderate”, and “optimal”, respectively.

5.2.2.4.4 Health

General Self-Rated Health

A single General Self-Rated Health (GSRH) question was used to assess perceived health status. The questionnaire has been shown to predict all-cause mortality cases (DeSalvo *et al.*, 2006; Idler and Benyamini, 1997), the presence of chronic diseases (Balasubramanyam *et al.*, 2007; Haseli-Mashhadi *et al.*, 2009) and their associated biomarkers (Tomten and Hostmark, 2007). The questionnaire asked individuals to rate their health in the past 12-months with five possible answers ranging from very poor to very good (Pikhart *et al.*, 2001). In the analysis, the response was coded from 0 – 4 to indicate ascending health status.

Anxiety and depression

The Hospital Anxiety and Depression Scale (HADS) consists of fourteen items assessing anxiety and depression (Zigmond and Snaith, 1983). The questionnaire has been shown to be valid and reliable in non-clinical settings (Iani *et al.*, 2014; Bjelland *et al.*, 2002). Items are scored on a four-point scale from zero to three representing increasing severity. The maximum score is 21 for both the depression and anxiety subscales. Participants' levels of depression and anxiety were classified into "normal" (0-7), "borderline abnormal" (8-10), or "abnormal" (11 and above) based on the summed score (Zigmond and Snaith, 1983).

Wellbeing

Wellbeing was assessed using the four-item Office for National Statistics (ONS) wellbeing questionnaire (Beaumont and Lofts, 2014). The questionnaire has been used as part of Annual Population Survey (APS) in the UK since 2011 (Office for National Statistic (ONS), 2014; Hicks *et al.*, 2013). The normative values for the UK population is available for comparison at the

local authority level (Open Data Communities, 2016). The questionnaire assesses one's wellbeing through four questions relating to life satisfaction, feeling worthwhile, and how happy/anxious participants were yesterday. Responses ranged from 0-10, where 0 is "not at all" and 10 is "completely". Scores from four subscales were summed and divided by four to create a total score between 0 to10.

5.2.2.4.5 Income crisis

Two validated questionnaires assessed self-reported perceived financial strain and adverse life events.

Perceived financial strain

Financial strain was assessed using Pearlin's three-item Chronic Strains questionnaire (Conklin *et al.*, 2014; Conklin *et al.*, 2013). The questionnaire has been previously used in large British cohort studies including The European Prospective Investigation of Cancer (EPIC) Norfolk (Surtees and Wainwright, 2007) and the Whitehall II (Ferrie *et al.*, 2005). The three subscales assessed whether the participant had sufficient money to meet their needs (three responses, "less than enough" to "more than enough"), frequency of not having money to buy clothes or food (five responses, "always" to "never"), and difficulty paying bills (five responses, "always" to "never"). For all items, responses were coded according to increasing severity, e.g. never/more than enough = 0, rarely/just enough = 1, sometimes/less than enough = 2, often = 3, and always = 4. The three items were summed to give a total score of 0 – 10 whereby a higher score indicated an increase in the severity of financial strain.

Adverse life events

Adverse life events were assessed using the twelve-item Life-Threatening Event (LTE) questionnaire (Brugha and Cragg, 1990). The questionnaire measured the occurrence of stressful events in the past six months. Responses to each item were coded dichotomously, No = 0, and Yes = 1. Items were summed to give a total score of 0 -12, of which a higher score means more adverse events experienced. For descriptive purposes, the events were dichotomised to “yes” or “no” for the event classified as: financial ‘shock’ (e.g. unemployed, experiencing a financial crisis, being sacked from a job), relationship (e.g. divorce, the breakdown of stable relationship), personal (e.g. court appearance, conflict with friends and family), and illness and bereavement (Motrico *et al.*, 2013).

5.2.2.4.6 Social support

The Multidimensional Scale of Perceived Social Support (MSPSS) is a twelve-item questionnaire used to assess perceived social support from family, friends and significant others (Zimet *et al.*, 1988). The questionnaire has been shown to have good validity and been used by other studies focusing on food insecurity (Piaseu and Mitchell, 2004; Kollannoor-Samuel *et al.*, 2011). Responses were rated on 7-point Likert-type scales ranging from 1 “very strongly disagree” to 7 “very strongly disagree”. The sum of all item scores was then divided by 12 to classify the respondent level of social support to ‘low’ (score = 1 – 2.9), ‘moderate’ (score = 3 - 5), and ‘high’ (score 5.1 – 7).

5.2.2.4.7 Access to cooking and fresh food storage facilities

Difficulty accessing cooking and chilled food storage facilities was measured with two questions asking participants whether they had such difficulties. Potential responses were 0 = no difficulties in accessing both cooking and chilled food storage facilities, 1 = having difficulty in accessing either cooking

facilities or chilled storage facilities, and 2 = having difficulty in accessing both facilities.

5.2.2.4.8 Household food security

The 10-item Household Food Security Module (HFSM) (Coleman-Jensen, 2012) was used to measure household food security over the past 12 months. In the UK, the scale has been used in the Low Income Diet and Nutrition Survey (LIDNS) (Nelson *et al.*, 2007a) and the "Food and You" survey (Bates *et al.*, 2017). Affirmative scores were summed and households classified as high (I.e. no indication of reduced food intake) (score=0), marginal (i.e. worrying about food sufficiency) (score = 1 – 2), low (i.e. reduced quality of food without reduced food intake) (score = 3 – 5) or very low (i.e. reduced food intake and hunger) (score = 6-10) food security. Participants were considered as food insecure if they were classified as having marginal, low or very low on food security (Coleman-Jensen, 2012).

5.2.2.4.9 Health behaviours

Smoking status was assessed by asking about participant's current smoking status, with three responses; current smoker, former smoker or never smoked. For those who smoked, average daily cigarette consumption was recorded as three responses: 0-9, 10-19, or 20 or more cigarette a day (World Health Organization, 2011). The responses for analysis were clustered as non-smoker/former smoker, light smoker (1-9/day), moderate smoker (10-19/day) and heavy smoker (20+/day). Alcohol consumption assessment was estimated using the three items from the Alcohol Use Disorders Identification Test Consumption (AUDIT-C) (Bush *et al.*, 1998; Public Health England, 2017b), which contains an image of different alcohol types and their corresponding number of alcohol units. A total score of 5 or above was classified as AUDIT-C positive. In other words, their drinking habit would adversely affect their health and safety.

5.2.2.4.10 Dietary quality

The 20-item Short Form Food Frequency Questionnaire (SFFFQ) was used to assess dietary quality (Cleghorn *et al.*, 2016). The SFFFQ has been validated in a UK cohort study and shown to have good reliability when compared to the previously validated 217-item FFQ, and a four-day diet record (Cade *et al.*, 2015). The FFQ assesses the healthiness of the diet by looking at the consumption of food groups which are known to be indicators of a healthy diet such as fruit, vegetables, oily fish, fats, and Non-Milk Extrinsic Sugar (NMES) (World Health Organization, 2003). A picture prompt containing the standard portion size of each food item was provided to help participants to recall portion size. Visual cues have been shown to improve the accuracy of quantifying portion size and recalling the food being eaten (Subar *et al.*, 2010; Lucas *et al.*, 1995). The frequency of consumption of 20 food groups was entered into the Diet and Nutrition Tool for Evaluation (DANTE) software, provided by the Leeds University research group. The software converts the frequency of food consumed in standard portion sizes into an estimated weight of food groups consumed per day. The amount of fruit, vegetables, oily fish, fat and NMES were summed to estimate the daily intake for these food groups (in grams). A score of 1-3 was assigned to each food group, a score of 3 meaning the dietary recommendation for that food group was met. The overall Dietary Quality Score (DQS) was calculated by summing the score of each food group, which equals 5 to 15. For classification purpose, a dietary quality score of 5-8, 9-12, and 13-15 were classified as “poor”, “moderate”, and “optimal”, respectively.

5.2.2.4.11 Total number of expenditures

A brief interview was conducted to assess monthly household spending. Cards were produced which described household expenditures adapted from the annual Living Costs and Food (LCF) survey. The survey measures British household expenditures in line with the internationally agreed Classification of Individual Consumption by Purpose (COICOP) (Office for National Statistic,

2015). Participants were asked to select cards showing the types of expenditure that they have to pay weekly or monthly. They were then asked to sort these cards in order of priority for paying the item.

The original expenditure list of the LCF requests extensive details for each expense. To minimize respondent burden, sixteen major household expenditures were included such as: rent; council tax; clothing and footwear; household bills (e.g. gas, water, electricity); food and drink (non-alcoholic); household goods and services (e.g. cooker, fridge maintenance, cleaning materials); transport; communication; recreation and culture (e.g. TV license); education; eating out; personal care (e.g. toiletries); alcoholic drinks and tobacco; insurance; health (e.g. prescription, spectacles); loan or other debt repayment; and other expenditures not listed (up to 4 extra expenses). The total number of expenditures was summed to create a score of 0-20. How the expenses were prioritised based on how participants sorted the expenditure cards was also recorded.

5.2.3 Procedure

5.2.3.1 Recruitment and survey administration

Participants were opportunistically recruited during foodbank and AC opening hours from April 2016 to August 2016. Advert flyers of the study were placed in foodbank centres and ACs (Appendix M). Those who were interested in taking part in the study were directed by foodbank and AC volunteers to the researchers who were present during foodbank and ACs opening hours.

Participants were given time to consider an information sheet describing the study (e.g. purpose, duration, topics etc.), and then asked if they would like to participate. Those who gave written informed consent, which included their right to withdraw, then completed the questionnaire. Participants were given £5 in cash to compensate them for their time. Twenty foodbank and 19 AC users

were approached but were not eligible to participate due to language barriers. Of those approached, the recruitment rate at foodbanks and ACs after excluding non-eligible users were 88% and 65%, respectively. The most common reasons for refusing to participate were "*busy*", "*not interested*" and "*feeling unwell*". The majority of the questionnaires were completed independently (ACs = 81%, foodbanks = 73%), with the remainder administered by researchers if participants required assistance (e.g. unable to read).

5.2.3.2 Sample size calculation

This study aimed to recruit approximately 400 participants, with at least 200 from each arm. A power calculation was performed using G*power 3.1 statistical software (Faul *et al.*, 2007) with 80% power at the 5% significance level. This showed that 395 participants would be needed to detect a small effect size on dietary quality (F^2 = 0.02) for each of six predictors qualitatively identified in Study 1 as themes that could influence the dietary quality of foodbank users. This assumption was made on the basis that the full model would explain 20% of the variance in the dietary quality score as found in a similar study looking at dietary quality in the UK (Lawrence, 2010).

5.2.4 Statistical analysis

The statistical analyses were carried out with SPSS, version 21.0. Normality of the data was checked using histograms. Mean (± SD) or median (interquartile range) were used to describe normally and non-normally distributed data, respectively. The differences between the two groups were analysed using independent T-tests, Mann-Whitney U tests, and Chi-Square tests for normally, non-normally distributed and ordinal data, and categorical data, respectively.

To contextualise our findings against the UK-wide population, we compared dietary quality and household food security status in this study sample against nationally representative data. Thus we used data for the general population

(National Diet and Nutrition Survey (NDNS)) (National Centre of Social Research *et al.*, 2017) and people living on low-income (Low-Income Diet and Nutrition Survey (LIDNS)) (National Centre for Social Research *et al.*, 2008). In addition, we compared our data to the "Food and You" Survey (Food Standards Agency and NatCen Social Research, 2017). The recommended dietary intake for each food group was derived from UK guidelines on nutrition and dietetics (Gandy and Holdsworth, 2006). For all analyses, a two-tailed *P* value of <0.05 was considered significant. Missing data was minimal and was excluded from individual analyses.

Correlation analyses were performed to assess the relationship between predictors and dietary quality. Multiple linear regression was used to investigate whether independent variables such as social support, household food security, adverse life events, total expenditures, difficulties accessing cooking and chilled food storage, and financial strain predicted variations in the dietary quality score (as a dependent variable). Additional variables such as age, gender and education were controlled for as confounders in the analysis as they have been shown to be associated with dietary quality in previous research (Beydoun *et al.*, 2008; Turrell *et al.*, 2003). Mediation analysis was performed using PROCESS macros for SPSS v 2.16 (Hayes, 2016) to explore factors mediating the effect of 'income crisis' (i.e. adverse life events and financial strain) on dietary quality. The mediators tested in this study are those identified in Study 1 and Study 2, namely; social support, total expenditures, problem accessing cooking and chilled food facilities, and food insecurity.

Post-hoc analyses were conducted to test which factors associated with household food security. The analysis was done as household food security was identified as the only significant mediator between income crisis and dietary quality. Age, gender, education, benefits entitlement, and employment were controlled for as confounders, as they have been shown to be associated with food insecurity in previous research (Seligman *et al.*, 2015; Neter *et al.*, 2016; Loopstra *et al.*, 2016). Financial strain and adverse life events were selected as independent variables that predict food insecurity (as a dependent

variable) as identified from Study 1 and Study 2 and previous research (Perry *et al.*, 2014).

5.3 Results

5.3.1 Who uses foodbanks?

In total, 515 participants were recruited from foodbanks (N=270) and ACs (N=245). Descriptive statistics and comparisons on demographics for foodbank and AC users were summarised in Table 5. More than half of foodbank users were women (56%), classified as with lower educational attainment (52%), single (64%), living in a local authority or housing association (62%), and currently receiving benefits (65%). Compared to AC users, a greater proportion of foodbank users were younger, more likely to be classified as homeless, a single male without children, unemployed, and reported lower weekly income (P<0.001). Foodbank users were also more likely to score positive on AUDIT-C than AC users, and half of them were current smokers.

Table 5 Sociodemographic characteristics and health behaviours of foodbank and advice centre users

		Foodbanks N (%) / mean±SD	Advice Centres N (%) / mean±SD
Age[a]	(in years)	43±11	45±14
Gender	Male	119 (44)	103 (42)
	Female	151 (56)	142 (58)
Education Level [b]	Low (<16 years)	140 (52)	107 (44)
	High (≥16 years)	128 (47)	137 (56)
Ethnicity	White	127 (47)	93 (38)
	Black	107 (40)	110 (45)
	Mixed/Asian/Others	36 (13)	42 (17)
Marital Status[c]	Single	171 (64)	137 (56)
	Separated/Divorced/Widowed	51 (19)	59 (24)
	Cohabitating/Married	48 (18)	48 (20)
Types of accommodation***	Local authority/Housing association	168 (62)	148 (61)
	Private Rent	33 (12)	44 (18)
	Homeless/temporary accommodation	46 (17)	17 (7)
	Living with family/friends	20 (7)	24 (10)
	Own outright /mortgaged	3 (1)	11 (4)
Family composition***			
With children	Single women and men	48 (18)	37 (15.1)
	Multiple adults	52 (19)	45 (29.0)
Without children	Single women	41 (15)	40 (16)
	Single men	88 (33)	52 (21)
	Multiple adults	41 (15)	71 (29)
Benefit Entitlements ***	Yes	175 (65)	157 (64)
	No – due to sanction or delay	57 (21)	8 (12)
	Formerly receiving	8 (17)	38 (15)
	Never received	30 (11)	42 (17)
Employment status[d]***	Unemployed	166 (62)	94 (38)
	Long term sick/disabled	63 (23)	30 (12)
	Employed (FT/PT/self-employed)	16 (6)	78 (32)
	Retired/student/homemaker	23 (9)	43 (18)
Weekly Income (£) Median [IQR][e]***		71 [0-117]	140 [70 – 250]
AUDIT C[f]**	Positive	60 (23)	29 (2)
	Negative	207 (77)	213 (88)
Smoking status[d]***	Heavy smoker (20+ a day)	26 (10)	12 (5)
	Moderate smoker (10-19/day)	39 (15)	24 (10)
	Light smoker (1-9/day)	74 (27)	34 (14)
	Never smoked/former smoker	128 (48)	173 (71)

***P*<0.01 *** *P*<0.001 [a]missing data = 11, [b]missing data = 3, [c]missing data=1, [d]missing data=2, [e]missing data=10, [f]missing data=6,

5.3.2 Reasons for referral to foodbanks and visiting advice centres

Nearly half of the foodbank referrals came from charities including ACs and churches, and the remaining came from statutory agencies such as Job Centres, support workers, doctor's surgeries, children centres, local councils, schools, probation offices, etc. (Figure 6). The most common reasons for foodbank referral as indicated on foodbank vouchers were: benefit delays (32%), low-income (20%) and unemployment (11%). The most common types of advice sought by AC users were: welfare benefits (13%), housing (13%) and debt and money advice (5%). On the day of study, most foodbank users (49%) had come once, while 30% twice, 13% three times, and 9% four or more times in the past six months. Only 9% of ACs users had used a foodbank in the past six months.

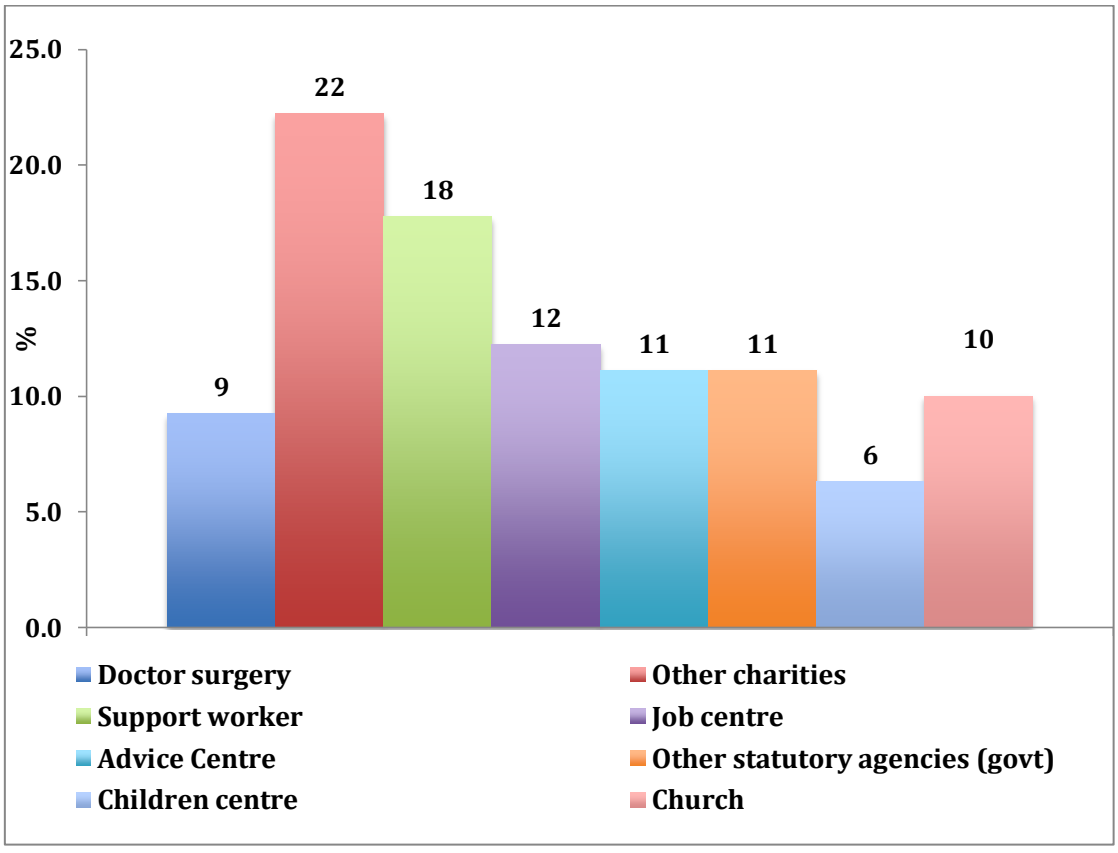

Figure 6 Percentage of voucher partners that made a referral to the foodbanks

5.3.3 Dietary quality, health status and predictors of dietary quality

5.3.3.1 Dietary quality

Table 7 showed that compared to the AC users, the dietary quality of foodbank users was poorer, as can be seen by significantly lower overall dietary quality scores, and lower consumption of healthy food items such as fruits, vegetables and oily fish.

A comparison with the diet of the general population (using National Diet and Nutrition Survey (NDNS) dataset) and low-income population (using Low-Income Diet and Nutrition Survey (LIDNS) dataset) in the UK showed that none of the group met the recommended intake of oily fish, fruits and vegetables (Table 6). The proportion of foodbank users who were classified as 'good' on the intake of NMES, fat and oily fish, and meeting the '5-a-day' target of fruit and vegetable consumption was higher than the low-income population in the LIDNS. In the pooled sample, those who were single, currently receiving benefits, currently unemployed and non-smokers were more likely to have an 'optimal' dietary pattern (Table 7)

Table 6 A comparison of the dietary quality of foodbank users, advice centre users, general (National Diet and Nutrition Survey) and low-income (Low-Income Diet and Nutrition Survey) population in the UK

		Foodbanks N(%) / median (interquartile range)	**Advice Centres** N(%) / median (interquartile range)	**Low-Income Diet and Nutrition Survey** N(%) / median (interquartile range)	**National Diet and Nutrition Survey** N(%)/ median (interquartile range)	**Recommended intake**
Overall DQS (Mean±SD)* **		9.7±1.9	10.8±1.9	9.2±1.7	12.2±1.6	N/A
Fruit Intake ***	(g/day)	29 (4 - 57)	57 (11 - 120)	36 (0-107)[a]	72 (20-139)	
	Not Good	124 (46)	67 (27)	1800 (48)	497 (19.5)	
	Fair	136 (50)	144 (59)	1518 (41)	1386 (54.4)	
	Good	10 (4)	34 (14)	410 (11)	663 (26.0)	
Vegetable Intake ***	Intake (g/day)	58 (27 - 120)	120 (58 - 240)	(?)) 65 (28-115)	118.(66-118)	
	Not Good	173 (64)	83 (34)	2183 (59)	341 (13.4)	
	Fair	61 (23)	90 (37)	1389 (37)	1396 (54.8)	
	Good	36 (13)	72 (29)	156 (4)	809 (31.8)	
Total Fruit and vegetable intake (g/day)* **		86 (40 - 177)	188 (86 - 360)	121(58-212)[b]	198 (123-306)	400
Achieving '5-a-day' target* **		19 (7)	40 (16)	223 (6)	404 (22)	
Oily Fish Intake ***	Intake (g/week)	4 (0 –32)	13 (0 –32)	0 (0-0)	0 (0-0)	140
	Not Good	103 (38)	64 (26)	3292 (88)	234 (9)	
	Fair	92 (34)	81 (33)	241 (6)	243 (10)	
	Good	75 (28)	100 (41)	195 (5)	2069 (81)	
Non Milk Extrinsic Sugar[c]	Intake (g/day)	50 (26 – 83)	53 (28 – 80)	57(33 -57)	50. (32-74)	<60g/day
	Not Good	55 (20)	51 (20.8)	922 (25)	401 (16)	
	Fair	58 (22)	49 (20.0)	220(7)	574 (22)	
	Good	156 (58)	145 (59.2)	1985 (53)	1567 (61)	
Total Fat[c]	Intake (g/day)	73 (40 – 127)	68 (3 – 560)	64 (48-84)	59 (45-74)	<70 gram/day
	Not Good	67 (25)	49 (20)	161 (4)	29 (1)	
	Fair	49 (18)	40 (16)	742 (20)	312 (12)	
	Good	153 (57)	156 (64)	2825 (76)	2205 (87)	

[a] Fruit data was calculated using NDNS method where fruit juice was only count as maximum one portion per day. [b] Vegetables data does not include potatoes and baked beans.

[c] missing data=1

Table 7 Cross-tabulation on sociodemographic variables of foodbank users and selected dietary quality scores in both foodbank and advice centre users.

Variables		Diet Quality Score		
		Poor	**Moderate**	**Optimal**
		N (%)	N (%)	N (%)
Marital status*	Single	126 (25)	103 (20)	79 (15)
	Separated, divorced or widowed	29 (6)	43 (8)	38 (7)
	Cohabitating or married	28 (5)	44 (9)	23 (4)
Benefits entitlement*	No – due to sanction or delay	28 (5)	25 (5)	12 (2)
	Yes	128 (25)	117 (23)	87 (17)
	Formerly/never received	28 (5)	48 (9)	42 (8)
Education level***	Low (<16 years)	110 (21)	91 (18)	46 (9)
	High (≥16 years)	73 (14)	98 (19)	94 (18)
Ethnicity	White	84 (16)	83 (16)	53 (10)
	Non-white	100 (19)	107 (21)	88 (17)
Employment status*	Long-term sick or disabled	43 (8)	31 (6)	19 (4)
	Unemployed	99 (19)	100 (19)	61 (12)
	Others	20 (4)	22 (4)	24 (5)
	Employed	21 (4)	36 (7)	37 (7)
Family type	Single adult	88 (17)	78 (15)	54 (11)
	Single parent	28 (5)	30 (6)	27 (5)
	Adults with children	33 (6)	43 (8)	21 (4)
	Adults without children	35 (7)	38 (7)	39 (8)

*$P<0.05$ ***$P<0.001$

5.3.3.2 Health and wellbeing in foodbank and advice centre users

Compared to AC users, foodbank users reported poorer self-rated health, where a third rated their health as bad or very bad. More than a third of foodbank users had 'abnormal' depression scores, and more than half had 'abnormal' anxiety scores. In the foodbank group, the score of wellbeing was significantly lower than in the AC group. The mean values for feeling happy yesterday, feeling worthwhile and satisfied with life were also significantly lower than AC users (P<0.001) (Table 8).

Table 8 Comparison of health status and wellbeing of foodbank and advice centre users

Variables		Foodbanks N(%)) / Median (IQR)	ACs N(%)) / Median (IQR)
Self-rated Health[a]*	Bad or very bad	91 (40)	59 (28)
	Average	60 (26)	63 (30)
	Good or very good	79 (34)	91 (43)
Anxiety[b]**	Score	11(7-14)	9(5 -14)
	Abnormal	149 (56)	104 (43)
	Borderline	49 (18)	45 (19)
	Normal	69 (26)	93 (38)
Depression[c]***	Score	8 (5-11)	6 (3-10)
	Abnormal	82 (31)	49 (20)
	Borderline	72 (27)	50 (21)
	Normal	114 (42)	143 (59)
Wellbeing (0-10)	Score***	5 (3-6)	6 (4-7)
	Anxious yesterday	5 (3-7)	5 (2-7)
	Happy yesterday***	4 (2-7)	6 (3-8)
	Worthwhile[d]***	5 (3-7)	7 (5-8)
	Satisfied with life[d]***	5 (3-6)	5 (4-7)

*P<0.05 ** P<0.01 ***P<0.001

[a]missing data=72 [b] missing data=6 [c]missing data=5 [d]missing data=1

5.3.3.3 The relationship between diet and health

In foodbank and AC users, a healthier diet as can be seen by the increase in dietary quality score, an increase in consumption of fruit and vegetables, and oily fish were positively associated with wellbeing and self-rated health (P<0.01). A healthy diet also was shown to be negatively associated with anxiety and depression. The intake of Non-Milk Extrinsic Sugar (NMES) was associated with higher subjective wellbeing (P<0.01), and a reduction in anxiety and depression (Table 9).

Table 9 Correlation analysis of dietary quality, health and wellbeing

	Dietary Quality Score	Fruit and Vegetable (gram)	Oily fish (gram)	Fat (gram)	Non-Milk Extrinsic Sugar (gram)
Wellbeing	0.13*	0.26*	0.12*	0.02	0.15*
Self-rated health	0.15*	0.19*	0.15*	0.01	0.04
Anxiety	-0.13*	-0.19*	-0.14*	-0.25	-0.12*
Depression	-0.16*	-0.25*	-0.17*	-0.54	-0.1*

*P<0.01

5.3.3.4 Income crisis: financial strain and adverse life events in foodbank users and advice centre users

Descriptive data for putative predictors and mediators of dietary quality such as financial strains, adverse life events, total expenditure, social support, access to cooking and chilled food facilities, and household food security in foodbank and AC users were summarised in Table 10.

Nearly two-thirds of foodbank users reported financial strain regarding difficulty affording adequate food and clothing (70%), paying bills (69%). Most foodbank users responded to having less than enough money to meet their

needs (81%). The median number of adverse life events experienced by foodbank users was significantly higher than AC users (3 vs 2 events, respectively). Foodbank users also reported more adverse life events over the past 6 months than AC users (P<0.01), especially financial shock events.

5.3.3.5 Food insecurity, social support, monthly expenses, and access to cooking and chilled food storage facilities in foodbank users and advice centre users

The proportion of foodbank users who were classified as food insecure was 99.3%, of whom 81.5% were experiencing very low food security. More foodbank than AC users answered “Yes” on they had not eaten for a whole day, skipped a meal, lost weight, or been hungry but not eaten. The proportion of foodbank users who answered affirmatively on these sub-scales were higher than what has been previously reported in the low-income and general populations in the UK (Figure 7). It was found that three-quarter of AC users were food insecure, yet only 21 (9%) of them had been to the foodbank in the last six months. Compared to AC users, there are more foodbank users (53%) who responded as having ‘low’ levels of social support. Relative to AC users, foodbank users had significantly fewer monthly expenses (9 vs 8, respectively). The proportion of foodbank users that reported a problem accessing cooking facilities was significantly higher than in the AC group (22.2% vs 10.2%).

Table 10 A comparisons of financial strain, household food security, social support, expenditures and life events experienced by foodbank and advice centre users

			Foodbanks N (%)	Advice Centre N (%)
Sufficiency of money to meet needs[a]* **	Less than enough		220 (81)	133 (54)
	Just enough		39 (14)	94 (38)
	More than enough		11 (4)	16 (6)
Not having enough money to afford adequate food or clothing[b]* **	Always		113 (42)	39 (22)
	Often		75 (27)	62 (20)
	Sometimes		52 (18)	86 (33)
	Rarely		23 (7)	29 (11)
	Never		7 (6)	28 (12)
Difficulty paying bills[b]*	Always		113 (42)	54 (22)
	Often		74 (28)	50 (20)
	Sometimes		50 (18)	82 (33)
	Rarely		18 (7)	28 (11)
	Never		15 (6)	30 (12)
Adverse life events [a]	Total events [range]***		3 [0-11]	2 [0-11]
	Personal	Yes	172 (64)	138 (57)
	Financial shocks***	Yes	199 (74)	124 (51)
	Illness/bereavement	Yes	134 (50)	125 (51)
	Relationship	Yes	80 (30)	52 (21)
Household food Security[c]* **	Very low		218 (81)	87 (34)
	Low		33 (12)	52 (21)
	Marginal		15 (6)	44 (18)
	High (food secure)		2 (1)	60 (25)
Total number of expenditures (mean±SD)* *			8 ± 3	9 ± 3
Having problem with cooking or chilled food facilities	No***		210 (78)	220 (90)
	Yes		60 (22)	25 (10)
Social Support	Low		143 (53)***	75 (31)
	Medium		81 (30)	99 (40)
	High		43 (16)	66 (27)

[a]Missing data = 2 [b]Missing data = 1 [c]Missing data =4

*P<0.05 **P<0.01 ***P<0.001

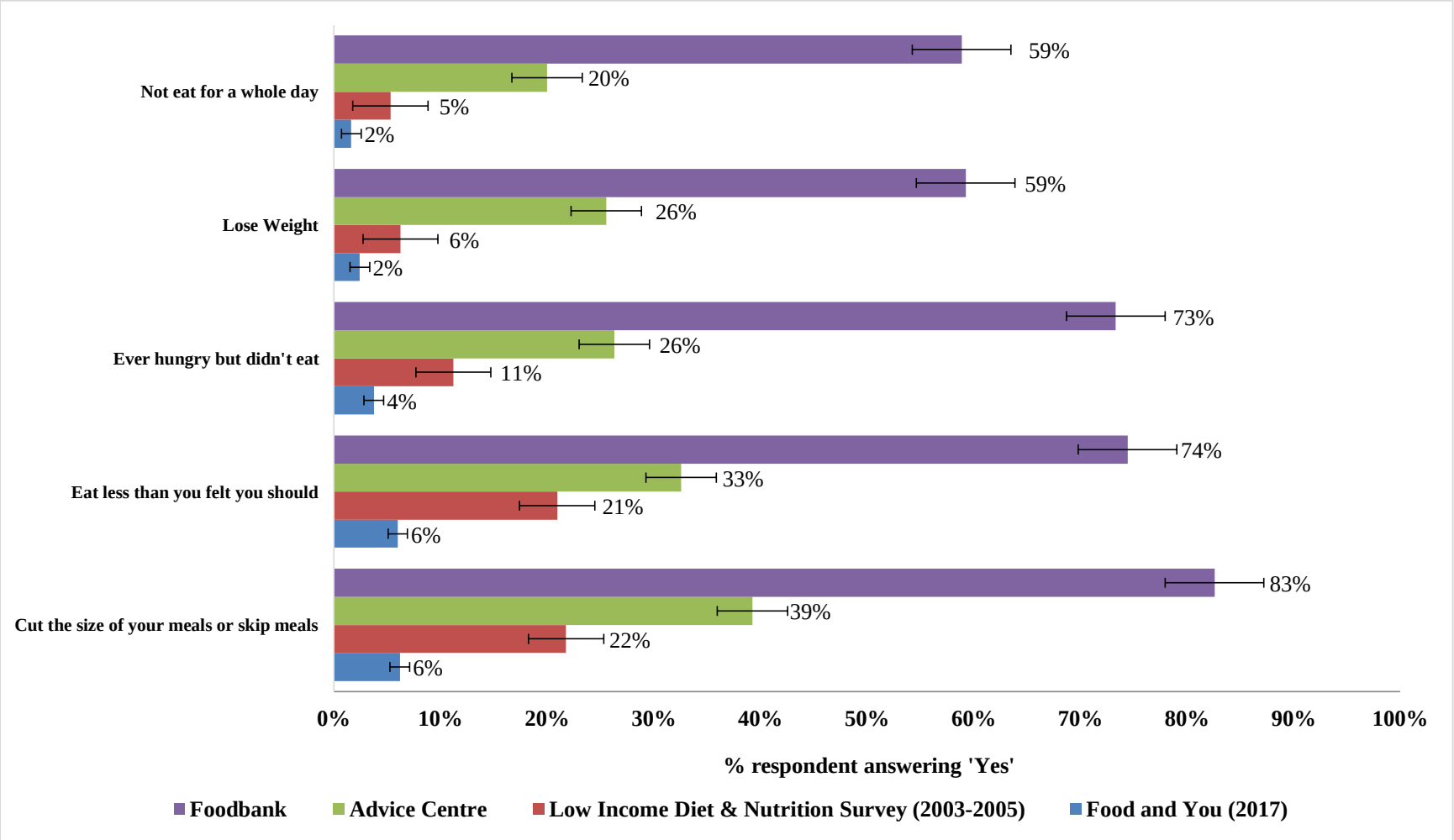

Figure 7 Selected responses from USDA Household Food Security Module for study participants (Foodbank and Advice Centre Users) and national dataset

5.3.4 What are the factors associated with dietary quality in the low-income population that seek help from foodbank and advice centre?

This section explores the predictors of dietary quality and identifying factors that mediate the relationship between income crisis and dietary quality as hypothesised from earlier qualitative findings. The correlation analysis showed that all independent variables were significantly correlated with the dietary score (Table 11). A regression model tested the independent contribution of all six variables in predicting dietary quality in both groups.

Table 11 Correlation analysis between dietary quality and independent variables to be included for regression analysis

	Dietary Quality
Financials strains	-0.12**
Adverse life events	-0.12**
Social support	0.12**
Household food security	-0.31**
Access to cooking or chilled food storage	-0.09*
Total number of expenditures	0.12**

*P<0.05 *P<0.01

Multiple regression analysis showed that being a man, with low educational attainment, younger in age, and with increased severity of food insecurity significantly predicted a reduction in the dietary quality score (Table 12). The model explained 7.5% of the variation in dietary quality (P<0.001).

Table 12 Multiple linear regression analysis predicting variation in dietary quality

		B value 95% CI [lower, upper]
Step 1		
Age		0.013 [0.001, 0.027]*
Gender	Men (Ref)	
	Women	0.421 [0.081, 0.778]**
Education attainment	Low (ref)	
	High	0.548 [0.206, 0.880]*
Step 2		
Financial strain (0-10)		0.025 [-0.052, 0.108]
Adverse life events (0-12)		-0.044 [-0.125, 0.042]
Social support		-0.003 [-0.012, 0.005]
Household food security		-0.156 [-0.215, -0.093]**
Access to cooking or chilled food facilities	No (Ref)	
	Yes	0.047 [-0.343, 0.416]
Total no. of expenditures		0.013 [-0.037, 0.064]

* *P*<0.05 ***P*<0.01

A mediation analysis was conducted to explore which factors mediated the effect of income crisis (i.e. adverse life events and financial strain) on dietary quality. The factors which had been identified in Study 1 were: household food security, social support, the total number of expenditures, and access to cooking and chilled food storage, which has been re-labelled accordingly for quantitative testing (Figure 8)

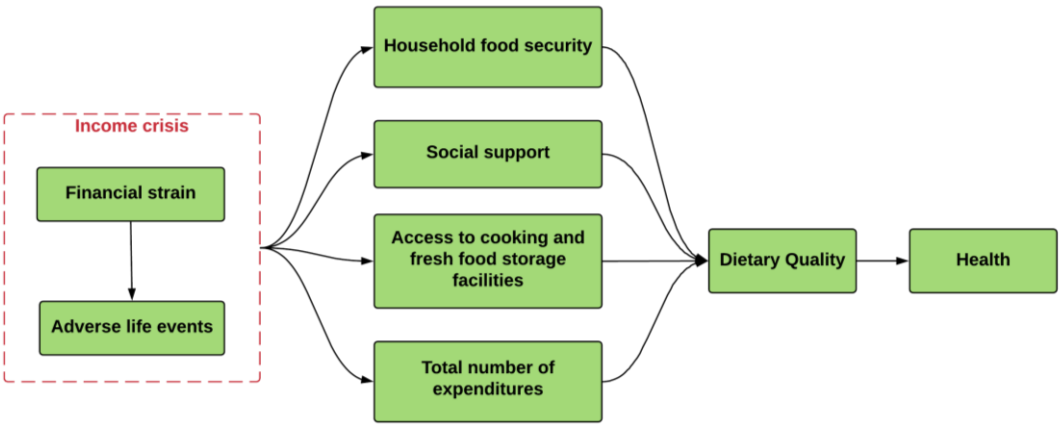

Figure 8 A thematic map from a qualitative study which has been relabeled to direct mediation analyses

Financial strain and adverse life events had a significant direct effect on the reduction in the dietary quality score (Figure 9 and Figure 11). On a separate analysis, the effects of adverse life events (Figure 10) and financial strain (Figure 12) on dietary quality were fully mediated by household food security such that the direct effects of both variables on dietary quality were no longer statistically significant after accounting for the mediators. The mediation model of financial strain and adverse life events explained 3% and 8% of the variation in dietary quality, respectively ($P<0.05$). The remaining mediators such as access to food preparation and chilled food storage, the total number of expenditures and social support were not found to be statistically significant mediators ($P>0.05$).

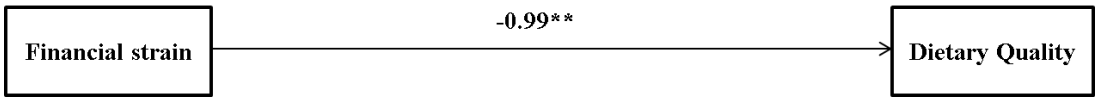

Figure 9 A direct effect of financial strain on dietary quality

** *P*<0.01

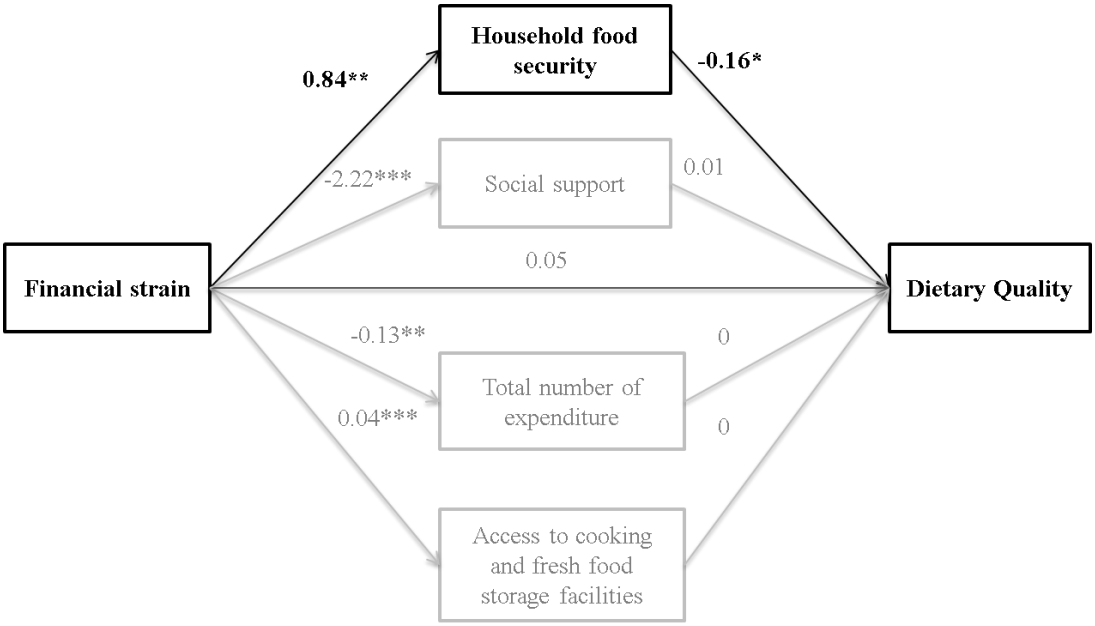

Figure 10 Mediation effect between financial strain and dietary quality

**P*<0.05 ***P*<0.01 ****P*<0.001

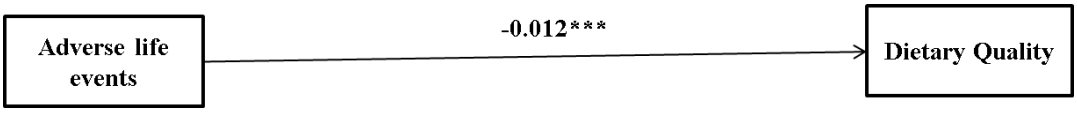

Figure 11 A direct effect of adverse life events on dietary quality

*** *P*<0.001

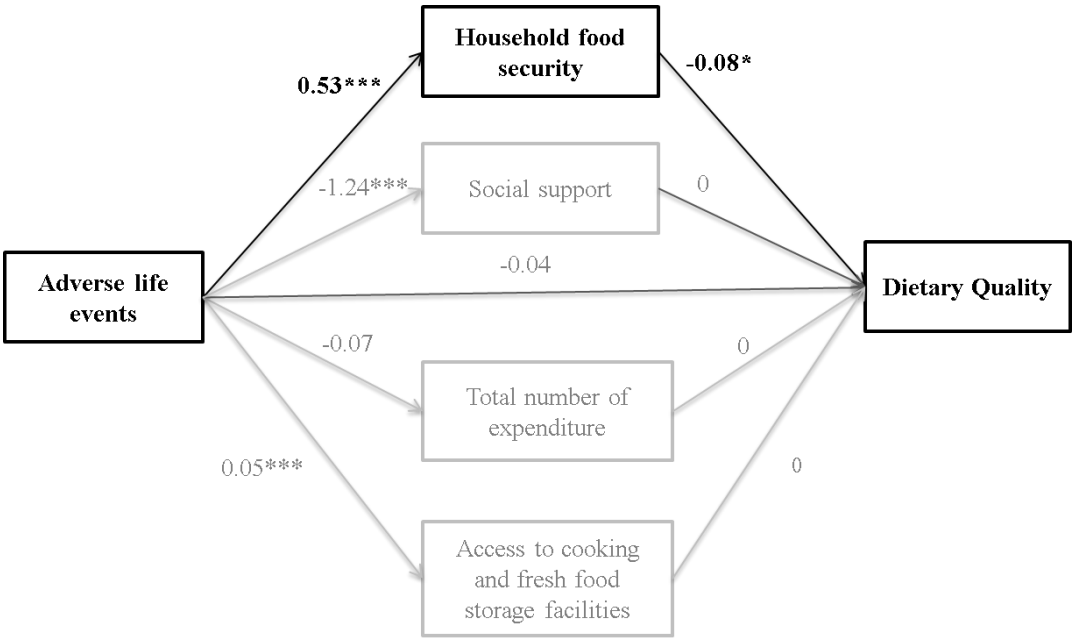

Figure 12 A mediation effect between adverse life events and dietary quality

*P<0.05 **P<0.01 ***P<0.001

5.3.5 What factors are associated with an increased risk of food insecurity? Post-hoc analysis

As described in the result above (Section 5.3.4), household food security was the only significant predictor and mediator of dietary quality in both foodbank and AC populations. Therefore, a post-hoc analysis was conducted to identify predictors of household food security which could be addressed in future intervention and recommendations. A correlation analysis showed that both financial strains (r=0.55, P<0.01) and adverse life events (r=0.26, P<0.01) was significantly correlated with household food security. Both variables were entered into a regression model to assess their independent contribution to predicting household food security.

A regression analysis showed that being a man of younger age, and reporting currently not receiving benefits due to sanction or delay, experiencing more adverse life events and more severe financial strain, was associated with an increase in the severity of food insecurity (Table 13). The regression model explains 28% of the variation in food insecurity (P<0.001)**.**

Table 13 Multiple regression analysis to predict factors associated with increases in the severity of food insecurity

		B value 95% CI [lower, upper]
Step 1		
Gender	Men *(Ref)*	1
	Women	-0.55 [-1.52, -0.34]**
Age (in years)		-0.02 [-0.04, 0.02]**
Level of education	Low (<16 years) *(Ref)*	1
	High (>16 years)	-0.11 [-0.61, 0.59]
Employment status	Other *(Ref)*	1
	Long-term sick or disabled	0.67 [-0.23, 1.58]
	Unemployed	0.35 [-0.37, 1.10]
	Employed	-0.62 [-1.49, 0.18]
Benefits entitlement	Never receive benefits *(Ref)*	**1**
	Currently receiving benefits	0.41 [-0.33, 1.08]
	Not receiving benefits due to sanction or delay	1.01 [0.02, 1.97]*
	Formerly receiving benefits	0.117 [-1.02, 1.21]
Step 2		
Financial strain (0-10)		0.70 [0.61, 0.78]***
Adverse life events (0-12)		0.31 [0.19, 0.42]***

*P<0.05 **P<0.01 ***P<0.001

5.4 Discussion

5.4.1 Summary of findings

This study aims to identify who uses foodbanks and why and to measure the impact of social and environmental influences on dietary quality of the low-income population who seek help from front-line emergency providers such as foodbanks and ACs.

More foodbank users were white, single men without children, currently not receiving benefits due to sanction or delay, unemployed, and classified as homeless than in the AC group. A third of foodbank users were adults with dependent children at home. The most common reasons for foodbank referral as recorded in the voucher were benefit-related problems, low- income and unemployment.

Compared to AC users, foodbank users were more likely to experience adverse life events, financial strain. Foodbank users were likely to report difficulty accessing cooking and chilled food storage facilities, less social support, and poorer self-rated health and wellbeing. This survey confirmed that foodbank users were eating a poorer quality diet and a greater proportion are severely food insecure than AC users. Such findings broadly support the conclusion from the interviews with foodbank users (Chapter 3) and personnel (Chapter 4). Being female, highly educated, older, less food insecure, and experiencing fewer adverse life events predicted a better diet quality (i.e. higher dietary quality score). Only household food security mediated the effect of adverse life events and financial strain on dietary quality. The severity of food insecurity was associated with currently not receiving benefit payments (due to sanction or delay), being male, being of younger age, reported experiences of adverse life events and financial strain.

5.4.2 Who uses foodbanks and what are the reasons for seeking help from foodbanks and Advice Centres?

Compared to the general and low-income populations in the UK and London, foodbank users are: older, a greater proportion live in social housing and are currently unemployed (Office for National Statistics, 2016; Department for Work and Pensions, 2017; Great London Authority, Undated). There were a small proportion of foodbank users who had no qualifications or were from an Asian background. These socio-demographic characteristics have been identified as particularly vulnerable to poverty according to the Household Below Average Income (HBAI) survey (Department for Work and Pensions, 2017). We found that benefit-related problems such as delays in receiving payments or changes to entitlement, and unemployment were the most common reasons for referral to the foodbank. The statistic was in agreement with the statistics of the UK foodbanks in 2015/16 (The Trussell Trust, 2016) and other research in the UK foodbanks (Perry *et al.*, 2014; Spencer *et al.*, 2015; Garratt *et al.*, 2016; Loopstra and Lalor, 2017). In ACs, welfare benefits, housing and money and debt-related issues were the most common types of advice sought by AC users, which is in agreement with the Citizens Advice Bureau report (Citizens Advice Bureau, 2016).

5.4.3 Dietary quality, health and factors influencing the diet of foodbank users,

The survey findings showed that foodbank users had a poor dietary quality, which was evident from poor overall dietary quality, low fruit and vegetable consumption, and nearly all were food insecure. The findings are in agreement with the USA findings where foodbank users were found to have a poor overall dietary pattern, as can be seen by a low score on the Healthy Eating Index (HEI) (Duffy *et al.*, 2009a). Foodbank users are also less likely to meet the daily recommended intake of fruit, vegetable, grain and calories for a healthy and active lifestyle (Simmet *et al.*, 2017).

The overall wellbeing and mental health of foodbank users was poorer than both AC users and the general population in the UK (Office for National Statistic, 2017). This can be seen by lower scores in wellbeing compared to the general UK population (Office for National Statistic, 2017). The score of anxiety and depression in both populations were higher than the normative scoring of the general UK population (Breeman *et al.*, 2015). These findings are in line with the interviews with foodbank personnel who thought poor mental health was prevalent amongst foodbank users. It is also in agreement with other research, in which poor mental health was highly prevalent amongst foodbank users in the UK (Hadfield-Spoor, 2018) and other developed countries (Heflin *et al.*, 2005; Jessiman-Perreault and McIntyre, 2017).

Dietary quality was poorer for men, younger participants, and those with lower educational attainment. These findings are in agreement with past research that those with lower education consumed less healthy foods (e.g. fish and vegetables), and more processed foods and sugar (Galobardes *et al.*, 2001; Wang *et al.*, 2014). The poor diet in the low socio-economic group was reflected in a low intake of beta-carotene, ascorbic acid, and fibre, and high intake of cholesterol in their diet (Si Hassen *et al.*, 2016; de Mestral *et al.*, 2017).

In this study, household food security was the only significantly mediators of the effect of income crisis and dietary quality. The adverse effect of being food insecurity on dietary quality has been consistently shown by past research from other developed countries (Simmet *et al.*, 2017; McIntyre *et al.*, 2007; Ricciuto and Tarasuk, 2007; Tarasuk *et al.*, 2007). Our research extended these findings and demonstrates that the impact of income crisis on the reduction of dietary quality is fully mediated by food insecurity. This might be unsurprising, as a household who experienced mild food insecurity will try to ‘stretch’ their limited food budget by prioritising cheap yet filling foods, over expensive yet nutritious food such as fresh fruit and vegetables. Such

prioritisation allows them to meet calorie requirements at the lowest cost (Rao *et al.*, 2013). This is evident by how those who are food insecure and relying on the Federal Food Aid initiatives in the U.S are still able to meet their energy requirements despite eating fewer meals (Andreyeva *et al.*, 2015). In this study, however, the majority of foodbank users were experiencing severe food insecurity and reporting hunger. This means switching to cheaper foods to maintain food sufficiency may not be an option, which further reduced their dietary quality.

5.4.4 What are the factors associated with an increased risk of food insecurity in these populations?

Post-hoc analysis suggests that the risk and severity of food insecurity were associated with not receiving benefits due to sanction or delay, younger age, being male, and experiencing more financial strain and adverse life events. These findings add to the current literature on how younger age (Robaina and Martin, 2013; Bates *et al.*, 2017), being 'financial strained' (Loopstra and Tarasuk, 2013), and experiencing adverse life events or other life shocks (Perry *et al.*, 2014; Huang *et al.*, 2016; Gundersen and Gruber, 2001) could increase the severity of food insecurity. This study also identified that benefit-related problems such as interruption to claimant's payments due to sanction or delay increased the odds of experiencing food insecurity. The finding supports the emerging evidence from other UK findings (Loopstra *et al.*, 2015; Loopstra *et al.*, 2016; Loopstra *et al.*, 2018). More recently, the UK longitudinal study reveals a worrying trend, of which the authors reported there was no reduction in foodbank use the following years despite a reduction in benefits sanctions in the local area (Loopstra *et al.*, 2018). The authors postulated that households may accrued debt during the benefits sanctions, which left them reliant on foodbanks and still experience financial hardship even after the sanctions had ended.

This study found that only a minority (3.4%) of the foodbank sample was aged between 18-24 years old. This is in contrast to a recent national survey that

suggested that the 18-24 years old group made up the greatest proportion of the food insecure population in the UK (16%) (Bates *et al.*, 2017).

This study found that financial strain was shown to increase the risk of food insecurity. It is plausible that current unemployment benefits, which are the primary source of income of most foodbank users, were insufficient to achieve the Minimum Income Standard (MIS) (i.e. income needed to reach the socially acceptable standard of living) for living in the UK. Unemployment benefits only cover a third (for a single person) to half (for those with children) of MIS needed for living in the UK (Padley and Hirsch, 2017). Therefore, maintaining food sufficiency can be increasingly challenging for those relying on welfare benefits. Furthermore, we found that adverse life events increased the severity of food insecurity. The relationship between adverse life events and financial strain on food insecurity may operate in two ways. It is plausible that adverse life events and financial strain may lead to food insecurity. Alternatively, food insecurity might cause adverse life events and financial strain, as poor diet could exacerbate current health problems, which lead to sickness and being away from work (Prayogo *et al.*, 2017a). Due to the nature of this study, however, the direction of the relationship cannot be confirmed.

An unexpected finding from our study was that being a man was associated with an increased risk of food insecurity. Such a finding contrasted with other findings on the heightened vulnerability of women to experience food insecurity (Carter *et al.*, 2010; Neter *et al.*, 2014). Our findings were in agreement with the data from the Poverty and Social Exclusion (PSE) survey in the UK, which noticed the shift in gendered poverty between 1999 and 2012 (Dermott and Pantazis, 2014). The 2012 PSE data showed that single men without children were the group that is vulnerable to poverty. Furthermore, we found no association between employment status and household food security, despite the strong correlation reported by others (Kim *et al.*, 2011). This might be due to the low proportion of participants who were employed at the time of the study (i.e. foodbank (6%) and AC users (32%)). A similar observation was made in a study in Dutch foodbanks, in

which the authors attributed the high unemployment in their sample as the reason behind the lack of predictive power of employment status (Neter *et al.*, 2014).

5.4.5 Strengths and limitations of the study

Due to the cross-sectional nature of the study, it is not possible to determine the directionality of the relationships observed. Thus, no strong conclusions can be drawn about the causal factor. Furthermore, due to the nature of our sampling and inclusion criteria, the findings may not be generalisable to foodbank users outside of London, or those attending independent, non-Trussell Trust Foodbanks. Participants were opportunistically recruited, it is therefore plausible we might recruited those who are more motivated and well enough to participate in the study. However, random sampling was not possible due to the nature of foodbanks, ACs and their users, and the project's resource constraint. Most of the responses were obtained using self-report measures including the Food Frequency Questionnaire (FFQ), which inevitably prone to recall, and social-desirability bias. It is plausible that participants may underreport and overreport consumption of unhealthy and healthy foods, respectively (Feskanich *et al.*, 1993; Bedard *et al.*, 2007). Given the 'chaotic' lives of our study population, a more extensive dietary assessment such as multiple 24-hour dietary recalls would not be feasible. Furthermore, a comparison with NDNS and LIDNS data should be interpreted with care. The current project used FFQ, whereas both of the national dietary surveys used multiple 24-hour dietary recalls. The former and latter methods are prone to over reporting and under-reporting, respectively (Institute of Medicine, 2002).

Despite these limitations, this study is the first in the UK to explore the dietary quality of foodbank users and identify the factors that influence the diet of foodbank users. This study also included AC users, which allow us to contextualise the data obtained from foodbank users against the low-income

population in the area. This finding adds to the growing literature about UK foodbanks, showing the link between financial strain, adverse life events (including problems with benefits), and the severity of food insecurity experienced by foodbank users (Garthwaite *et al.*, 2015; Loopstra and Lalor, 2017; Loopstra *et al.*, 2015; Lambie-Mumford, 2014; Lambie-Mumford *et al.*, 2014a; Garratt *et al.*, 2016; Perry *et al.*, 2014). It is also the first study of its kind in the UK documenting how these risk factors increase the severity of food insecurity, and hence foodbank use. Therefore, these findings could inform policymakers who felt the drivers of foodbank use is too 'complex' to be solved (Fisher, 2014).

5.4.6 Implications and suggestions for future studies

The majority of foodbank users were experiencing severe food insecurity with hunger. This suggests that any intervention which aims to improve the diet of foodbank users must first satisfy the most basic physiological needs such as having sufficient food at home, having not to worry about paying rent and having adequate warmth during winter. It is important to meet these most basic needs, as Van Lethe (2015) has shown that the socio-economic disparity of a healthy diet (i.e. fruit and vegetable consumption) was marginally attenuated whereby those who have fulfilled higher needs have a better diet (van Lenthe *et al.*, 2015).

Future studies should consider longitudinal research including independent foodbanks. The inclusion of independent foodbanks would allow us to get a fuller picture of how households cope with food insecurity locally, and explore any demographic differences between the Trussel Trust Foodbank users and independent foodbank users (Independent Food Aid Network (IFAN), 2016). A longitudinal study design would help to identify factors that are associated with increased risk of food insecurity, as has been conducted in Canada (Loopstra and Tarasuk, 2012). This would enable more robust recommendations to be made about early intervention to reduce foodbank

use. There is also an age discrepancy on the foodbank sample, where there is a low proportion of 18-24 years old despite the findings of a recent national survey that this group was most likely to be food insecure. Therefore, research that explores food insecurity amongst younger age groups, and reasons why they are not using foodbanks should be conducted.

We did not have access to the demographic of non-respondents in participating foodbanks and ACs. Future research should negotiate with participating foodbanks and ACs to obtain this information, as it will inform whether the participants recruited are representative of the study population. Future research should also consider incorporating objective dietary assessments such as biochemical markers, which have been shown to correlate to dietary intake, and are less prone to social desirability, and recall bias (Potischman, 2003; Shim *et al.*, 2014). For instance, future research could use biomarkers of food exposure such as dried blood spot analysis to predict intake of oily fish (fatty acid profiles) (Hanhineva *et al.*, 2015; Marangoni *et al.*, 2004) or fruit and vegetables (carotenoids) consumption (Al-Delaimy *et al.*, 2005) in the nutritional survey. This is a low cost, and relatively non-invasive approach which has been used in large studies (Sakhi *et al.*, 2015; Holen *et al.*, 2016), which would be ideal for use in a foodbank setting.

It was challenging to obtain information on household income. Most participants claim not to know the income of another household member. An alternative assessment that is less intrusive of other household members' income should be considered. For instance, asking the employment status of other family members, or indicating the annual household income in a range. Worryingly, a third of the foodbank users have dependent children at home, suggesting there may be large numbers of children not receiving the nutrition necessary for appropriate growth and development. The interview findings with users (Study 1) and other researchers found that parents living in a food insecure household would give up their meals to protect their children are protected from food depletion (Hamelin *et al.*, 2002a; Hill *et al.*, 2016; Hanson and Connor, 2014). However, under severe food insecurity, there is an

indication of child hunger (McIntyre *et al.*, 2003). Future research should consider monitoring food insecurity in children and its impact on their diet and health. The recent UNICEF data indicates that 10% of children in the UK are food insecure (Pereira *et al.*, 2017), and children from the most deprived backgrounds experiencing much worse health (Viner *et al.*, 2017)

The Department of Health and Food Standard Agency, who are responsible for the health, diet and wellbeing of the UK population should continue to measure the dietary quality of low-income populations. The last survey for low-income diets was conducted between 2003 - 2005, which may not reflect the current dietary profile and the prevalence of food insecurity. There is a need to regularly monitor household food security in the UK, as our study showed that foodbank use is a poor proxy of food insecurity in the community. Such finding confirms the Canadian research that foodbank use is a poor proxy of food insecurity in the country (Loopstra and Tarasuk, 2015)

Moreover, this survey findings confirmed the earlier qualitative findings with foodbank personnel (Study 2) that poor mental health is prevalent amongst foodbank users. The findings reinforce foodbank personnel's concerns on the need to equip foodbank volunteers to deal with foodbank guests who are struggling with poor mental health, which was recently echoed by the Trussell Trust in their "Disability, Health and Hunger" report (Hadfield-Spoor, 2018).

5.5 Conclusion

Foodbank users were more likely to be single adults, currently unemployed and having a problem with benefit payments. A third of foodbank users were adults with dependent children at home. A benefit-related problem and unemployment were the most common reasons for foodbank referrals as shown on the voucher. Compared to other disadvantaged groups attending AC, foodbank users ate a poorer quality diet as evidenced by their lower fruit and vegetable consumption, and lower overall dietary quality score. Foodbank

users also fared worse on most health, social, financial, and environmental measures suggesting they are struggling with poor health, and socio-economically more disadvantaged than AC users in the same borough.

Food insecurity was found to be a significant predictor of poor dietary quality. It fully mediated the effect of income crisis (i.e. adverse life events and financial strain) on dietary quality. This suggests that any attempt to improve the diet of this deprived population should first address food insecurity and its risk factors such as currently not receiving benefits due to sanction and delay, adverse life events and financial strain.

This chapter has addressed the aims of this study to identify who uses foodbanks and why, and identify the factors associated with the diets of those seeking help from front-line crisis organisations in selected London boroughs. The findings lend quantitative support to the earlier qualitative study with users (Study 1) and foodbank personnel (Study 2). Recommendations to improve the quality of diet of this population with a focus on addressing food insecurity and its determinants, future research directions, and practical implications for research within foodbanks identified from Study 1 - 3 will be discussed in Chapter 6.

CHAPTER 6 Discussion of the findings and recommendations for future work

This final chapter summarises the research findings of the three studies within this thesis and demonstrates how the aims of the programme of research were met. This chapter also includes recommendations made for policymaker and community groups on how to improve the diet of foodbank users. The limitations of the research are discussed, as well as suggestions for further research to address the unanswered questions arising from this programme of research. This chapter also describes practical considerations for those wishing to do research in foodbank settings, based on the experience gained during this research.

6.1 Discussion

Aim 1: To explore why people need to use foodbanks in the UK

This programme of research explored why people need to use foodbanks by collecting data from interviews with foodbank users (Study 1) and personnel (Study 2), and a cross-sectional survey (Study 3). The survey findings showed that within six months, the majority of users came to a foodbank for the first time; 30% of users had attended twice, 13% thrice, and the remainder had attended four or more times. Referral voucher data revealed that nearly half of the referrals were due to benefit-related problems, such as delays and changes in entitlement, followed by low income. However, the interview findings suggested that the reason for referral indicated on a foodbank voucher did not fully capture the cause of 'income crisis'. Income crisis is a state where there is a significant reduction or total loss of income which was caused by an unexpected adverse life event that happened on top of existing financial strains.

In Study 3, it was revealed that food insecurity was highly prevalent amongst foodbank users. Yet, foodbank use was a poor proxy of food insecurity, as less than 10% of the low-income population that attended Advice Centres (ACs) had been to a foodbank, despite three-quarters were experiencing food insecurity. The risk of food insecurity in both populations increased amongst those who were experienced more adverse life events, were more financially strained and were currently not receiving benefits due to sanction or delays.

Aim 2: To understand the factors that influence the dietary quality of foodbank users.

Foodbank users described their diets as poor, insufficient in quantity, and lacking in fresh fruit and vegetables. This description was confirmed in the survey whereby foodbank users had poorer diets than those attending ACs, as reflected by significantly lower overall diet quality scores and lower consumption of healthy food items such as fruit, vegetables and oily fish. A comparison with the diet of the general and low-income populations in the UK derived from the datasets of National Diet and Nutrition Survey (NDNS) and Low-Income Diet and Nutrition Survey (LIDNS) suggested that the diet of foodbank users were poorer than both populations (Table 6, page 142). For instance, foodbank users ate the least fruit and vegetables daily and were the least likely to meet the recommended '5 a day' intake of fruit and vegetables.

Despite seemingly poor diets, foodbank users prided themselves on their resourcefulness to manage their food budget and finances. Nevertheless, in households where budgets were already marginal, income crisis led to the adoption of coping strategies to maintain food sufficiency which ranged from reducing the size of meals to going without food for days. These coping strategies combined with a lack of social support, lack of facilities to cook and store food and competition of resources from other necessary expenses seemed to compromise their quality of diet further.

As the analysis progressed, it became clear that a healthy diet was a distant aspiration for foodbank users. It seemed a naive attempt to understand the determinants of fruit and vegetable consumption using the Capability, Opportunity and Motivation (COM-B) model (Michie *et al.*, 2011). It became clear that the lack of physical opportunity to afford sufficient food was the biggest barrier to a healthy diet. While foodbank users generally had both the Capability (i.e. cooking skill, budgeting) and Motivation to eat well, it did not compensate for the lack of physical resources such as money, and access to cooking facilities and storage to facilitate a healthy diet. The vicious cycle of a poor diet and poor health was discussed extensively during the interviews. Poor diet impacted participants' health both physically (e.g. worsening of pre-existing medical conditions) and psychologically (e.g. anxiety, feeling ashamed, and failing in their parental responsibilities).

The thematic map generated from the interviews with foodbank users and personnel formed the basis of the hypothesis to be tested in the survey (Study 3) (Figure 8). Compared to AC users, foodbank users experienced: more adverse life events; greater financial strain, more severe food insecurity; a greater proportion reported having problems accessing cooking facilities and chilled food storage; lack of social support; and poorer self-reported health, mental health and wellbeing. The survey confirmed that food insecurity, perhaps unsurprisingly, mediates the adverse effect of income crisis on dietary quality (Figure 13).

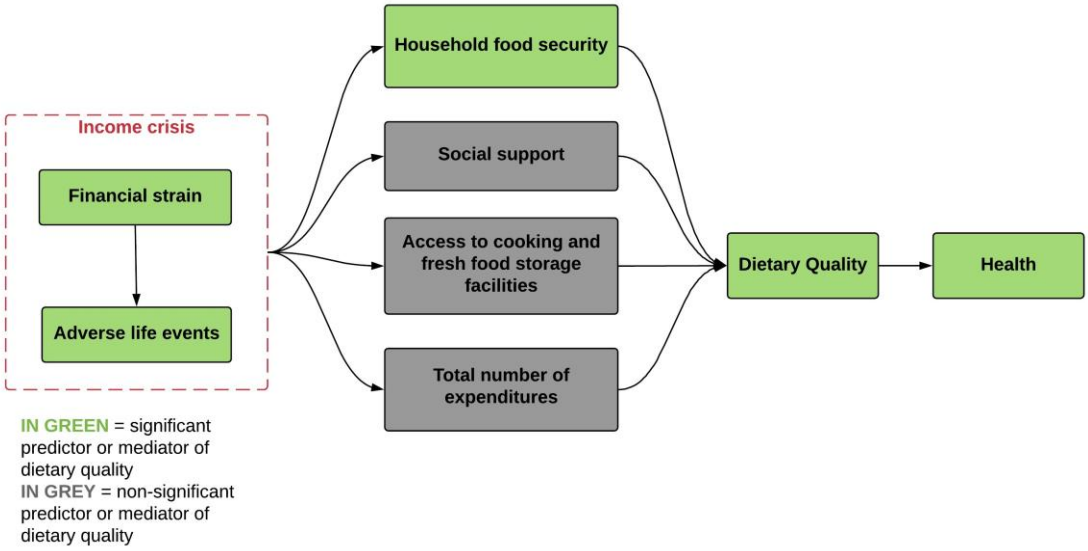

Figure 13 A final pathway to summarise the impact of income crisis on dietary quality

Aim 3: To identify recommendations from foodbank personnel on how to improve the quality of diet of foodbank users.

Interviews were conducted with foodbank personnel who could be considered as 'expert' due to their experiences working with foodbank users on the front-line. To ensure the findings of the interviews with foodbank users were accurate, we presented the thematic map generated from Study 1 to the foodbank personnel during the interviews. We also sought their insight on any initiatives and recommendations that could be implemented to improve the diet of foodbank users. Both foodbank users and personnel welcomed the suggestion of additional fresh foods into their current provision. They agreed that such additions could boost the nutritional quality of the food provided. However, foodbank personnel believed that addressing the cause of users' income crisis should be prioritised, over providing the 'healthiest' emergency parcel. Two themes emerged from the interviews with foodbank personnel as strategies to improve the diet of foodbank users: "*Meeting needs*" of foodbank users and its volunteers, and "*Making Change Happen*" by using foodbanks as a point of contact and multiagency collaboration to address income crisis. The discussion on meeting users' needs beyond the food parcels dominated

the interviews with foodbank personnel. They strongly believed that income crisis was the cause of poor diet amongst foodbank users. They believed that restoring one's income would improve users' diet in a more sustainable and dignifying way, which aligned with their mission and value as part of the Trussell Trust Foodbank network.

Foodbank personnel acknowledged the complexity of users' cause of income crisis. Therefore, they highlighted the needs for multi-agency collaboration with other community members such as other charities, local authorities and businesses. They also emphasised the need for policy changes to reduce recurrent foodbank visits, as those who needed their services were mostly due to their issues with welfare benefits. They added that without policy intervention, even collaboration with other sectors would not be sufficient to catch everyone who had fallen through the welfare safety-net. The foodbank personnel suggested that an intervention targeting foodbank users should be delivered using foodbanks as a point of contact. This is due to the ability of foodbank volunteers to build trust and rapport with its users, which is essential in engaging with this 'hard-to-reach' population.

6.2 What should an intervention look like? Recommendations to improve the diet of foodbank users

The findings from the three studies suggested that food insecurity, perhaps unsurprisingly, mediated the adverse impact of income crisis on dietary quality. The risk and severity of food insecurity was associated with not receiving benefits because of sanction or delay, reported experiences of adverse life events, and experiencing financial hardship. Thus, if we wish to improve the diet of this population, the intervention should aim to target the risk factors of food insecurity. The recommendations outlined in the following sections focus on two broad groups who have an important role in improving household food security: the community (e.g. foodbank, other charities, local

authorities, and business) and policymakers. The recommendations were drawn from the existing literature from the UK and other developed countries, and on the qualitative findings which emerged from the discussion with foodbank users (Study 1) and personnel (Study 2).

6.2.1 Delivering community initiatives: using foodbanks as a point of contact

In Study 2, foodbank personnel felt that foodbanks should be used as the point of contact to deliver an initiative to help its users. They believed that they are well placed to engage with this 'hard-to-reach' population who attend the service out of need, often during a chaotic and challenging time in their lives. Therefore, they might have multiple competing priorities such as resolving their issues related to benefits, housing or children. These competing priorities could be a barrier to seeking further help or following through signposting advice.

Foodbank personnel pride their volunteers for being able to build trustworthy and positive relationships with service users. This relationship is the key factor in helping users to become more receptive to the assistance being offered. From the interviews, the foodbank personnel welcomed the idea of a foodbank led or co-led intervention. It is important that an initiative should not be a 'one-size-fits-all' approach. Instead, it has to be tailored to fit the resources and capacity of a local foodbank. For instance, it was learnt from the interviews that only a few foodbank personnel were paid either full-time or part-time to manage local foodbanks, while the rest carried out their role voluntarily on top of their full-time jobs. Therefore, it could be challenging for the latter to deliver additional services or foster a partnership with external agencies. Some foodbanks reported having a low volunteer-to-user ratio, which means they have limited time to have an in-depth conversation with users and to provide signposting or further help.

One of the ways to increase foodbanks' capacity to deliver more 'add-on' services is to ensure foodbanks have sufficient volunteers. Volunteers are the "heartbeat" of foodbank operations; they are involved in collecting and sorting donated foods, welcoming and signposting users, and doing administrative work within foodbanks. It is estimated that foodbank volunteers contributed nearly 3 million hours of unpaid work, which was estimated to be worth at least £30 million if they were paid on National Living Wages (The Trussell Trust, 2017a). These staggering figures highlight the need of the Trussell Trust Foodbank to invest in its volunteers, as much as the populations they are serving. The Trussell Trust should regularly monitor their volunteer turnover, satisfaction and wellbeing. The data would allow them to reflect on what they could do to retain their volunteers and share best practices in volunteer management identified within the network.

Foodbank personnel interviewed in Study 2 were concerned about the impact of listening to acute, and personal stories from foodbank users on the wellbeing of the volunteers. It is essential that all front-line volunteers are trained to process distressing information about users. Such recommendations were also echoed in the Trussell Trust recent report where foodbanks increasingly see users with poor mental health (Hadfield-Spoor, 2018). The Trussell Trust should make volunteer training and wellbeing as their priority, as I volunteers who are unequipped to process distressing stories could experience negative feelings such as anger, guilt and frustration of not being able to help enough (Cyr and Dowrick, 1991), which could influence their motivation to continue volunteering (Kinzel and Nanson, 2000). It is important that volunteers continue to feel a sense of satisfaction, and enjoyment to continue volunteering. The process of recruitment and training of new volunteers would draw foodbank energy and resources away from delivering its services. The Trussell Trust should consider approaching mental health charities or learned societies such as the British Psychological Society; British Association for Counselling and Psychotherapy; British Psychoanalytic Council; British Association for Behavioural and Cognitive Psychotherapies;

and UK Council for Psychotherapy. These organisations have the right expertise to provide training to better-equip foodbank volunteers. These societies have expressed their concern over the impact of welfare conditionality on those with poor mental health (British Psychological Society *et al.*, 2017). Their expertise and concern should be leveraged by foodbanks to help its users. For instance, the British Psychological Society, who is one of the signatories of the joint letter to Department for Work and Pension would be well placed to supply specialists to train foodbank personnel at the local level, which is in accordance to their values as a professional body (The British Psychological Society, 2018). Their recent coordinated and compassionate responses of trauma and educational psychologists in offering support for Grenfell Tower victims is truly noteworthy and could be extended to the foodbank setting (British Psychological Society, 2018; Munafo, 2017).

6.2.2 Recommendations to improve risk factors of food insecurity

6.2.2.1 Adverse life events, financial strains and food insecurity

From this research, we now know that food insecurity is the significant mediator of the negative impact of income crisis on dietary quality. The interviews with foodbank personnel suggest the need for multi-agency work with both community group and policymakers to address income crisis. These two groups were identified as important key players to tackle income crisis. In this section, the term community refers to groups such as foodbanks, other charities, local councils and businesses. The recommendations for policymaker and community groups made in this section are summarised in Table 14.

Table 14 Summary of recommendations to improve adverse life events, financial strains and household food security

Key players	Recommendations
Policymaker	Minimising delay in benefits payments and procession Jobcentre Plus staff to ensuring all claimants are made aware of their entitlement to apply for hardship fund or advanced benefits payments Introduce a 'yellow card' or warning system before imposing benefit sanctions Increase the availability of free or affordable childcare to support parents returning to work. Stop the four-year freeze on benefits (introduced in 2016), to ensure it keeps up with inflation.
Community	The Trussell Trust should extend existing partnerships with Citizen Advice Bureau and Law Centre at the network level. Improving the clarity and effectiveness of signposting within foodbanks Improve the awareness and accessibility to Local Welfare Assistance Schemes (LWAS) Providing initiatives to enhance the employability of foodbank users Increasing awareness of "Holiday Club" within foodbanks Increasing uptake of the Healthy Start scheme within foodbanks

6.2.2.1.1 Policymaker

The findings from the interviews and survey indicated the impact of policy changes as the cause of income crisis. The foodbank personnel highlighted the rising use in foodbank referral were linked to Welfare Reform in 2012, whereby benefit-related problems were the most common reasons for referral to a foodbank. Although it is beyond the scope of this research to look at the impact of policies on foodbank use, our data and others (Prayogo *et al.*, 2017b; Loopstra *et al.*, 2018) suggest the need for a policy response to improve food insecurity, which ultimately could improve the dietary quality of foodbank users. Therefore, the recommendations to the policymakers are as follow:

1. Delays in receiving benefits payment or processing of benefits claims must be minimised. The Study 3 findings suggested that those who are not receiving benefits due to sanction and delay were at increased risk of food insecurity. This recommendation is particularly relevant in the midst of the plan to roll out Universal Credit across the UK by December 2018, and the plan to move existing claimants on legacy benefits to Universal Credit starting in 2019 (Department for Work and Pension, 2018b). Universal Credit was introduced as part of Welfare Reform 2012, which replaced six major benefits with one benefit. This new system aims to simplify benefits administration and encourage people to return to work by adjusting their benefits payment according to their employment status (Department for Work and Pension, 2010). However, claimants have to wait for at least 5 weeks to receive their first payment (Department for Work and Pension, 2018a). The waiting time is significantly longer than the former benefit system (Turn2us, 2018). Drawing from hundreds of submissions from charities, academics and local councils, a parliamentary inquiry on Universal Credit highlighted the damaging impact of the first 5 weeks delays associated with Universal Credit (Parliament, 2018). The inquiry highlighted that In the area where Universal Credit had been rolled out, there was an increase in rent arrears (Southwark Council, 2017; London councils, 2018), and foodbank use (The Trussell Trust, 2017b). The Trussell Trust Foodbank reported they see an average increase in referrals by 17% in the area where Universal Credit has been fully rolled out, which is more than double the national average of 7% (Jitendra *et al.*, 2017).

2. Jobcentre Plus staff must ensure that claimants who experience benefits-related problems are aware of their entitlement to hardship funds or advanced benefits payments. Hardship funds are a reduced benefit that can be obtained from the Jobcentre Plus when claimants' benefits have been stopped due to sanction (GOV.UK, Undated-c). Alternatively, claimants who are still waiting to receive their benefits could apply for short-term benefit advanced (GOV.UK, Undated-a) or Universal Credit advanced (Department for Work and Pension, 2018a) which is a loan that is paid back once claimants

receive their benefits. These funds aim to ensure claimants' do not fall into destitution while waiting for their benefits. However, giving information about hardship funds is currently not mandatory. Thus, such information is given at the Jobcentre Plus staff's discretion, or when a claimant indicates that they have an immediate financial need (The Work and Pension Committee, 2015). This might explain the low awareness of hardship fund amongst foodbank users and personnel interviewed in this study, which was also reported by research from a local foodbank (Chapman, 2016).

3. The Department for Work and Pension should introduce a warning system before imposing benefits sanctions. Sanctioning (or the threat of) is in place to motivate claimants to seek jobs and reduce potential gaming behaviour, (Watts *et al.*, 2014). Sanctions in other European countries are either applied with a warning or by reducing claimants' benefits for 1-2 weeks. In the UK, however, claimants' will not receive any warning before they are being sanctioned for 4 to 156 weeks (Venn, 2012; Department for Work and Pension, 2016). The Department for Work and Pension has piloted a 'Yellow Card' in Scotland in 2015 whereby claimants would receive a warning for two weeks before sanctioning. Claimants can appeal against the decision, which was then subjected to review by the Department for Work and Pensions whether sanctioning was still appropriate (Parliament.UK, 2015; Kennedy and Keen, 2016). However, there is no indication that this warning system has been rolled-out elsewhere, which subjected to a recent parliamentary inquiry of which one of the questions is to investigate whether the 'yellow card' system has been implemented elsewhere (Parliament UK, 2018).

It is essential for claimants to receive a warning before being sanctioned. This will ensure they would have time to appeal against an unfair decision. The foodbank personnel in Study 2 believed that nearly half of the sanctions given to foodbank users were overturned on appeal, raising concern over the fairness on the decision, which was also highlighted in evidence submitted to the parliamentary inquiry (Work and Pension Committee, 2015). Benefit

sanctions have been shown to disproportionately affect vulnerable groups such as lone parents and disabled people (Reeves and Loopstra, 2017).

4. The Government needs to increase the availability of free or affordable childcare to help parents balance caring and work responsibilities. Parents interviewed in Study 1 frequently cited unaffordable childcare as one of the main barriers to employment. This might be partially explained by our survey data (Study 3) which showed that a lone parent was the second biggest household type in foodbank, which was also reported by others (Loopstra and Lalor, 2017). Compared to two-headed households, lone parents were more likely to report lack of social support, which made it challenging to balance caring and work responsibilities (Glasgow Centre for Population Health, 2014). Therefore, the recent Government initiative to increase free childcare from 15 to 30 hours per week (or known as the extended scheme) has gone some way to support parents to return to work (House of Common Library, 2018). The scheme entitles working parents to get 30-hours per week free childcare if they have children below the age of 3 and 4-year-old. The scheme is available for household where one or both parents jointly earn less than £100,000 per year. It remains to be elucidated whether an increase in the hours of subsidised childcare would be sufficient to encourage employment amongst parents. Evidence from the UK and Germany have shown that such a policy has a positive impact on improving employment, especially amongst women (Haan and Wrohlich, 2011; Viitanen, 2005).

5. To stop the four-year benefits freeze to ensure it keeps up with inflation. Our survey findings indicated that almost all foodbank users cited unemployment benefits as their primary source of income. Interviews with foodbank users (Study 1) highlighted that managing on benefits was a challenge despite meticulousness budgeting and planning. A partial explanation for this is that the welfare benefits only cover up a third (for a single adult) to less than 60% (for lone parents) of the Minimum Income Standard (MIS) for socially acceptable standards of living (Padley and Hirsch,

2017). Higher than expected inflation in 2017 would mean those on benefits would see the real value of their benefits reduced by up to 3% compared to 2016 (Padley, 2018). Thus achieving food security would be increasingly challenging for those in the lowest income decile, as they already spend a greater proportion of their income on food than those in the higher income decile (Food Standards Agency and NatCen Social Research, 2017). Food expenses have been shown to be 'elastic' in demand, compared to other expenses with fewer substitute goods such as housing or bills. Households would cope with the squeeze in the living standard by 'trading down' to cheaper calories, such as purchasing fewer fruit and vegetables (Dowler *et al.*, 2001 ; Griffith *et al.*, 2013). Thus, it is essential for the value of benefits to keep up with inflation, which greatly aids households in achieving food sufficiency and affording healthier diets.

6.2.2.1.2 Community response

The community has an important role in supporting those experiencing income crisis. Some foodbanks interviewed in the study have already worked with other community groups to address users' cause of crisis. This is evident by providing initiatives such as hosting an advice worker during foodbank sessions, and partnering with other charities and local businesses to improve users' employability. However, we also learnt that more than half of foodbanks in this study did not have the resources to run these 'add-on' initiatives. Therefore, the following recommendations should be considered and tailored to the nature and resources of local foodbanks where it is applied.

1. The Trussell Trust should extend the existing partnerships with Citizen Advice Bureau (CAB) and Law Centres at the network level. Similar centralised partnerships have been successfully established with Tesco and Christians Against Poverty at a national level. As a result, foodbanks within the Trussell Trust network can hold food collection drives and offer debt counselling from these partnerships. A network level partnership could open the doors for collaboration at the local level. Thus, it could encourage both

local foodbanks and charities to be confident in approaching each other for mutually beneficial collaboration. For instance, local law centres or advice centres could send their clients to get food from foodbanks while waiting for their issues to be resolved, and foodbanks could send their users to seek advice or legal representation from these charities. Such provision is essential, as those receiving legal counsel and representation by welfare specialists are more likely to win the case than those unrepresented (Hopkirk, 2016).

2. Foodbanks should improve the clarity and effectiveness of their signposting.
   Few foodbank personnel in Study 2, explicitly mentioned having a clear signposting protocol and training for their volunteers. It is essential that all front-line volunteers are confident and capable of doing signposting. Data from Study 1 -3 showed that foodbank users experienced multiple issues which require them to be helped by multiple organisations. Therefore, foodbanks should develop a signposting database where relevant organisations can be easily identified to support users' needs. One way to build such a database is to group the information of hundreds of current voucher partners according to their specialities into a signposting directory. The information should then be collated as a guidebook or database to aid volunteers to do signposting.

   Furthermore, foodbanks should consider writing a memo summarising users' circumstances that could be brought by users to the signposted agency. In Study 2, the interviewees were concerned that it could be distressing if users have to retell their issues to workers in other organisations who might be less empathetic. Foodbank personnel believed that their volunteers are well-placed to build rapport and trust to encourage users to open up about their issues, which is essential to understand users' circumstances. A short-memo or a referral letter is commonly used in clinical settings when referring patients to other services or clinicians. The memo usually includes the information on the patient's demographics, a brief history and recommendations of the actions required which helps to keep track of the patient's history (Royal

College of Physicians, 2015). Furthermore, Foodbanks could further enhance the effectiveness of their current interaction with foodbank users to move from simple signposting to more holistic conversations. The holistic conversation should aim to understand better their users' situation, resources, and needs which could be achieved by training volunteers in "Healthy Conversation Skills" which aimed to support users' empowerment as described in Chapter 4 (Page 117-118).

3. There is a need to increase the awareness and accessibility of Local Welfare Assistance Schemes (LWAS). LWAS is emergency funding which is administered by local councils, and the eligibility criteria vary from council to council and tend to be restrictive as it is meant to be *"the safety-net underneath the safety-net" (*Hadfield-Spoor *et al*., 2017*)*. Our interviews highlighted low awareness of such assistance among foodbank users and personnel. Foodbank and voucher partners have a role in increasing awareness of such schemes and, if necessary, offer assistance to apply for the grants. This could be done by allowing users to use the computers in the foodbank centre which has been done locally in one of London foodbanks (Hammersmith & Fulham Foodbank, 2017). Such access is essential as the application of LWAS has to be completed online, yet, digital exclusion (lack of access to the internet) is high amongst those with severe financial hardship like foodbank users (Yates *et al.*, 2014; Evans, 2017). It is essential that local councils should work closely with foodbanks to administer the grant. One of the interviewees in Study 2 highlighted having such partnerships with the local council whereby the foodbank would be the first point of support, and users would be referred to the in-house welfare advisor to assess and validate the circumstances. This information would be passed to the local council to assess one's eligibility for the grant. A similar imitative known as the 'cash transfer' pilot in Scotland has been shown to reduce recurrent foodbank visits by 22% in a year (Masterton and Moncrieff, 2017).

4. Foodbanks should help to improve their user's employability. This could be achieved by partnering with local charities to run Job Clubs, offering volunteering opportunities in local foodbanks, or partnering with local businesses to source job opportunities. In Study 2, it was learnt that few foodbanks had offered those initiatives. The in-house Job Club provides CV checking and interview preparation services to enhance users' employability and success during a job interview. Furthermore, volunteering could be a stepping stone to paid employment, as it could improve one's confidence, teamwork and communication skills (Time Bank, 2017). Volunteering could help in the transition period, especially for those who have been unemployed for a while or suffer from poor mental health (National Council for Voluntary Organisations, 2014). The partnership of foodbank with businesses has also been shown to be promising as seen in Study 2 where one manager had successfully engaged with local businesses to source job opportunities for foodbank users. One of the ways to do this in the national level is for the Trussell Trust to persuade its corporates partners (The Trussell Trust, 2018b) and local businesses to extend their support beyond donating food, but by sourcing job opportunities or offering training to upskill foodbank users.

5. The Holiday Club providers should increase the awareness of their initiatives during school holidays. Holiday Club is an initiative aim to fill the gap in school meal provision during the summer holidays. Community groups including charities and churches across the UK have been providing free meals and activities during the school holidays. However, the report by All-Party Parliamentary Group (APPG) on holiday hunger highlighted a lack of clarity on how families could access the holiday food scheme (Forsey, 2017).
It is important that the community group that runs Holiday Club identify families in need and ensure they are aware of the provision. The interview with users (Study 1) highlighted that none of the parents were aware of such scheme. The absence of school meals during the holidays was estimated to add between £30 and £40 a week for parents' expenses for one child (Forsey, 2017). Such amounts could put family budgets that are already marginal into crisis, a finding which was supported by the Trussell Trust who reported an

increase in the number of children fed by foodbanks during school holiday (The Trussell Trust, 2018a). Most Holiday Clubs were heavily reliant on volunteers and public donations, which severely limit their capacity to help more families (Forsey, 2017). Therefore, the £26 million investment by Department of Education to boost breakfast clubs capacity could be promising to increase the capacity of Holiday Club provision in the UK (Department for Education, 2018).

6. There is a need to increase the awareness and uptake of the Healthy Start scheme amongst foodbank users. Healthy Start is the statutory food scheme which provides a £3.10 weekly voucher that can be used to buy milk, fresh or frozen fruit and vegetables. The scheme is targeted at low-income pregnant women, and parents with children under 4 years old, and currently in receipt of benefits (GOV.UK, Undated-b). The scheme has been shown to improve the quantity and variety of fruit and vegetables consumed by the recipient family (McFadden *et al.*, 2014). However, the uptake of the scheme has been declining from 73.1% to 68.1% from 2015 to 2016 (Healthy Start Alliance, Undated), which is below the targeted rate of 80% set by Department of Health. The mismatch between the decline in Healthy Start voucher uptake and an increase in foodbank use raises a question whether the scheme reaches the population who need it the most. Previous research has identified several barriers which prevent people from accessing the Healthy Start scheme (Browne *et al.*, 2016). These barriers include unplanned disruption in housing, fluctuating incomes (including changes in benefits entitlement), and limited English proficiency. Disruptions in benefit entitlement due to sanction or delays are frequently reported by foodbank users, which could affect their entitlement to Healthy Start voucher. To the author's knowledge, four London foodbanks have actively helped its users to apply for the Healthy Start scheme, which should be replicated more widely within the network. These foodbanks have trained their volunteers to identify foodbank users who are eligible for the scheme. They further help these people to apply for the Healthy Start voucher by providing copies of the application form and free post envelopes, during the foodbank session. (Appendix N).

6.3 Limitations and future research directions

There are a few limitations of this programme of research that need to be acknowledged. Firstly, this study was conducted in the Trussell Trust Foodbanks located in inner London, England. Therefore, the findings might not be generalisable to other parts of the UK, or independent foodbanks. Secondly, participants were opportunistically recruited, which could introduce sampling bias. It is plausible that those who participated were more likely to be well enough, and willing to disclose their diet, health and financial circumstances than those who did not participate. Thirdly, this study employed mixed methods with a combination of interviews and a cross-sectional survey, which only provides a snapshot of the individual's circumstances at a given time.

Based on these limitations, a larger, national scale, longitudinal design including low-income households, and both users of The Trussell Trust Foodbank and independent foodbanks should be considered for future research. Such design would improve the generalisability of findings, and enable a wider understanding of the research questions that have emerged from this PhD. This includes how foodbank use fits into wider coping strategies of food insecure households, and the impact of foodbank assistance on food insecure household. The findings from interviews (Study 1 & 2) and the survey (Study 3) suggest that not everyone who was food insecure in the community had been to a foodbank. Thus, it is important to understand why the groups who were under-represented in the foodbank such as young people age between 18-24 years old and working households did not use foodbank. These households have been shown to make up the greatest number of food insecure households in the UK (Bates *et al.*, 2017) and Canada (Dietitians of Canada, 2016).

A longitudinal study would also allow us to understand the dynamic determinants of food insecurity. For instance, a longitudinal study in the US had shown that households became acutely food insecure in the month when

they were experiencing life events (e.g. job loss, economic crisis), or unexpected loss of income (Gundersen and Gruber, 2001). Such understanding would be helpful to design initiatives or policies that could be implemented to improve household's financial resilience.

Lastly, a longitudinal study would better explain the impact of food insecurity on one's diet. Nearly all of our participants were severely food insecure, therefore we only captured participants' diet when they have reached a "foodbank stage" (i.e. have run out of other coping strategies) (Lambie-Mumford *et al.*, 2014b). Food insecurity is known to be a 'managed' experience where households adapt their food purchasing, and eating pattern in response to the availability of resources (Radimer and Radimer, 2002b). The US longitudinal study involving Food Stamp recipients (i.e. food welfare provision for the low-income household) showed that households would cycle between a period of overeating and undereating at the beginning and end of the month, respectively (Sarlio-Lähteenkorva and Lahelma, 2001; Alaimo *et al.*, 2001). A longitudinal design would explain whether owning protective factors like social support (Tarasuk, 2001c), availability of liquid asset (Gundersen and Gruber, 2001) and self-sufficiency (Martin *et al.*, 2013) could protect against food insecurity and thus maintenance of a healthy diet.

Moreover, there is a need for regular monitoring of household food security at the national level. Our survey findings showed that foodbank use is a poor proxy of food insecurity in the community, which was also confirmed by Canadian research (Loopstra and Tarasuk, 2015). Unlike in the USA (Coleman-Jensen *et al.*, 2017) and Canada (Tarasuk *et al.*, 2016), household food security is not regularly measured in the UK, Department for Environment and Rural Affairs (DEFRA) claimed that household food expenditure could be used as a proxy for food insecurity (Department for Environment Food & Rural Affairs, 2017). Food expenditure, however, does not capture the mildest form of food insecurity which has a negative impact on one's health and diet (Tarasuk *et al.*, 2015). The household food security measurement could be added to the existing health and dietary surveys such

as the National Diet and Nutrition Survey and Health Survey for England. The inclusion of a food security module was estimated to cost up to a modest £70,000 annually (Food Foundation, 2016). Its inclusion would enable links to be extrapolated between nutrition and health outcomes which are shown to be associated with food insecurity (Tarasuk *et al.*, 2015).

As outlined above, more research is needed in UK foodbanks, but more action to translate knowledge into practice and informing policy is also needed. Submissions from charities or individuals predominated the submission to the past parliamentary inquiries on foodbank use (Forsey, 2014), holiday hunger (Forsey, 2017), and Universal Credit (Parliament, 2018). These evidence were criticised as subjective, self-selected, and filled with anecdotes which made them easily dismissed by Government (Butler, 2014). It is important that researchers are more actively involved in the current parliamentary commentary on their area of expertise. Policy changes have been consistently shown to have an impact on food insecurity and foodbank use. Thus, academics need to be more engaged in working with other community members and civil servants. This includes sharing their research findings to hold the Government accountable to address the issue of food insecurity which influences the diet, health and wellbeing of the population.

A collaboration between policymakers and academics is encouraged by the Government Office for Science (Council for Science and Technology, 2008). They argued that academics could bring extra rigour to a policy decision, by their ability to challenge and defend complex questions objectively based on evidence. Government officials could have access to ministers and policymakers thus they have the avenue to translate the knowledge into practice (Brownson *et al.*, 2006). Academics should be more involved in advocacy groups to provide evidence for campaigns and recommendations to tackle food insecurity. For instance, Feeding Britain is the forefront of charity campaigning on the issue of food insecurity in the UK (Forsey, 2014; Feeding Britain, 2018,). The network consists of MPs, bishops and ministers that have political influence. In 2017, two of the MPs who are also the trustees of the

charity introduced the bill for regular measurement of household food security (2017a), and Holiday Activity provision to tackle holiday hunger amongst children (2017b). These MPs, however, required rigorous evidence to back up their bills in Parliament. The presence of academics in advocacy groups would help to supply relevant evidence. There should be a mutual understanding between researchers and policymakers on how to best use the unpublished evidence to strengthen the inquiry. A lengthy peer-review process or publication embargo could be a barrier for researchers to share their data, or the research lost its policy relevance when it is finally published. Our research group managed to work through this dilemma by providing headline findings to support the inquiry (Feeding Britain, 2017b), whereby the charity agreed to direct further inquiries to our group before and during the embargo period (Feeding Britain, 2017a) (Appendix Q). Such collaboration and understanding are needed to ensure the findings did not miss the opportunity to influence policy.

6.4 Practical consideration and challenges working with this population

There were a few challenges encountered while conducting this research that should be considered for those who wish to carry out research in foodbank settings.

Firstly, the combination of unpredictable foodbank attendance and short opening times could be challenging to allocate sufficient resources for data collection. Such unpredictability was particularly problematic if all participants required assistance completing the questionnaire. Further challenges are also experienced if potential participants arrived simultaneously near to the foodbank closing time. Most of the foodbanks that participated in this study are run in the church hall, or as part of the community hub, and so the building has to be locked or used for other purposes. That means permission had to

be sought from the foodbank manager to continue the research, or it has to be done on external premises (e.g. church hall or nearby park).

Secondly, each foodbank has different ways of running its session, which could be challenging to apply a standardised recruitment method. More foodbanks are offering '*More Than Food'* initiatives during the session. The initiatives aim to help users' to resolve the cause of crisis. The types of provision highly vary across the 10 foodbanks included in this study, which include having a welfare benefits advisor, giving fuel vouchers, free medical check-ups or pastoral care which all could run simultaneously during a session (The Trussell Trust, Undated-e). Thus, the researcher should negotiate with the foodbank manager on how to best approach participants alongside these add-on services. This circumstance could be problematic in a foodbank lacking regular volunteers, as they were not always aware of the researcher's presence.

Thirdly, due to the nature of foodbank users and their circumstances, it could be challenging to predict the emotional responses during the research. For instance, those who had low social support, were severely food insecure and were experiencing multiple adverse life events were visibly upset during the interviews. Therefore, the researchers should know when to continue with the research, remain empathetic during data collection and signpost users to further support when needed. These emotional challenges have been discussed extensively in Study 1 (Section 3.4.5).

Based on the challenges identified, the following considerations for future researchers are outlined. Firstly, the researcher should look for a questionnaire that is short, easy to understand, and the wording should be non-intrusive. The latter is particularly important, as it could be embarrassing for both researcher and participant to read out the questions and responses during interviewer-led questionnaires. Secondly, it is important to have a friendly and motivated interviewer to keep participants engaged while

completing long questionnaires. This is particularly relevant in the foodbank setting, where participants were more likely to feel daunted when being told about the length of the questionnaire. Thirdly, having a good working relationship with the foodbank volunteers was pivotal to boost the recruitment rate. As highlighted in Study 1, most foodbank users were anxious and embarrassed by having to use foodbank. This observation is particularly relevant for those that came for the first time. Foodbank volunteers could act as a 'bridge' between the researcher and the potential participant. They have built rapport and trust with the users while welcoming them, which made participants more at ease during the research. Furthermore, the volunteers help to keep participants' children occupied in the designated play area which greatly helped in the completion of the questionnaire. Their assistance was invaluable as it could be challenging to complete a lengthy questionnaire for those with young children.

6.5 Conclusion

The rising use of foodbanks since 2012/13 has unmasked the existence of food insecurity in the UK. Food insecurity has negative impacts on one's dietary quality, health and wellbeing. There is an urgent need to understand why people need to use foodbanks in the UK and their dietary quality. This research has gone some way into addressing these research questions. Obtaining this information is pivotal to inform intervention and recommendations to improve the diet, health and wellbeing of foodbank users.

The studies conducted in this programme of research found that "Income crisis" which is a state where households experience a significant reduction or total loss of their income is the driver of foodbank use. Income crisis was caused by a combination of unexpected adverse life events that happened on top of ongoing financial strains. The income crisis could influence one's diet

through extreme coping strategies including going hungry and not eating for whole days. Despite seemingly poor diets, foodbank users demonstrated a great deal of resourcefulness in managing their food budget, motivation to eat well, and enjoyment in preparing healthy meals. These findings suggest that poor diet was not due to a lack of nutritional knowledge, motivation or fecklessness, but due to resource constraints and a lack of opportunity to consume a healthy diet. There is a hierarchy of needs for those experiencing crisis, which is first to eat to avoid hunger, then buying food for nourishment (e.g. fresh fruit and vegetables). Therefore, this might explain why food insecurity, perhaps unsurprisingly, mediates the adverse effect of income crisis on dietary quality. This finding suggests that efforts to improve the diet of this population should target the determinants of food insecurity. This could be done by helping foodbank users to address the cause of the income crisis, whether it is due to financial strain, adverse life events, benefit-related issues experienced or a combination of all three.

The intervention needed to tackle income crisis could be complex, therefore, a multi-agency collaboration between foodbanks and other members of communities including charities, local authorities and local businesses is needed. If such an intervention were delivered, foodbanks should be selected as a ‘point of contact’ to deliver such interventions. This is due to foodbanks’ ability to build trust and relationships with its users, which is essential in engaging this ‘hard-to-reach’ population. It is also important that the central Government has the responsibility to ensure food security for all. One of the ways is to ensure everyone has timely and reliable access to welfare benefits. It is also important that the amount of benefits keep up with the inflation rate, which is essential in helping households to afford sufficient food for healthy and active lifestyles.

Researchers, community group leaders and policymakers have a role to play in bringing about changes to improve food insecurity and the diet of foodbank

users. It is essential that we work together to bring about changes to improve household resilience against food insecurity:

“I pray that you will not stop at just helping us to do the practical things. We do need to influence decision-makers because I think ultimately if we don't influence them we will not go very far… It would be difficult to sustain [the project] if they are working opposite to what your findings are… But if this [findings] can influence people [in the policy world] that can make real change. **ID 3**

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Appendices

Appendix A: Interview 1– Information sheet and consent form for foodbank users

Information Sheet for Participants in Research Studies

You will be given a copy of this information sheet.

Title of Project: **Exploring the psycho-social determinants of food consumption in Foodbank clients.**

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 4475/001

Edwina Prayogo
UCL School of Pharmacy
Centre for Behavioural Medicine
Mezzanine Floor, BMA House, Entrance A
Tavistock Square, London WC1H 9JP

We are inviting you to take part in a study about general food and fruit and vegetable consumption. Before deciding whether you want to take part, you should read the following information carefully.

What is this for?

We would like to understand the food practices and consumption of fruit and vegetables in Foodbank clients. We will ask you some questions that will help us to understand what you eat, how you store and prepare your food and your experience with eating fresh fruit and vegetables. We will do this by interviewing you on a one-to-one basis. The interview is expected to last approximately one hour and you only have to answer the questions that you feel comfortable in answering. By participating in this study you are contributing to the understanding of food practices and consumption of people who receive food parcels from Foodbanks in the UK.

Who can get information on what I have to say?

To ensure your confidentiality is maintained, we will keep the information that you give us completely anonymous and confidential. Your voice will be audio-recorded so that we can listen to it after the interview to look at what you have said. We will give you a pseudonym (another name) which will make sure what you say cannot be identifiable to you. Only researchers involved in this study will have access to your data. The results of this study will be published in an academic journal and all quotations we use will be linked to your pseudonym (other name).

Informed Consent Form for Participants in Research Studies

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: **Exploring the psycho-social determinants of food consumption in Foodbank clients.**

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 4475/001

Thank you for your interest in taking part in this research. Before you agree to take part, the person organising the research must explain the project to you.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant's Statement

I **(_____)**

- have read the notes written above and the Information Sheet, and understand what the study involves.
- understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.
- consent to the processing of my personal information for the purposes of this research study.
- understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.
- agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.
- understand that I am being paid for my assistance in this research and that some of my personal details will be passed to UCL Finance for administration purposes.
- I agree to be contacted in the future by UCL researchers who would like to invite me to participate in follow-up studies.
- I agree that my non-personal research data may be used by others for future research. I am assured that the confidentiality of my personal data will be upheld through the removal of identifiers.

Signed: Date:

Appendix B: Interview 1 – Interview schedule for foodbank users

Opening question (Foodbank related experiences)

1. Could you please talk me through, what brings you to the Foodbank?

   Follow-up questions
   How long have you been using Foodbank for?
   Could you please tell me how do you feel about using Foodbank?

2. What do you think about the foods being given in Foodbank?

   Food insecurity: Experiences and Strategy to cope with it.

3. What were the top 5 things you spend your money on monthly?
4. We're especially interested in food. Tell me about the last time you ran short of what you needed to pay for food and how did you cope?

   Food-related practices: Acquisition and Facilities available for cooking and storing foods.
5. Where do you usually shop for your groceries and why? (**Prompt** : cheap, convenience, variety)
6. When you are buying food, what are you are your priorities?
7. Do you have any difficulties in accessing or using the storage and cooking facilities you have?

   Transition question: Foodbank and Fruit and Veg

   (If the participant is the first timer in foodbank and not aware about the foodstuff being given)
   Foodbank usually give a food parcel that contains 3 days' supply of non-perishable foods where you are allowed to chose from limited variety For example pasta or rice, cereal or porridge, tinned vegetables and fruit, meat or fish et cetera. But, there is no fresh fruit and vegetable at the moment.

8. Imagine if today Foodbank were to give you fresh fruit and vegetables in addition to the food parcels you received – what would you think?
9. If Foodbank would like to offer fresh F&V to its clients in the future, what kind of fruits and vegetable do you think would be the most suitable to be given?
   (Follow-up Prompt: Why you think so?)

10. Where do you usually go for your food shopping?
    (Follow-up question: do you have any difficulties accessing them?)
11. **If this could happen,** how would you go to prepare the fruit and vegetables being you are given?

    Barriers and Facilitators to fresh F&V intake based on COM-B

12. Have you heard about the '5 a day' campaign - what does it mean to you? (**Prompt** – explain 5 a day if needed and give participants '5 a day 'leaflets)
13. What do you think are the potential benefits of eating more F&V every day?
    (**Follow-up prompt:** How about any negative consequences?

14. What is your main consideration when choosing and preparing fruit and vegetables to consume?
15. How would you rate your ability to prepare fresh fruit or vegetable in your daily meals?)
16. What do you think would help you to increase the amount of F&V you are currently eating?
    (Prompt: Meal planning, budgeting, or cooking skill)
17. How do you feel about your current F&V consumption? (Prompt: Does your mood (or how you feel) influence this?
18. How important is eating fruit and vegetables every day for you and your family?
19. Are there people around you who influence your F&V intake?
    If yes - Who are they? (Prompt: the person you live with [e.g. partner, children, or friends])
20. What prevents you from eating F&V?
21. Would you say that generally, you are in the habit of eating fruit and vegetable every day?
    If **'no' -** what would be helpful in developing a habit of eating F&V daily?
22. Do you see yourself as someone who is: fruit eater, vegetable eater, or neither of them? (Social/Professional Role and Identity)
23. How confident are you in being able to prepare F&V in your household?

Thank you for your time - END OF INTERVIEW

Appendix C: Interview 1 - questionnaire on participants' socio-demographic and household food security.

Foodbank User Study

Please answer the question bellow by putting an ✘ in **ONE BOX** for each question, or write down your response in the space provided. We will keep your answers completely confidential.
Your participation in this study does not influence your eligibility or the help you will receive from Foodbank.

Date: _____

A. SOME QUESTIONS ABOUT YOU

Q1 **Are you male or female?**
- ☐ Male
- ☐ Female

Q2 **How old are you?** _____ years

Q3 **What is your present marital status?**
- ☐ Single (never married)
- ☐ Separated
- ☐ Married
- ☐ Divorced
- ☐ Widowed
- ☐ Cohabitating
- ☐ Other please describe:_____

Q4 **What is your current accommodation status?**
- ☐ Own it outright
- ☐ Buying it with help of a mortgage or loan
- ☐ Local Authority rent / council housing
- ☐ Housing Association, charitable trust, or local housing
- ☐ Private rent

Q5 **What is your ethnic group?**
(Choose **ONLY ONE** option that best describes your ethnic group or background)

A. White
- ☐ English / Welsh / Scottish / Northern Irish / British
- ☐ Irish
- ☐ Gypsy or Irish Traveller

Any other White background, please describe : _____

B. Mixed / Multiple ethnic groups
- ☐ White and Black Caribbean
- ☐ White and Black African
- ☐ White and Asian
- ☐ Any other Mixed / Multiple ethnic background, please describe:_____

C. Asian / Asian British
- ☐ Indian
- ☐ Pakistani
- ☐ Bangladeshi
- ☐ Chinese

Q6 How many of the following live with you? (household size – do not include yourself)

a. Adult(s): _____
b. Children (under 18 years old): _____

Q7 Who do you share your housekeeping budget with (include any family and friends) ?

Relationship to you	Gender	Age	Occupation	In Paid employment? (YES / NO)

Q8 Which of these best describes what you are doing at present?
If more than one of these applies to you, please ✘ the main one only.

- ☐ Unemployed – seeking work
- ☐ Unemployed – not seeking work
- ☐ Long-term sick or disabled
- ☐ Carer
- ☐ Self-employed
- ☐ Full-time paid work (30 hours or more each week)
- ☐ Part-time paid work (under 30 hours each week)
- ☐ Full-time education at school, college or

Q10 Are you claiming OR receiving any state benefit or tax credit at the moment?

- ☐ Yes ..... Please go to Q11
- ☐ No – Never received
- ☐ No – Sanctioned (For how long? _____)

Q11 What is the type of benefit you are currently receiving?
Please tick all the boxes that apply to you

- ☐ Employment and Support Allowance (ESA)
- ☐ Jobseeker's Allowance (JSA)
- ☐ Income Support
- ☐ Housing benefit
- ☐ Child benefits
- ☐ Child Tax Credit
- ☐ Attendance allowance
- ☐ Carer's allowance
- ☐ Disability Living Allowance (DLA)
- ☐ Incapacity benefits
- ☐ Others (please specify : _____)

Q12 What is your weekly benefit allowance? (optional) £ _____

B. SOME QUESTIONS ABOUT YOUR REFERRAL TO THE FOODBANK

Q13 **What was the reason you are being referred to the Foodbank?**

- ☐ Benefit delays
- ☐ Low-income Benefit changes
- ☐ Debt
- ☐ Delayed wages
- ☐ Unemployment
- ☐ Sickness
- ☐ Child holiday meals
- ☐ Homelessness
- ☐ Others (please describe) :_____

Q14 **Who were the referral agencies that issued your Foodbank voucher?**

- ☐ Job Centre
- ☐ Children Centre
- ☐ Citizen Advice bureau
- ☐ Local churches or school
- ☐ Doctor surgery clinic
- ☐ Local council
- ☐ Support worker
- ☐ Others (please specify) : _____

Q15 **How many voucher(s) have you received from Foodbank within the last 6-months?**

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4 or more

Q16 **In the last 12 months, since (date 12 months ago) did you (or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?**

No (Go to Question No. 3) ☐ Yes ☐

Q17 **How often did this happen ?**

In only 1 or 2 months? ☐ Some months, but not every month? ☐

Almost every month? ☐

Q18 **In the last 12 months did you ever eat less than you felt you should because there wasn't enough money to buy food?**

No ☐ Yes ☐

Q19 **In the last 12 months were you ever hungry but didn't eat because you couldn't afford enough food?**

No ☐ Yes ☐

Here are 2 statements that people have made about their food situation. For these statements, please tell me whether the statement was *'never true', 'sometimes true', or 'often true'* for you (or other members of your household) in the last 12 months.

Q20 **'The food that I / we bought just didn't last and I / we didn't have money to get more'**

Never true ☐ Sometimes true ☐ Often true ☐

Q21 **'I / we couldn't afford to eat balanced meals'**

Never true ☐ Sometimes true ☐ Often true ☐

Thank you for your time.

Appendix D: Interview 1 – Consolidated criteria for reporting qualitative research (COREQ) checklist for an interview with foodbank users

No. Item	Guide questions/description	Reported
Domain 1: Research team and reflexivity		
Personal Characteristics		
1. Inter viewer/facilitator	Which author/s conducted the interview?	Edwina Prayogo (EP)
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	MSc in Clinical and Public Health Nutrition. BSc in Biomedical Science.
3. Occupation	What was their occupation at the time of the study?	PhD student
4. Gender	Was the researcher male or female?	Female
5. Experience and training	What experience or training did the researcher have?	The researcher collected data in two East London foodbanks as part of her MSc project in UCL. She had attended qualitative research training and workshops provided by UCL.
Relationship with participants		
6. Relationship established	Was a relationship established before study commencement?	No relationship was established with Foodbank users before study commencement.
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Participants were informed of the interviewer's background and

		reasons for researching her PhD study.
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	The interviewer introduced herself as a PhD student interested in the health and wellbeing of Foodbank users in London. i.e. to explore why they need to use Foodbank and the factors that influence their dietary intake.
Domain 2: study design		
Theoretical framework		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Thematic Analysis using inductive and deductive analysis were employed to gain a fuller understanding of the topic of interest. Capability, Opportunity, and Motivation (COM-B) framework was used for deductive analysis.
Participant selection		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Convenience
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	The face-to-face approach was used.

12. Sample size	How many participants were in the study?	18
13. Non-participation	How many people refused to participate or dropped out? Reasons?	There were no dropouts. However, the reason for refusal was not recorded as foodbank volunteers approached potentl participants.
Setting		
14. The setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Most participants (16 out of 18) were interviewed at foodbank distribution centres; the remaining 2 were interviewed in a coffee shop near their house.
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	Only one participant requested to be accompanied by her family member during the interview.
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data	Eighteen foodbank users, ten females; eight males.
Data collection		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Semi-structured interview guide to explore reasons for attending foodbanks and factors that influenced dietary quality. The questions were pilot tested with a

		convenience sample (Appendix B)
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	No repeat interviews were conducted.
19. Audio/visual recording	Did the research use the audio or visual recording to collect the data?	Interviews were audio recorded with permission from research participants and transcribed verbatim
20. Field notes	Were field notes made during and after the interview or focus group?	Field notes were made during and after the interview.
21. Duration	What was the duration of the interviews or focus group?	Interviews lasted between 30 – 140 minutes.
22. Data saturation	Was data saturation discussed?	Yes.
23. Transcripts returned	Were transcripts returned to participants for comment and correction?	No.
Domain 3: analysis and findings		
Data analysis		
24. Number of data coders	How many data coders coded the data?	E.P. did the first round of coding, which was discussed with the research group. The themes developed were Independently coded by A.C. Any disagreement with the themes were resolved.
25. Description of the coding tree	Did the authors describe the coding tree?	The thematic map was provided to illustrate the inter-connectedness between each theme,

		which is considered to be an acceptable alternative to the coding tree.
26. Derivation of themes	Were themes identified in advance or derived from the data?	The themes were derived from data (inductively) and COM-B and TDF (deductively).
27. Software	What software, if applicable, was used to manage the data?	Excel 2007 was used to manage the extract of quotes identified from the transcript.

Appendix E: Interview 1 -Coding Frame for an interview with foodbank users

Income crisis and factors influencing dietary quality

Code name	Description	Examples
Adverse life events - illness and/or bereavement	Experiences of illness or bereavement of self or others	*"it is all very heavy work which I used to be able to do, but because of my injury I can't do it."*
Adverse life events - personal	Experiences of a personal issue such as divorce, relationship breakdown, conflict with others.	*"I am trying to get away from the abuse of an ex-partner"*
Adverse life events - financial	Financial-related events which resulted in a loss of income or unexpected expenses. This includes job loss, loss of benefits due to sanction/delay, and any unexpected expenses.	*"I've had my benefit stops, and it was stopped to 6-weeks."*
Financial strains	Experience of being in chronic financial strained, low-income	*"the money I have now it is just enough to live on."*
Coping strategies to maintain food sufficiency - changing meal pattern and size.	Deliberately changing size, the frequency of meal to maintain food sufficiency	*"I would skip a meal just not to have any breakfast or lunch, or not having anything until evening."*
Coping strategies to maintain food sufficiency - changing food shopping practices	Changing the types of food bought and shopping practice to maintain food sufficiency	*"we bulk up the dinner with bread because it was cheap."*
Coping strategies to maintain food sufficiency - others	Other strategies identified which aim to maintain food sufficiency.	*"Quite often I kind of get into trouble with stealing things from the shop and things like that."*
Lack of social support - family/friends	Any reference to lack of perceived and/or available support whether financial/non-financial from family, friends or significant others in time of needs	*"they may have family and friends that they can turn to, In my situation, that wasn't the case."*
Lack of access to cooking and chilled food storage	Any reference to lack of access or difficulties accessing cooking facilities, chilled and fresh food storage which influence one's food choice.	*"if I start cooking [in homeless shelter], then the other said why is that man cooking and having food".*
Competing expenditures - family	Any reference to prioritising family-related expenses whether it is for children or other family members beyond other	*"Other things have to come first such as taking my children to school which cost me £70-80 per week at the*

	expenses	*moment."*
Competing expenditures - household bills and expenditures	Any reference to prioritising paying for household bills & expenditures beyond other expenses	*"I make sure I pay it [first] because if I don't have heating, I will be really sick"*
Competing expenditures - others	Any reference to prioritising paying for any other expenses above other expenses.	*"I am not doing much shopping on food because I have to pay thousand pounds to the British embassy to get my passport."*
Poor health - physical	Any reference to poor physical health as a result of current financial and diet-related circumstances	*"this area affects me, not eating, can't take your pain killers, can't take insulin, and if I don't take insulin, I get ill."*
Poor health - psychological	Any reference to poor psychological health as a result of current financial and diet-related circumstances	*"I am really stressed because I had to manage everything at home, financially, and I don't get enough food at home as well."*

Barriers of fruit and vegetable consumption (COM-B)

Code Name	Description	Examples
Capability - physical	Any reference to physical skill involved in healthy eating (e.g. cooking and preparation of healthy meals), resourcefulness to manage a household budget, food availability.	*"very confident.. because you have to teach them how to cook for themselves. If you do not know how to cook, how [would] you expect your child to feed themselves in years to come."*
Capability - psychological	Any reference to: nutritional knowledge (e.g. benefits of healthy diet, fruit and vegetable intake '5-a-day' campaign of fruit and vegetable intake); memory, attention and decision process when selecting food to be bought (e.g. choosing between healthy and unhealthy foods); ability to resist impulse or resist making unhealthy food choice (e.g. behavioural regulation, binge eating)	*"[Fruit and vegetables] helps your body to regulate and then make you feel fitter and better"* *"5 a day' is good because it helps you to know you are having right amount of intake of vitamins"*
Opportunity - physical	Any reference to participants' environmental context such as: access and availability to retailers, supermarket, healthy food store, living in food desert area (i.e. a place where there is limited availability of fresh and affordable healthy foods), availability) and resources (e.g. time, money, access to cooking and chilled food facilities)	*"I am living in the shelter 3 days a week, [the other] days I have to stay in the park or wherever I can find place… they got kitchen [in the shelter] but a we are not allowed to use it"* *"I buy just the main thing I need to feed them (children) and not eating any fruit or vegetable at the moment, to be honest, cos I have no money"*
Opportunity - social	Any reference to social influences on food selection, fruit and vegetable intake.	*"I am very able to eat healthily, prepare, and cook because it has been instilled in me from young age. My grandfather always said "you must eat your fruit and vegetables"*
Motivation - reflective	Any reference to one's belief about capability of making healthy food choice; optimism; goal setting (or competing goals), and beliefs about consequences linked to healthy diet and fruit and vegetable intake.	*"when I have that (fruit and vegetable) I feel like I am doing a good things for myself and my family, encouraging them to eat healthy and to have a better life"* *"I know we should have fruit and veg but , sometimes we don't have any choice, meat and potatoes is more important"* *"By keeping yourself warm, so you are short of money for your food."*
Motivation - automatic	Any referece to: emotion or affect (positive or negative), reinforcement	"I have depression for many years, when I have healthy diet it takes depression away and it helps" *"I find it when I am not eating fruit and veg it affects my mood rather than my mood affect in the food*

Appendix F: Interview 2– Information sheet and consent form (foodbank personnel)

Information Sheet for Participants in Research Studies

Title of Project: **Exploring the psycho-social determinants of food consumption in Foodbank clients.**

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 4475/001

Edwina Prayogo
UCL School of Pharmacy, Research Department of Practice and Policy
Mezzanine Floor, BMA House, Entrance A, Tavistock Square
London WC1H9JP

We are inviting you to take part in a study about Foodbank client experience, their health, and well-being. Before deciding whether you want to take part, you should read the following information carefully.

What is this for?

We would like to hear your experience of working with foodbank clients and your ideas on how we can design an intervention to improve their diet and well-being. We will do this by interviewing you on a one-to-one basis. The interview is expected to last approximately one hour, and you only have to answer the questions that you feel comfortable in answering. By participating in this study, you are contributing to the understanding of experience working with Foodbanks clients and designing an intervention to improve clients diet and well-being.

Who can get information on what I have to say?

To ensure your confidentiality is maintained, we will keep the information that you give us completely anonymous and confidential. Your voice will be audio-recorded so that we can listen to it after the interview to look at what you have said. If we use what you say in our publications, we will identify you only by participant number, so you will not be identified by other participants. Only researchers involved in this study will have access to your data.

What happens if I don't want to participate in this study?

If you do not wish to be interviewed, or change your mind about taking part at any time you have the right to do so without having to tell us why.

All data will be collected and stored in accordance with Data Protection Act 1998 and your information will not be disclosed to any third part

Informed Consent Form for Participants in Research Studies

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.
Title of Project: **Exploring the psycho-social determinants of food consumption in foodbank users.**

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 4475/001
Thank you for your interest in taking part in this research. Before you agree to take part, the person organising the research must explain the project to you.

If you have any questions arising from the Information Sheet or explanation is already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant's Statement

I **(**_____**)**

- have read the notes written above and the Information Sheet, and understand what the study involves.
- understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.
- consent to the processing of my personal information for the purposes of this research study.
- understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.
- agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.

Signed: Date:

Appendix G: Interview 2 – Interview schedule

Opening questions

Your clients were grateful for the help they received from your Foodbank. Many of them told me that without the foods from Foodbank they and their children would go hungry as they had been struggling for a while. However, I noticed those who come for the first time said that they are embarrassed and find it hard to receive help from Foodbank.

1. Do you think this is a common feeling experienced by many Foodbank clients?
2. How do you and the volunteers (in x Foodbank) try to address this feeling?

Foodbank and food provision

Most of the clients were satisfied with the variety and the quality of the food being given. Some clients gave us suggestions about the foods that could be included.

3. How often do clients request other foods other than those stored in Foodbank?
   If yes – What are they?
   (Prompt: Perishable foods (Incl bread, butter, cooking oil, and fresh fruit and vegetable) and special dietary needs food (e.g. diabetes, allergy specific foods)?

I know that in the past clients have only been allowed 3 vouchers for Foodbank. For some of them in 'complex' crisis situations, this means they may need more than 3 vouchers before their problem is resolved.

4. How do you deal with clients who have used Foodbank 3 times but still need more vouchers?
5. Have you seen any changes in the number of clients needing more than 3 vouchers in the past 1 year?

Income crisis and dietary quality

***** *Show the Thematic map on Income crisis and poor quality of diet******

Income crisis

6. How does this reflect your experience and understanding of the situations that bring clients to Foodbank?
7. Based on your experience, Are there other factors that we might have missed that you believe can also lead clients to experience an income crisis?

Our conversation with your clients suggests that this income crisis eventually leads to:

- skipping meals or going without food for days.
- buying cheaper food stuffs to get the most of their money (e.g. eating only porridge, depending on frozen sausage and chips)

- borrowing, begging or asking for extra foods from family and friends,
- and for some they don't have cooking facilities or fridges and freezers, due to homelessness and their living arrangements.

Altogether we believe this has negative impact on their quality of diet and both physical and mental health. So, based on your experience

8. Are there any coping methods or impacts of food poverty on their diet and health that we might have missed?

Intervention to improve the dietary quality of foodbank users

In the last part of our interview, we would like your inputs on how we could design an intervention that would improve Foodbank clients; dietary quality and wellbeing. Participants said that they and their children would like to eat fresh fruit and vegetables, and showed that they have good cooking skills and nutritional knowledge. However, they said they can't afford it and described it as affecting their health. Participants suggested that if Foodbank gave vegetables that complement the foodstuffs that have already been given, it would help them further.

** Briefly summarised the two MSc interventions**

With your inputs, we would like to design an intervention to improve Foodbank clients' diet, of which aiming to increase their fruit and vegetable consumption.

Option 1: Investigating the feasibility of incorporating a F&V bag

9. What do you think about the idea?
    a. What would be the challenges of this approach?
10. How do you think we could do this when Foodbanks are held in a church setting, for example, whereby the room must be quickly cleared after Foodbank has finished?

(Follow-up Question if they bring up cold-chain and seems positive with the idea)

- Do you think there will be a space to have a cold-chain in your Foobank ?
- Would it be possible to be included in the 'donation list' in the future?

Option 2: Fruit and Vegetable vouchers

11. What do you think about the idea?
12. What do you see are the challenges?

(Follow-up questions if they seem to be positive with the idea)

- If we give vouchers to be exchanged in local markets – do you know any markets that are open nearby?

Non-food help

13. Does your Foodbank give support other than food?
14. Do the volunteers in the local Foodbank receiving any support to face those with special needs (e.g. mental health issues)?
15. Is there anything else you would like to suggest to us to improve foodbank clients diet and well-being?

END OF INTERVIEW

Appendix H: Interview 2 - Consolidated criteria for reporting qualitative research for interviews with foodbank personnel

No. Item	Guide questions/description	Reported
Domain 1: Research team and reflexivity		
Personal Characteristics		
1. Inter viewer/facilitator	Which author/s conducted the interview?	Edwina Prayogo (EP)
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	MSc in Clinical and Public Health Nutrition. BSc in Biomedical Science.
3. Occupation	What was their occupation at the time of the study?	PhD student
4. Gender	Was the researcher male or female?	Female
5. Experience and training	What experience or training did the researcher have?	The researcher collected data in two East London foodbanks as part of her MSc project in UCL. She had been trained in qualitative research and conducted 18 interviews with foodbank users.
Relationship with participants		
6. Relationship established	Was a relationship established prior to study commencement?	Participants are known to the researcher from their past participation of their foodbank in the research.
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Participants were aware that the researcher doing the research s part of her PhD research.
8. Interviewer characteristics	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	The interviewer introduced herself as a PhD student who is interested in the diet, and health of foodbank users.
Domain 2: study design		
Theoretical framework		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Thematic Analysis using inductive and deductive analysis.

Participant selection		
10. Sampling	How were the participants selected? e.g. purposive, convenience, consecutive, snowball	Convenience
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Email.
12. Sample size	How many participants were in the study?	12
13. Non-participation	How many people refused to participate or dropped out? Reasons?	N/A
Setting		
14. The setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Most participants (10 out of 11) were interviewed at respective foodbank distribution centres, only 1 interview was conducted in participant home.
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	No.
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Eleven foodbank personnel who hold the position as distribution manager, project manager, trustee and staff from The Trussell Trust foodbank network.
Data collection		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	The questions were pilot tested with convenience sample before being used.
18. Repeat interviews	Was repeat interviews carried out? If yes, how many?	N/A
19. Audio/visual recording	Did the research use the audio or visual recording to collect the data?	Interviews were audio recorded with permission from research participants.
20. Field notes	Were field notes made during and/or after the interview or focus group?	Field notes were made during/after the interview.
21. Duration	What was the duration of the interviews or focus group?	The interview lasted between 30 – 90 minutes.
22. Data saturation	Was data saturation discussed?	Yes. See section
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No.
Domain 3: analysis and findings		
Data analysis		
24. Number of data	How many data coders coded the data?	E.P. did the first round

coders		of coding, which was discussed with the research group. Any disagreement with the themes developed will be resolved until an agreement was reached.
25. Description of the coding tree	Did authors provide a description of the coding tree?	The thematic map was provided to illustrate the interconnectedness between each theme, which is an acceptable alternative to the coding tree.
26. Derivation of themes	Were themes identified in advance or derived from the data?	The themes were derived from data inductively.
27. Software	What software, if applicable, was used to manage the data?	Excel 2007 was used to manage the extract of quotes identified from the transcript.

Appendix I: Interview 2 - Coding Frame for an interview with foodbank personnel

Code name	Description	Example
Meeting needs	**Users needs:** any reference to users needs which could be food, or non-food needs: work-related, psychological, advice.	*"They lost their job .. it's just somebody to help them, talk to them, just inject a little bit of strength and courage again."* *"We've seen people presented with benefit issue and because it was not dealt with in the time they've developed mental health issues."*
	Foodbanks and their volunteers needs: any reference to the needs of local foodbanks and their volunteers which could be volunteer management, training, resources.	*"I've been looking for some kind of service or help to actually help people to process that things that they are taking home because I am sure it does have an impact"* *"Another client that I've met that made me cry. I've been in the frontline [for many years] and I don't cry.. if I am crying, how would they feel?"*
Making change happens	**Foodbank as point of contact:** any reference to current work or initatives offered within foodbank, its impact to users, challenges of working with users, feasibility and acceptability of future intervention within foodbanks.	*"It is important that we identify what they need or want. So, we can try to address the underlying issue"* *"We are looking to have as much of service we can in-house. So that we don't have to send them [elsewhere]"* *They've come here [foodbank], they've cried, they have to tell the story again over there [signposted place]"*
	Multi-agency collaboration: any reference to current or aspiration to collaborate with other sectors (e.g. charities, local authority, policy maker) to help foodbank users.	*"Food poverty is not foodbank issue alone, or is not for the local churches alone, it need a bigger involvement, organisation as well as local people"* *"It's a partnership between ourself, child poverty action group, and local authorities and the amazing volunteers that we have"*

Appendix J: Cross-sectional survey – information sheet and consent for the foodbank and Advice Centre (AC) users

Information Sheet for Participants in Research Studies (AC users)
Title of Project: **The Impact of Psychosocial and Environmental Factors on Dietary Quality: A Cross-Sectional Survey**
This study has been approved by the UCL Research Ethics Committee (Project ID Number): **4475/003**

Dr George Grimble
UCL Institute for Liver and Digestive Health
Rockefeller Building (B09E)
Gower Street, London WC1E6BT

What is this study for?

As part of our UCL "Food and Wellbeing" study, we have collected information from people attending Foodbanks in London about their diet, health and wellbeing. We have learnt a lot from this, but now we want to know how this compares to what users of local advice centres think and feel about their eating habits. By participating in this study, you will contribute to improving understanding of the diet and health of people attending Foodbanks and local advice centres. This will be useful because it will raise awareness and will allow future improvements.

What do I have to do?

Will you please help us to fill in a questionnaire about you, how you feel and what you think about food, eating, how you feel about your health? The questionnaire will take around 30 minutes to fill in. We will fill it in here at the Local Advice Centre.

Who can get information on what I have to say?

Only the people involved in this study will see the completed questionnaire. Any information you give to us will have your name removed before we give it to other researchers in our team, or publish the data. So, all the information you give us will be stored safely and nobody will be able to identify you from the data you provide to us. As participation is anonymous, it will not be possible for us to withdraw your data once you have returned your questionnaire. Hence, the submission of a completed questionnaire implies consent to participate.

What happens if I don't want to participate in this study?

If you don't want to be interviewed, or change your mind about taking part at any time during the interview, that is fine. It will not affect your eligibility to receive help from your advisor from the Local Advice Centre.

How can I participate in this study?

We will reimburse you **£5** in cash for your time in participating in this study. Please approach the researchers of this study (Edwina, Nurul or Thomas) or ask your advisor to direct you to them. At least one of us will be around during the opening hours.

All data will be collected and stored in accordance with the Data Protection Act 1998 and your information will not be disclosed to any third party.

Information Sheet for Participants in Research Studies (Foodbank users)
Title of Project: **The Impact of Psychosocial and Environmental Factors on Dietary Quality: A Cross Sectional Survey**
This study has been approved by the UCL Research Ethics Committee (Project ID Number): **4475/003**

Dr George Grimble
UCL Institute for Liver and Digestive Health
Rockefeller Building (B09E)
Gower Street, London WC1E6BT

We would like to invite you to participate in this study of food consumption, health and well-being. Before deciding whether you want to take part, you should read the following information carefully.

What is this study for?

As part of our UCL "Food and Wellbeing" study, we have collected information from people attending Foodbanks about their diet, health and well-being. We have learnt a lot from this. Now we want to know what you think, and how you feel about your eating habits. By participating in this study, you will contribute to improving understanding of the diet and health of people attending Foodbanks. This will be useful because it will raise awareness and will allow future improvements.

What do I have to do?

Will you please help us by filling in a questionnaire about you, how you feel and what you think about food, eating, how you feel about your health? The questionnaire will take around 30 minutes to complete here at the Foodbank centre.

Who can get information on what I have to say?

Only people involved in this study will see the completed questionnaire. Any information you give to us will have your name removed before we give it to other researchers in our team, or publish the data. So, all the information you give us will be stored safely and nobody will be able to identify you from the data you provide to us. As participation is anonymous, it will not be possible for us to withdraw your data once you have returned your questionnaire. Hence, the submission of a completed questionnaire implies consent to participate.

What happens if I don't want to participate in this study?

If you don't want to be interviewed, or change your mind about taking part at any time during the interview, that is fine. It will not affect your eligibility to receive help from Foodbank.

How can I participate in this study?

We will reimburse you **£5** for your time in participating in this study. Please approach the researchers of this study (Edwina, Nurul or Thomas). At least one of us will be around during Foodbank opening hours.

All data will be collected and stored in accordance with the Data Protection Act 1998 and your information will not be disclosed to any third party.

Informed Consent Form for Participants in Research Studies

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: **The Impact of Psychosocial and Environmental Factors on Dietary Quality: A Cross Sectional Survey**

This study has been approved by the UCL Research Ethics Committee (Project ID Number): **4475/003**

Thank you for your interest in taking part in this research. Before you agree to take part, the person organising the research must explain the project to you. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in.

Participant's Statement

I **(**_____**)**

- have read the notes written above and the Information Sheet, and understand what the study involves.
- understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.
- consent to the processing of my personal information for the purposes of this research study.
- understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.
- agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.
- understand that I am being paid for my assistance in this research and that some of my personal details will be passed to UCL Finance for administration purposes.

Signed: Date:

Appendix K: Cross-sectional survey – Participant's information sheet, consent form and questionnaire for feasibility study

Title of Project: **Exploring the psycho-social determinants of food consumption in Foodbank clients.**
This study has been approved by the UCL Research Ethics Committee (Project ID Number): **4475/001**

Dear Sir / Madam,

We need your help

We are inviting you to take part in a study about who uses Foodbank in the UK. Before deciding whether you want to take part, you should read the following information carefully.

What is this for?

We would like to test the feasibility of conducting a volunteer-led survey within foodbank. To do so, we need your help to complete a short survey about yourself, your access to food and how you came to be at foodbank.

You only have to answer the questions that you feel comfortable in answering and this should take you **no longer than 5 minutes** of your time. By participating in this study, you are contributing to the understanding of people who receive food parcels from Foodbanks in the UK.

What happens if I do not want to participate in this study?

If you do not want to participate, or change your mind about taking part at any time, you have the right to do so without having to tell us why. Your participation will not affect your eligibility of receiving food parcel from Foodbank.

How I can participate in this study?

Please complete the consent form on the next page, and the survey. Once you have completed the survey, please return it to the Foodbank volunteers.

If you want a copy of the findings, please leave your e-mail address and we will send it to you once it is ready.

E-mail : _____

Thank you very much for giving some of your time to help us understanding who uses Foodbank.

Yours sincerely

Edwina Prayogo

Informed Consent Form for Participants in Research Studies

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: **Exploring the psycho-social determinants of food consumption in Foodbank clients.**

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 4475/001
Thank you for your interest in taking part in this research. Before you agree to take part, the person organising the research must explain the project to you.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant's Statement

I (Name : _____)

- have read the notes written above and the Information Sheet, and understand what the study involves.
- understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.
- consent to the processing of my personal information for the purposes of this research study.
- understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.
- agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.
- I agree to be contacted in the future by UCL researchers who would like to invite me to participate in follow-up studies.
- I agree that my non-personal research data may be used by others for future research. I am assured that the confidentiality of my personal data will be upheld through the removal of identifiers.

Signed:

_____ **Date:**

Foodbank User Study

Please answer the question bellow by putting an ✗ in **ONE BOX** for each question, or write down your response in the space provided. We will keep your answers completely confidential.
Your participation in this study does not influence your eligibility or the help you will receive from Foodbank.

Date: _____

A. SOME QUESTIONS ABOUT YOU

Q1 **Are you male or female?**
- ☐ Male
- ☐ Female

Q2 **How old are you?** _____ years

Q3 **What is your present marital status?**
- ☐ Single (never married)
- ☐ Separated
- ☐ Married
- ☐ Divorced
- ☐ Widowed
- ☐ Cohabitating
- ☐ Other please describe:_____

Q4 **What is your current accommodation status?**
- ☐ Own it outright
- ☐ Buying it with help of a mortgage or loan
- ☐ Local Authority rent / council housing
- ☐ Housing Association, charitable trust, or local housing
- ☐ Private rent
- ☐ Living with family
- ☐ Living with friends
- ☐ Bed and Breakfast
- ☐ Temporary accommodation / hostel/ shelter
- ☐ Homeless
- ☐ Other please describe:_____

Q5 **What is your ethnic group?**
(Choose **ONLY ONE** option that best describes your ethnic group or background)

A. White
- ☐ English / Welsh / Scottish / Northern Irish / British
- ☐ Irish
- ☐ Gypsy or Irish Traveller
- ☐ Any other White background,

please describe : _____

B. Mixed / Multiple ethnic groups
- ☐ White and Black Caribbean
- ☐ White and Black African
- ☐ White and Asian
- ☐ Any other Mixed / Multiple ethnic background, please describe:_____

C. Asian / Asian British
- ☐ Indian
- ☐ Pakistani
- ☐ Bangladeshi
- ☐ Chinese
- ☐ Any other Asian background, please describe : _____

D. Black / African / Caribbean / Black British
- ☐ 14. African
- ☐ 15. Caribbean
- ☐ 16. Any other Black / African / Caribbean background, please describe_____

Q6 How many of the following live with you? (household size – do not include yourself)

a. Adult(s): _____
b. Children (under 18 years old): _____

Q7 Who do you share your housekeeping budget with (include any family and friends) ?

Relationship to you	Gender	Age	Occupation	In Paid employment? (YES / NO)

Q8 Which of these best describes what you are doing at present?
If more than one of these applies to you, please ✘ the main one only.

- ☐ Unemployed – seeking work
- ☐ Unemployed – not seeking work
- ☐ Long-term sick or disabled
- ☐ Carer
- ☐ Self-employed
- ☐ Full-time paid work (30 hours or more each week)
- ☐ Part-time paid work (under 30 hours each week)
- ☐ Full-time education at school, college or university
- ☐ Fully retired from work

Q9 What is your highest educational qualification?

- ☐ No qualification
- ☐ GCSE/Vocational GCSE or equivalent
- ☐ O-levels or equivalent
- ☐ International Baccalaureate
- ☐ AS-level/Vocational AS-level or equivalent
- ☐ A-level/Vocational A-level or equivalent (i.e. BTEC)
- ☐ Other further education qualification (i.e. NVQ)
- ☐ Degree level qualification
- ☐ Masters degree
- ☐ Other work-related or professional qualification (Please specify:_____)

Q10 Are you claiming OR receiving any state benefit or tax credit at the moment?

- ☐ Yes ..... Please go to Q11
- ☐ No – Never received
- ☐ No – Sanctioned (For how long? _____)

Q11 What is the type of benefit you are currently receiving?
Please tick all the boxes that apply to you

- ☐ Employment and Support Allowance (ESA)
- ☐ Jobseeker's Allowance (JSA)
- ☐ Income Support
- ☐ Housing benefit
- ☐ Child benefits
- ☐ Child Tax Credit
- ☐ Attendance allowance
- ☐ Carer's allowance
- ☐ Disability Living Allowance (DLA)
- ☐ Incapacity benefits
- ☐ Others (please specify : _____)

Q12 What is your weekly benefit allowance? (optional) £ _____

B. SOME QUESTIONS ABOUT YOUR REFERRAL TO THE FOODBANK

Q13 **What was the reason you are being referred to the Foodbank?**

- ☐ Benefit delays
- ☐ Low-income
- ☐ Benefit changes
- ☐ Debt
- ☐ Delayed wages
- ☐ Unemployment
- ☐ Sickness
- ☐ Child holiday meals
- ☐ Homelessness
- ☐ Others **(please describe)**

:_____

Q14 **Who were the referral agencies that issued your Foodbank voucher?**

- ☐ Job Centre
- ☐ Children Centre
- ☐ Citizen Advice bureau
- ☐ Local churches or school
- ☐ Doctor surgery clinic
- ☐ Local council
- ☐ Support worker
- ☐ Others **(please specify) :**

_____

Q15 **How many voucher(s) have you received from Foodbank within the last 6-months?**

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4 or more

C. FOOD AND MONEY

People do different things when they are running out of money for food, to make their food or their food money go further.

[TICK one box for each question]

Q16 **In the last 12 months, since (date 12 months ago) did you (or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?**

No (Go to Question No. 3) ☐ Yes ☐

Q17 **How often did this happen ?**

In only 1 or 2 months? ☐ Some months, but not every month? ☐

Almost every month? ☐

Q18 **In the last 12 months did you ever eat less than you felt you should because there wasn't enough money to buy food?**

No ☐ Yes ☐

Q19 **In the last 12 months were you ever hungry but didn't eat because you couldn't afford enough food?**

No ☐ Yes ☐

Here are 2 statements that people have made about their food situation. For these statements, please tell me whether the statement was *'never true', 'sometimes true', or 'often true'* for you (or other members of your household) in the last 12 months.

Q20 **'The food that I / we bought just didn't last and I / we didn't have money to get more'**

Never true ☐ Sometimes true ☐ Often true ☐

Q21 **'I / we couldn't afford to eat balanced meals'**

Never true ☐ Sometimes true ☐ Often true ☐

Thank you for your time.
Please return this questionnaire to the Foodbank volunteers.

Appendix L: Cross-sectional survey – Questionnaire

FOODBANK RELATED QUESTIONS

1. **What is the main reason you are being referred to the Foodbank?**
   - ☐ Benefit delays
   - ☐ Low-income
   - ☐ Benefit changes, please specify: _____
   - ☐ Debt
   - ☐ Delayed wages
   - ☐ Unemployment
   - ☐ Sickness
   - ☐ Homelessness
   - ☐ Others, please describe:_____

2. **Name of referral agencies that issued your Foodbank voucher?**

   - ☐ Jobcentre Plus
   - ☐ Children Centre
   - ☐ Citizen Advice Bureau
   - ☐ Local churches or school
   - ☐ Doctor surgery clinic
   - ☐ Local council
   - ☐ Support worker
   - ☐ Others, **please describe**: _____

3. **How many voucher(s) have you received from Foodbank within the last 6-months?**
   - ☐ 1
   - ☐ 2
   - ☐ 3
   - ☐ 4 or more

Please answer the questions below by putting a tick [✓] in <u>ONE BOX</u> for each question, or write down your response in the space provided. Please DO NOT tick more than one option unless it is stated in the instruction.

We will keep your answers completely confidential. Your participation in this study does not influence the help you will receive from the foodbank.

ABOUT YOU

4. **Are your male or female?**
   - ☐ Male
   - ☐ Female

5. **How old are you?** _____ years old

6. **What is your present marital status?**
   - ☐ Single (never married)
   - ☐ Separated
   - ☐ Married
   - ☐ Divorced
   - ☐ Widowed
   - ☐ Cohabitating
   - ☐ Other, **please describe**: _____

7. **What is your current accommodation status?** (Choose **<u>ONLY ONE</u>** option the best describes your condition)
   - ☐ Own it outright
   - ☐ Buying it with the help of a mortgage or loan
   - ☐ Local Authority rent/council housing
   - ☐ Housing Association, charitable trust, or local housing
   - ☐ Private rent
   - ☐ Living with family
   - ☐ Living with friends
   - ☐ Bed and breakfast
   - ☐ Temporary accommodation / hostel / shelter
   - ☐ Homeless
   - ☐ Other, **please describe**: _____

8. **What is your ethnic group?** (Choose **<u>ONLY ONE</u>** option the best describes your ethnic group or background)
   - **a. White**
     - ☐ English / Welsh / Scottish / Northern Irish / British
     - ☐ Irish
     - ☐ Gypsy or Irish Traveler
     - ☐ Any other White background, **please describe**: _____
   - **b. Mixed / Multiple Ethnic Groups**
     - ☐ White and Black Caribbean
     - ☐ White and Black African
     - ☐ White and Asian
     - ☐ Any other Mixed / Multiple Ethnic background, **please describe**: _____
   - **c. Asian / Asian British**
     - ☐ Indian
     - ☐ Pakistani
     - ☐ Bangladeshi
     - ☐ Chinese
     - ☐ Any other Asian background, **please describe**: _____
   - **d. Black / African / Caribbean / Black British**
     - ☐ African
     - ☐ Caribbean
     - ☐ Any other Black / African / Caribbean Background, **please describe**: _____
   - **e. Another ethnic group**

- ☐ Arab
- ☐ Any other ethnic group, please describe: _____

9. What is your highest educational qualification?

- ☐ No qualification
- ☐ GCSE/Vocational GCSE or Equivalent
- ☐ GCSE/O-Levels or equivalent
- ☐ International Baccalaureate
- ☐ A-level/Vocational AS-level or equivalent (i.e. BTEC)
- ☐ Other further education qualification (i.e. NVQ)
- ☐ Degree level qualification
- ☐ Master degree, PhD
- ☐ Other work-related or professional qualification, **please specify**: _____

10. Are you claiming or receiving any state benefit or tax credit at the moment?

- ☐ Yes
- ☐ No – but received before **(skip No 11)**
- ☐ No – never received any benefits or tax credit **(skip No 11)**
- ☐ No – because of benefits sanctioned or delay **(For how long have you experienced sanctions? _____) (skip No 11)**

11. What is the type of social security benefit you are currently receiving?
Please tick <u>ALL</u> the boxes that apply to you

- ☐ Universal Credit
- ☐ Employment and Support Allowance (ESA)
- ☐ Jobseeker's Allowance (JSA)
- ☐ Income support
- ☐ Housing benefit
- ☐ Childs benefit
- ☐ Attendance allowance
- ☐ Carer's allowance
- ☐ Disability Living Allowance (DLA)
- ☐ Incapacity benefits
- ☐ Child Tax Credit or Working Tax Credit
- ☐ Other state benefits, please specify: _____

OVERALL… HOW DO YOU FEEL?

Next, we would like to ask you four questions about your feelings on aspects of your life. There are no right or wrong answers. For each of these questions, I'd like you to answer on a scale of 0 to 10, where 0 is 'not at all' and 10 is 'completely']

(PLEASE <u>CIRCLE ONLY ONE RESPONSE for each question</u>)

12. Overall, how satisfied are you with your life nowadays?

Not at all satisfied										Completely satisfied
0	1	2	3	4	5	6	7	8	9	10

13. Overall, to what extent do you feel that the things you do in your life are worthwhile?

Not at all worthwhile										Completely worthwhile
0	1	2	3	4	5	6	7	8	9	10

14. Overall, how happy did you feel yesterday?

Not at all happy										Completely happy
0	1	2	3	4	5	6	7	8	9	10

15. Overall, how anxious did you feel yesterday?

Not at all anxious										Completely anxious
0	1	2	3	4	5	6	7	8	9	10

HOW DID YOU FEEL LAST WEEK?

This questionnaire helps us to know how you are feeling. Read every sentence and place a tick [✓] on the answer that best describes how you have been feeling during the **LAST WEEK.** Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought out response.

16. I feel tense or 'wound up':

- Most of the time
- A lot of the time
- From time to time, occasionally
- Not at all

17. I still enjoy the things I used to enjoy:

- Definitely as much
- Not quite so much
- Only a little
- Hardly at all

18. I get a sort of frightened feeling as if something awful is about to happen:

- Very definitely and quite badly
- Yes, but not too badly
- A little, but it doesn't worry me
- Not at all

19. I can laugh and see the funny side of things:

- As much as I always could
- Not quite so much now
- Definitely not so much now
- Not at all

20. Worrying thoughts go through my mind:

- A great deal of the time
- A lot of the time
- From time to time, but not too often
- Only occasionally

21. I feel cheerful:

- Not at all
- Not often
- Sometimes
- Most of the time

22. I can sit at ease and feel relaxed:

- Definitely
- Usually
- Not Often
- Not at all

23. I feel as if I am slowed down:

- Nearly all the time
- Very often
- Sometimes
- Not at all

24. I get a sort of frightened feeling like 'butterflies' in the stomach:

- Not at all
- Occasionally
- Quite Often
- Very Often

25. I have lost interest in my appearance:

- Definitely
- I don't take as much care as I should
- I may not take quite as much care
- I take just as much care as ever

26. I feel restless as I have to be on the move:

- Very much indeed
- Quite a lot
- Not very much
- Not at all

27. I look forward with enjoyment to things:

- As much as I ever did
- Rather less than I used to
- Definitely less than I used to
- Hardly at all

28. I get sudden feelings of panic:

- Very often indeed
- Quite often
- Not very often
- Not at all

29. I can enjoy a good book or radio or TV program:

- Often
- Sometimes
- Not often
- Very seldom

FINANCIAL CIRCUMSTANCES

In this section, we would like to ask you some questions about your financial circumstances...

30. How do you rate the sufficiency of money to meet needs?

- More than enough
- Just enough
- Less than enough

31. How often do you feel you are not having enough money to afford adequate food or clothing?

- Never
- Rarely
- Sometimes
- Often
- Always

32. How often do you feel you are having difficulty paying bills?

- Never
- Rarely
- Sometimes
- Often
- Always

LIFE EVENTS

In this section, we would like to ask some questions about things which may have happened to you.

Could you please tell me IN THE PAST 6 MONTHS

33. You yourself suffered a serious illness, injury, or an assault

- Yes
- No

34. A serious illness, injury, or assault happened to a close relative

- Yes
- No

35. Your parent, child, or spouse died

- Yes
- No

36. A close family friend or another relative (aunt, cousin, grandparent) died

- Yes
- No

37. You had a separation due to marital difficulties

- Yes
- No

38. You broke off a steady relationship

- Yes
- No

39. You had a serious problem with a close friend, neighbour, or relative

- Yes
- No

40. You became unemployed or you were seeking work unsuccessfully for more than one month

- Yes
- No

41. You were sacked from your job

- Yes
- No

42. You had a major financial crisis

- Yes
- No

43. You had problems with the police and had a court appearance

- Yes
- No

44. Something you valued was lost or stolen

- Yes
- No

PEOPLE AROUND YOU

In this section, we'd like to ask how you feel about the amount of support you feel available from people around you. (Please circle only ONE RESPONSE IN EVERY LINE.)

No.		Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very strongly Agree
45.	There is a special person who is around when I am in need	1	2	3	4	5	6	7
46.	There is a special person with whom I can share my joys and sorrows	1	2	3	4	5	6	7
47.	My family really tries to help me	1	2	3	4	5	6	7
48.	I get the emotional help and support I need from my family	1	2	3	4	5	6	7
49.	I have a special person who is a real source of comfort to me	1	2	3	4	5	6	7
50.	My friends really try to help me	1	2	3	4	5	6	7
51.	I can count on my friends when things go wrong	1	2	3	4	5	6	7
52.	I can talk about my problems with my family	1	2	3	4	5	6	7
53.	I have friends with whom I can share my joys and sorrows	1	2	3	4	5	6	7
54.	There is a special person in my life who cares about my feelings	1	2	3	4	5	6	7
55.	My family is willing to help me make decisions	1	2	3	4	5	6	7
56.	I can talk about my problems with my friends	1	2	3	4	5	6	7

YOUR FOOD AT HOME

People do different things when they are running out of money for food, to make their food or their food money go further. The following questions refer to the **last 12 months.**

[TICK [✓] one box for each question]

57. I worried whether my food would run out before I got money to buy more.

- Often true
- Sometimes true
- Never true

58. The food that I bought just didn't last, and I didn't have money to get more.

- Often true
- Sometimes true
- Never true

59. I couldn't afford to eat balanced meals.

- Often true
- Sometimes true
- Never true

60. Did you ever cut the size of your meals or skip meals because there wasn't enough money for food?

- Yes
- No (Skip 61)

61. [IF YES ABOVE] How often did this happen?

- Almost every month
- Some months but not every month
- Only 1 or 2 months

62. Did you ever eat less than you felt you should because there wasn't enough money for food?

- Yes
- No

63. Were you ever hungry but didn't eat because there wasn't enough money for food?

- Yes
- No

64. Did you lose weight because there wasn't enough money for food?

- Yes
- No

65. Did you ever not eat for a whole day because there wasn't enough money for food?

- Yes
- No (Skip 66)

66. [IF YES ABOVE] How often did this happen?

- Almost every month
- Some months but not every month
- Only 1 or 2 months

ACCESS TO FOOD STORAGE AND COOKING FACILITIES

This section contains just two questions to find out whether you have had difficulties with food storage or cooking facilities. (Please tick [✓] ONE BOX only).

67. Do you have any difficulties in accessing cooking facilities?

- ☐ Yes
- ☐ No

68. Do you have any difficulties accessing chilled food storage (e.g. fridge and freezer)

- ☐ Yes
- ☐ No

LIFESTYLE, FOOD AND DRINK CONSUMED

69. What would best describe your current smoking status?

- ☐ Current cigarette smoker
- ☐ Never smoked [skip 70]
- ☐ Former smoker [skip 70]

70. About how many cigarettes A DAY do you usually smoke?

- ☐ 0-9 cigarette per day
- ☐ 10-19 cigarettes per day
- ☐ 20 or more cigarettes per day

Please refer to the standard alcohol unit measurement below to help you accurately measure the amount of alcohol you drink. Please then tick [✓] the best answer for each of the three questions in the table below:

71. How often do you have a drink containing alcohol?

- ☐ Never **(Go to No 74)**
- ☐ Monthly or less
- ☐ 2 - 4 times per month
- ☐ 2 - 3 times per week
- ☐ 4+ times per week

72. How many units of alcohol do you drink on a typical day when you are drinking?

- ☐ 1-2
- ☐ 3-4
- ☐ 5-6
- ☐ 7-9
- ☐ 10+

73. How often have you had 6 or more units if female or 8 or more if male, on a single occasion in the last year?

- ☐ Never
- ☐ Less than monthly
- ☐ Monthly
- ☐ Weekly
- ☐ Daily or almost daily

FOOD FREQUENCY QUESTIONNAIRE

[INTERVIEWER: COMPLETE THE FOOD FREQUENCY QUESTIONNAIRE BY USING PROMPTS TO HELP PARTICIPANTS IN RECALLING THEIR FOOD INTAKE]

[The following questions ask about some foods & drinks you might have during a 'typical' week, over the past month. Do not be concerned if some things you eat or drink are not mentioned. For each food, we will show you picture prompts to show you the portion size. Please bear in mind that this regards what you eat and drink, not your family. Please tell us how often you eat at least ONE portion of the following foods & drinks]

No.		Rarely or never	Less than 1 a Week	Once a Week	2-3 times a Week	4-6 times a Week	1-2 times a Day	3-4 times a Day	5+ a Day
74	Fruit (tinned / fresh)	☐	☐	☐	☐	☐	☐	☐	☐
75	Fruit juice (not cordial or squash)	☐	☐	☐	☐	☐	☐	☐	☐
76	Salad (not garnish added to sandwiches)	☐	☐	☐	☐	☐	☐	☐	☐
77	Vegetables (tinned / frozen / fresh but not potatoes)	☐	☐	☐	☐	☐	☐	☐	☐
78	Chips / fried potatoes	☐	☐	☐	☐	☐	☐	☐	☐
79	Beans or pulses like baked beans, chick peas, dahl	☐	☐	☐	☐	☐	☐	☐	☐

No.		Rarely or never	Less than 1 a Week	Once a Week	2-3 times a Week	4-6 times a Week	1-2 times a Day	3-4 times a Day	5+ a Day
80	Fibre-rich breakfast cereal, like Weetabix, Fruit 'n Fibre, Porridge, Muesli	☐	☐	☐	☐	☐	☐	☐	☐
81	Whole meal bread or chapattis	☐	☐	☐	☐	☐	☐	☐	☐
82	Cheese / yoghurt	☐	☐	☐	☐	☐	☐	☐	☐
83	Crisps / savory snacks	☐	☐	☐	☐	☐	☐	☐	☐
84	Sweet biscuits, cakes, chocolate, sweets	☐	☐	☐	☐	☐	☐	☐	☐
85	Ice cream / cream	☐	☐	☐	☐	☐	☐	☐	☐
86	Non-alcoholic fizzy drinks/pop (not sugar free or diet)	☐	☐	☐	☐	☐	☐	☐	☐

No.		Rarely or never	Less than 1 a Week	Once a Week	2-3 times a Week	4-6 times a Week	7+ times a week
	Whole meats:						
87	Beef, Lamb, Pork, Ham - steaks, roasts, joints, mince or chops	☐	☐	☐	☐	☐	☐
88	Chicken or Turkey – steaks, roasts, joints, mince or portions (not in batter or breadcrumbs)	☐	☐	☐	☐	☐	☐
	Processed meats/ meat products						
89	Sausages, bacon, corned beef, meat pies/pasties, burgers	☐	☐	☐	☐	☐	☐
90	Chicken/turkey nuggets/twizzlers, turkey burgers, chicken pies, or in batter or breadcrumbs	☐	☐	☐	☐	☐	☐
	Fish:						
91	White fish in batter or breadcrumbs – like ‘fish ‘n chips’	☐	☐	☐	☐	☐	☐
92	White fish not in batter or breadcrumbs	☐	☐	☐	☐	☐	☐
93	Oily fish – like herrings, sardines, salmon, trout, mackerel, fresh tuna (not tinned tuna)	☐	☐	☐	☐	☐	☐

HOUSEHOLD INCOME AND EMPLOYMENT

[TO BE COMPLETED BY THE INTERVIEWER]

94. Today we are interested in understanding the link between your financial circumstances and your health at the moment. What would best describe your employment status at the moment? _____

95. The next question I'd like to ask is about your income. I know questions about income can be personal to ask – but it is an important factor that can influence someone's health. Can you please tell us what your weekly gross income is before deduction from tax, national insurance etc?

PARTICIPANT WEEKLY INCOME: _____

96. How many of the following live with you?

a. Adult (s): _____
b. Children (under 18 years old): _____

97. Who do you share your housing budget with (including any family and friends)?

Relationship to you	Gender	Age	In Paid employment? (Yes/No)	Weekly Income (before tax etc)

HOUSEHOLD SPENDING

98. Now I'd like to show you a list of items that were considered as necessities for families in the UK. Which of the following items applied to your monthly expenditures? _____

[SHOW PROMPT CARD: EXPENDITURE]

[NOTE TO INTERVIEWER: ENSURE PARTICIPANT CHOSEN AT LEAST FIVE EXPENDITURE CARD]

99. [INTERVIEWER READ OUT] Thank you - I see that you have to pay for _____ (TAKE RELEVANT EXPENDITURE CARDS AND READ OUT THE EXPENDITURES SELECTED).

IS THERE ANYTHING ELSE THAT YOU HAVE TO PAY FOR THAT IS NOT LISTED HERE?

99b. **[IF YES]** What is it? _____

100. [INTERVIEWER READ OUT] "Thinking of all these expenditures, I'd like you to imagine if you received your allowance or salary today – how would you prioritise your spending for the month?" Please put the relevant expenditure card right next to the numbers 1-10, where 1 is the most important and will be paid first, and 10 is the least important and will be paid last. Take your time and feel free to swap it around when you think it is appropriate.

1.	6
2	7
3	8
4	9
5	10

101. Overall, How would you rate your health in the last 12 months?

a. Very bad
b. Bad
c. Average
d. Good
e. Very good

[INTERVIEWER: THIS IS THE END OF OUR INTERVIEW. THANK YOU VERY MUCH FOR YOUR TIME]

ADVICE CENTRE RELATED QUESTIONS

1. **What is the main reason you are visiting Brixton Advice Centre?**
   - Welfare benefits (LHA / HB / CTB)
   - Welfare benefits (all other benefits)
   - Debt / money advice
   - Housing (disrepair / other)
   - Housing (legal action e.g. possession)
   - Criminal
   - Community care
   - Consumer / general contract
   - Employment
   - Immigration / asylum
   - Family / education
   - Foodbank voucher issued
   - Others, please describe:_____

2. **Have you been to Foodbank in the last 6 months?**
   - Yes
   - No

Note: the remaining questionnaire for Advice Centre user is the same as the one used for foodbank users

Will you help us with our study?

Take part in our 30-minute survey and **receive £5 in cash** for your participation

As part of our UCL "Food and Wellbeing" study, we are conducting a survey looking at overall health and diet of people attending Advice Centre (AC). The results of the study will improve understanding of reasons how the diet and health of people attending AC is different from that of users of local Foodbanks. You will also be awarded £5 in cash for your participation.

What does the study involve?

You will be asked to complete a short survey, which contains questions related to your demographics, what you eat and drink, your health, and how you feel about things in the past months.

Where is the study being conducted and how long it will last?

The survey should take around 30 minutes to be completed and will take place here at AC, in a private booth with our student researcher.

Who can see my answers?

Your name will be removed when we use your data. So, nobody outside of our research group will know your answers.

How can I participate in this study?

Simply ask any AC staff to direct you to one of our research team (Nurul, Thomas or Edwina) who will be based in AC every Monday/Tuesday/Wednesday. If we cannot see you now, leave your name in a volunteer list form in the reception. W[illegible] soon as possible.

UCL
UNIVERSITY COLLEGE LONDON

Will you help us with our study?

Take part in our 30-minute survey and **receive £5 in cash** for your participation

We are conducting a survey as part of a study looking at overall health and diet of people attending Foodbanks and Local Advice Centres. The results of the study will improve understanding of reasons why Foodbanks are being used and could help to influence policy changes to address these issues.

What does the study involve?

You will be asked to complete a short survey, which contains questions related to what you eat, your health and how you feel about things.

Where is the study being conducted and how long will it last?

The survey should take around 30 minutes to be completed and will take place at the Foodbank.

Who can see my answer?

Your name will be removed when we use your data. So, nobody outside of our research group will have access to your data or know your answers.

How can I participate in this study?

Simply ask Foodbank volunteers to direct you to one of our research team (Nurul, Thomas or Edwina) who will be based in the Foodbank.

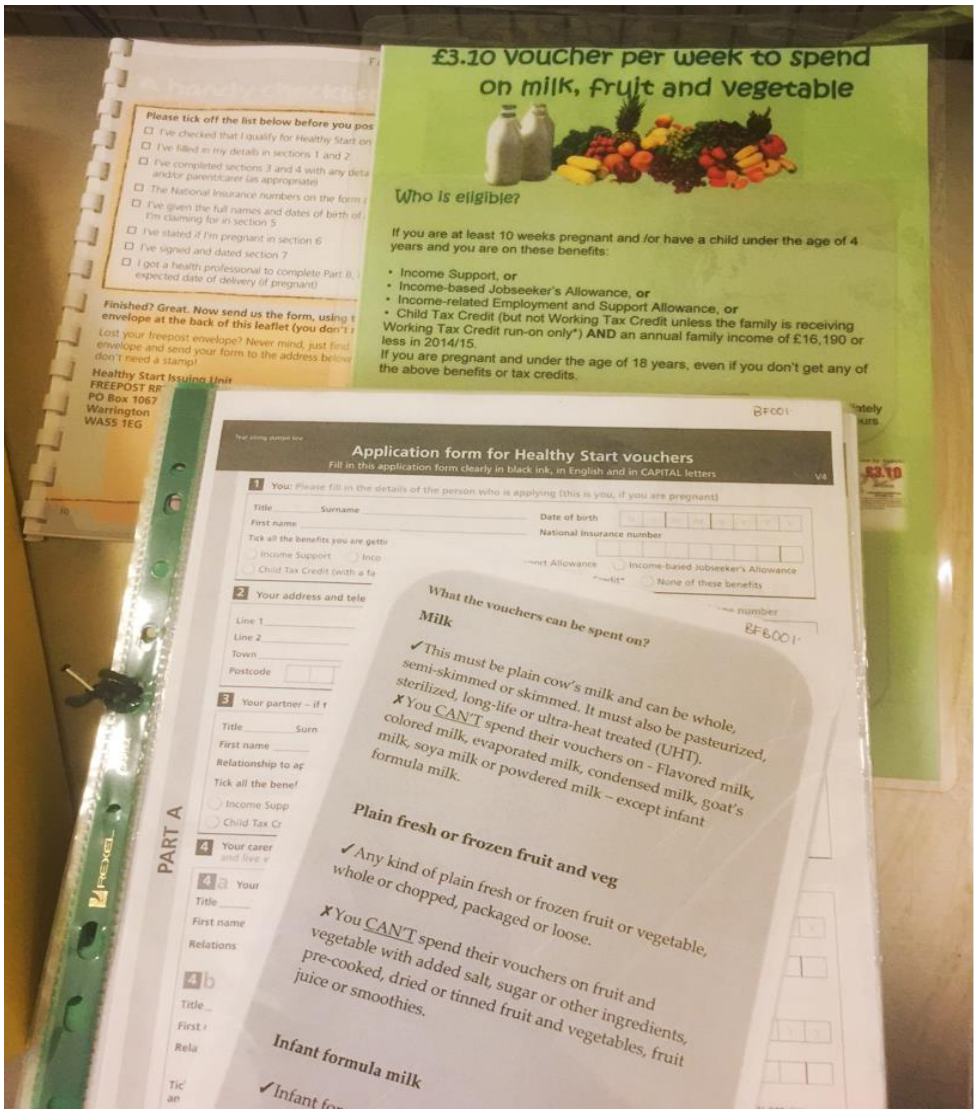
Interested but can't do it today?

Please leave your contact number with any Foodbank volunteer. One of our research team will get in touch with you to arrange another interview at the next Fo[illegible]

UCL
UNIVERSITY COLLEGE LONDON

This study is conducted by Edwina Prayogo (PhD student), Nurul Dina and Thomas Waterna (MSc student) at UCL. They are supervised by Dr George Grimble (g.grimble@ucl.ac.uk). The study has been approved by UCL research ethics committee, project ID Number: 4475/003.

Appendix N: Healthy Start Leaflet from Brixton foodbank



UCL PUBLIC POLICY

UCL INSIGHTS: RESEARCH BRIEFING

Who uses foodbanks and why? The impact of financial strain on food security

Rising demand for foodbanks and increasing hospital admissions as a result of malnutrition are a reflection of growing food insecurity in the UK. Food insecurity and the resulting impact on dietary quality, health and general wellbeing are a growing public health concern.

New research from UCL, and the Universities of Bedfordshire, Bath, and Southampton, has investigated some of the underlying causes of growing use of foodbanks, in inner London, and suggests recommendations for addressing these challenges.

- Currently an estimated **8.4 million people in the UK are food insecure**
- This results in **1.1 million requiring emergency food aid from The Trussell Trust foodbanks in 2016/17**.

Food insecurity: People are considered to be suffering food insecurity when they struggle to provide sufficient, safe and nutritious food for themselves and their families

KEY MESSAGES

Who uses foodbanks?

- Most people using foodbanks are **single adults, lone parents, and often unemployed or homeless**, compared to the more varied group of people seeking support or assistance from community Advice Centres.
- **Half of foodbank users are women**, with a **third having child dependants.**
- **Delay or stopping of benefit payments doubles the risk of using foodbanks.**

Why do people use foodbanks?

- **Delays to receiving benefits** are the most common reason foodbank referral.
- Foodbank users are often **experiencing financial strain aggravated by adverse life events** such as loss of earnings or ill health.

What does foodbank use tell us about food insecurity?

- **Three out of four people who visited Advice Centres were food insecure**, but less than 10% had been to the foodbanks in the last six months,
- **The use of foodbanks does not fully reflect levels of food insecurity** in the UK.

Who uses foodbanks?

The majority of those referred to foodbanks are lone mothers and single men, in comparison to other disadvantaged groups such as those attending advice centres for support on issues with housing, debt and money advice for example. Half of foodbank users were women, single, receiving benefits and living in local authority or housing association accommodation, with **one in three having dependent children at home**.

In addition, single, unemployed men made up a large proportion of foodbank users. One explanation for this is that the current unemployment welfare benefits only cover between 30% and, at most, 60% of the minimum income standard for single adults and lone parents living in inner London, respectively. Thus, they lacked financial resilience to weather unexpected events or loss of income.

Foodbank users experience high levels of financial strain, including difficulty paying bills, buying sufficient food or clothing and perceiving they have less than enough money to meet basic needs. A large number also report that they are often hungry but **do not eat due to lack of money**.

For those already living on very marginal budgets, financial shocks, such as loss of income, ill health or the breakdown of a relationship, can easily tip them over the edge into not being able to feed themselves or their families and relying on emergency food support.

What causes food insecurity?

There are a number of factors leading people to use foodbanks, the most dominant of which are:

- **Inability to access benefits** owing to payment delays or being 'sanctioned'
- **Adverse life-events** such as job loss, financial crisis, illness or relationship breakdown
- **Financial strain**, resulting in less than enough money to make ends meet and making a choice between buying food and paying bills
- Many users were experiencing a **combination of these factors**, pushing them into severe food insecurity.

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Conclusions

With evidence of increasing demand on foodbanks for emergency food support, it is important to identify and tackle the underlying causes of food insecurity in the UK.

The most common reason for foodbank referral are benefit-related problems such as delays or changes, but in comparison to people at advice centres, those at foodbanks also report significantly more adverse life events over the past six months – for example, illness, job loss or benefit problems.

Nearly **one third of foodbank users identified in the research were classified as having a long-term disability**, and **one third were families with children at home**. This suggests there may be large numbers of children at risk of poor nutrition and other food-related health problems.

Furthermore, **growing food insecurity and demand on foodbanks has the potential to cause a serious public health concern** with poor diet increasing the risk of health problems including diabetes, malnutrition, mental health problems anaemia and greater risk of infection, and must be tackled to avoid additional strain on public health services.

Finally, not everybody who is experiencing food insecurity will be referred to foodbanks, making foodbanks a poor proxy for the overall levels of food insecurity in the UK. There is a need to regularly monitor food insecurity nationally, in order to understand the true extent of the problem.

RECOMMENDATIONS

- **Minimise benefit delays**, one of the most common causes for referral to foodbanks. Minimise waiting times for first payments and **increase access to advanced payments**. These measures would reduce the risks of pushing those with existing financial strains into destitution.
- **Provide improved guidance and support**. Clear guidelines should be provided at Job Centres to make claimant aware of the support and help available to them whilst waiting for benefit payments, and to prevent them falling into destitution and having to rely on foodbanks.

Reference:

Prayogo E, Chater A, Chapman S, Barker M, Rahmawati N, Waterfall T, Grimble, G. Who uses foodbanks and why? Exploring the impact of financial hardship and life events on household food security. Journal of Public Health.

This work was initally facilitated by a UCL Grand Challenge for Human Wellbeing Small Grant: Edwina Prayogo (UCL School of Pharmacy), Dr Angel Chater (Practice and Policy, UCL School of Pharmacy) and Dr George Grimble (UCL Institute for Liver and Digestive Health) Exploring the psycho-social determinants of food consumption in parents and individuals who attend Foodbanks

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Appendix Q: Evidence submission on Universal Credit (November 2017)

Submission of evidence
Westminster Work and Pensions Select Committee on Universal Credit

Evidence submitted by Edwina Prayogo, University College London.

1. Introduction

1.1. In October 2017, I (Edwina Prayogo), PhD student at UCL, and part of the Feeding Lambeth group received a request from the Feeding Britain group to provide a submission on the "*Impact of Universal Credit on food insecurity*". The following submission uses the findings from a wider project on investigating 'The Quality of Diet of Foodbank Users in London'. The project forms part of collaborative work with researchers from University College London (UCL) (Dr George Grimble, Nurul Dina Rahmawati, and Thomas Waterfall), University of Southampton (Dr Mary Barker), University of Bath (Dr Sarah Chapman) and University of Bedfordshire (Dr Angel Chater).

2. Evidence

2.1. We are presenting findings from our recent survey, conducted between April – August 2016[1]. The survey involves 515 people attending Advice Centres and foodbanks in three London boroughs (Wandsworth, Lambeth and Islington). Foodbank and Advice Centre users are both frequently on low income and seeking help from frontline crisis providers. We compared people recruited at foodbanks to people at Advice Centres because they are community-based and seeking help on many issues ranging from consumer-related problems to welfare benefit but who may not be food insecure. The areas in the survey were not yet fully participating in Universal Credit.

2.2. Our findings suggest that the most common reason for referral to a foodbank was a benefits-related problem, whereas welfare-related advice was the most sought advice at Advice Centres.

2.3. Our findings identified factors that significantly increased the risk of food insecurity (i.e. inability to eat sufficient, acceptable meals) in both populations:

a) Currently not receiving benefits due to 'sanction' or payment delay.
b) Reporting adverse life-events such as job loss, experiencing major financial crisis, illness or relationship breakdown and more in the previous 6 months.
c) Being financially strained, highlighted as being unable to afford food or to pay bills, and feeling that they have less than enough money to make ends meet.
d) Being a man and of younger age.

These factors suggest that adding an adverse life event and/or benefit delay to their existing complex circumstances can aggravate their food insecurity even further.

2.4. We found some striking differences in the severity of food insecurity financial strain, and the number of adverse life events reported between the two groups:

a) The foodbank users were twice as likely to be without benefits because of sanction or delay in payment. They were twice as likely to be long-term sick/disabled and unemployed.
b) Foodbank users were nearly all food insecure, and three-quarters reported they were hungry but did not eat due to lack of money. The Advice Centre users were also food insecure (75%), yet less than 10% had

attended a foodbank in the previous 6 months. This indicates that foodbank use is a poor proxy of the food insecurity in the community.

c) Foodbank users experienced much more "financial strain" which meant a greater proportion had difficulty paying their bills, buying sufficient food or clothing for themselves and their families, and most perceived themselves as having 'less than enough' money to meet needs.
d) Foodbank users experienced far more adverse life events and three-quarters reported financial shocks because of unemployment or other crises. We used a validated and widely used list of 12 adverse events, which have been shown to have considerable marked or moderate long-term threats to individuals [2].
e) Nearly a third of our foodbank respondents were classified as having long-term disabilities, and a third were families with children at home.

3. Recommendations

Drawing on our findings above and our upcoming publication, which is embargoed until 14th of November 2017, we would like to make the following recommendations to the Department for Work and Pension (DWP):

a) Benefits delay: Delay on receiving the payment or processing of benefits must be minimized. As our data shows that those reported not receiving benefits due to delays or being 'sanctioned' were at increased risk of food insecurity.

b) Advanced payment: We welcomed Rt Hon David Gauke MP's remark on making the advanced payments more accessible to affected claimants. Our data, however, suggests that a high proportion of foodbank and Advice Centre users were already financially strained, and found it challenging to make ends meet, pay bills, or afford sufficient food. We are concerned that while waiting to receive their first Universal Credit payment, it is possible the users' pre-existing financial strains could be aggravated, even with the availability of the advanced payments. As these advances would have to be repaid via a reduction in the payment received during the first few months

c) Guidelines and Support: Clear guidelines should be provided, so claimants are aware of the kind of support and help available to them whilst waiting for their benefits to prevent them falling into destitution and having to use foodbanks.

d) Vulnerable groups: Nearly a third of our foodbank respondents' were classified as having a long-term disability, and a third were families with children at home. Therefore, delays in payment, and thus food insecurity, can have a detrimental effect on the health and wellbeing of these groups.

References

1. Prayogo E, Chater A, Chapman S, Barker M, Rahmawati N, Waterfall T, Grimble, G. Who uses foodbanks and why? Exploring the impact of financial hardship and life events on household food security. *Journal of Public Health*. [Embargoed until 14th November 2017]
2. Brugha T, Bebbington P, Tennant C, Hurry J. The List of Threatening Experiences: a subset of 12 life event categories with considerable long-term contextual threat. *Psychological Medicine*. 1985;**15**(1):189-94.