CHAPTER 4. RESULTS

A summary of the results of the research are presented in this section. The data from both wards are presented separately in order to compare findings and the data is further divided into three sections in order to show participant;

- Characteristics and Knowledge,
- Behaviours,
- Attitudes and Preferences.

Samples of raw data are presented in Appendix G. All data were collected during participant interviews. 24 participants (12 from Blacon and 12 from Hoole) completed the voluntary interviews.

4.1 Participant Characteristics and Knowledge

Table 6.1: Participant Ages

<table>
<thead>
<tr>
<th>Age</th>
<th>Blacon</th>
<th>Hoole</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>69</td>
<td></td>
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<td>28</td>
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<td></td>
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<td>48</td>
<td>54</td>
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<td>28</td>
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<td>38</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>26</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacon</td>
<td>27</td>
<td>30</td>
<td>20-48</td>
</tr>
<tr>
<td>Hoole</td>
<td>41</td>
<td>37</td>
<td>26-69</td>
</tr>
</tbody>
</table>
Table 6.2: Socio-demographic data

<table>
<thead>
<tr>
<th>Participant</th>
<th>Education</th>
<th>Occupation</th>
<th>Social Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacon</td>
<td>1 DEGREE</td>
<td>ACCOUNTANT</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>2 NVQ L2</td>
<td>UNEMPLOYED</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>3 G.C.S.E</td>
<td>HEALTHCARE ASSISTANT</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>4 G.C.S.E</td>
<td>CAFE ASSISTANT</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>5 G.C.S.E</td>
<td>CIVAL SERVANT</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>6 NVQ L3</td>
<td>COMMUNITY NURSERY NURSE</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>7 NVQ</td>
<td>FAMILY SUPPORT WORKER</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>8 NVQ L3</td>
<td>PLAYLEADER SUPERVISOR</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>9 DIPLOMA</td>
<td>PLAYLEADER</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>10 NVQ L4</td>
<td>CHILDCARE MANAGER</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>11 NVQ L2</td>
<td>PLAYLEADER</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>12 N/A</td>
<td>PLAYLEADER</td>
<td>C1</td>
</tr>
<tr>
<td>Hoole</td>
<td>1 PhD</td>
<td>I.T. CONSULTANT</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>2 NVQ's</td>
<td>SLIMMING WORLD CONSULTANT</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>3 POST GRAD</td>
<td>SOLICITOR</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>4 POST GRAD</td>
<td>PR OFFICER</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>5 A-LEVELS</td>
<td>CHURCH CENTRE MANAGER</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>6 QUAL NURSE</td>
<td>RETIRED</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>7 NVQ</td>
<td>CARER</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>8 N/A</td>
<td>CHILDMINDER</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>9 A-LEVELS</td>
<td>REGISTERED CHILDMINDER</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td>10 DEGREE</td>
<td>UNEMPLOYED</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>11 A-LEVELS</td>
<td>UNEMPLOYED</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>12 DEGREE</td>
<td>ADMINISTRATOR</td>
<td>C1</td>
</tr>
</tbody>
</table>

See Appendix A for social grade classification categories.

Table 6.3: Number of participants aware of the ‘5-A-Day’ initiative

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacon</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Hoole</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 6.4: Participant F&V Intakes (Average Daily)

<table>
<thead>
<tr>
<th></th>
<th>Blacon (Portions)</th>
<th>Hoole (Portions)</th>
<th>Blacon + Hoole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fruit</td>
<td>Vegetables</td>
<td>Total</td>
</tr>
<tr>
<td>Overall Consumptions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Mean)</td>
<td>2</td>
<td>2.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Overall Consumptions</td>
<td>1.5</td>
<td>2.5</td>
<td>4</td>
</tr>
<tr>
<td>(Median)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Consumptions</td>
<td>1 to 5</td>
<td>1 to 5</td>
<td>0 to 7.5</td>
</tr>
<tr>
<td>(Range)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption of those</td>
<td>1.3</td>
<td>2.1</td>
<td>3.4</td>
</tr>
<tr>
<td>not achieving 5-A-Day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n=14) (Mean)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participants Achieving</td>
<td>5</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>5-A-Day as a Minimum</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 10.1: Maps to show the distribution of participants from Blacon and Hoole and the locations of local shops selling food

**Blacon:**

![Blacon Map](image1)

*Adapted from: Cheshire County Council (2008a)*

**Hoole:**

![Hoole Map](image2)

*Adapted from: Cheshire County Council (2008b)*
Figure 10.2: Participant knowledge of what constitutes a portion of fruit or vegetables towards the ‘5-A-Day’ benchmark
Figure 10.3: Participant knowledge of what makes up a healthy diet (Blacon)
Figure 10.4: Participant knowledge of what makes up a healthy diet (Hoole)
Figure 10.5: Participant knowledge of the affects of diet on health
4.2 Participant Behaviours

Figure 10.6: Where participants purchase food

*According to AA Route Planner (2008) - from the centre of the ward
Table 6.5: Were the participants responsible for the household food shopping?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacon</td>
<td>12*</td>
<td>0</td>
</tr>
<tr>
<td>Hoole</td>
<td>12*</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>0</td>
</tr>
</tbody>
</table>

* (Blacon) 2 Participants shop with their partners as they drive them to the shops
* (Hoole) 1 Participant goes with her daughter as she drives to the shops

Table 6.6: How often participants did their food shopping

<table>
<thead>
<tr>
<th></th>
<th>Blacon</th>
<th>Hoole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supermarket*</td>
<td>Supermarket</td>
</tr>
<tr>
<td>Most Days</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2-3xPw</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>1xPw</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>2-3xPm</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&lt;2xPm</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

* Blacon Participants did not frequently shop locally unless for essentials (i.e. Not a food shop)

Table 6.7: Means of accessing shops

<table>
<thead>
<tr>
<th></th>
<th>Blacon</th>
<th>Hoole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supermarket*</td>
<td>Supermarket</td>
</tr>
<tr>
<td>Car</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Bus Then Taxi</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Bus</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Internet</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cycle</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Walk</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

* Blacon Participants did not frequently shop locally unless for essentials (i.e. Not a food shop)
4.3 Participant Attitudes and Preferences

Table 6.8: The minimum number of F&Vs participants would like to see in a shop

<table>
<thead>
<tr>
<th></th>
<th>Fruits</th>
<th>No. People:</th>
<th>Average No. Of F&amp;Vs (Median)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacon</td>
<td>3 5 7 8.5* 10 12</td>
<td>1 2 2 1 5 1</td>
<td>9.25</td>
</tr>
<tr>
<td></td>
<td>Fruits</td>
<td>No. People:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 5 6 7 8.5 10 12 12.5</td>
<td>1 1 1 2 1 4 1 1</td>
<td>9.25</td>
</tr>
<tr>
<td></td>
<td>Vegetables</td>
<td>No. People:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.5 5 5.5 8 10 15</td>
<td>1 3 2 1 4 1</td>
<td>6.75</td>
</tr>
<tr>
<td></td>
<td>Fruits</td>
<td>No. People:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 5.5 6 6.5 7 7.5 9 10 12.5</td>
<td>1 1 2 1 1 1 3 1</td>
<td>7.25</td>
</tr>
<tr>
<td></td>
<td>Vegetables</td>
<td>No. People:</td>
<td></td>
</tr>
</tbody>
</table>

* Where a participant stated a range (e.g. 5-6 Vegetables), an average value was taken (e.g. 5.5).

Table 6.9: Maximum distance participants are willing to travel to shop for food

<table>
<thead>
<tr>
<th></th>
<th>Distance (Miles)</th>
<th>No. People:</th>
<th>Average (Median)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blacon</td>
<td>2 3 5 10</td>
<td>4 3 3 2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Distance (Miles)</td>
<td>No. People:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 2.5* 5 7 10 15</td>
<td>2 2 3 1 3 1</td>
<td>5</td>
</tr>
</tbody>
</table>

* Where a participant stated a range (e.g. 2-3 miles), an average value was taken (e.g. 2.5).
Figure 10.7: The perceived importance of eating a healthy diet
Figure 10.8: The perceived importance of eating ‘5-A-Day’
Figure 10.9: Barriers to consuming ‘5-A-Day’ consistently

- **Blacon**
  - F&Vs are expensive (n=3)
  - Prefer other foods
  - Other peoples’ tastes (family influence)
  - The taste of F&Vs
  - Poor quality F&Vs available
  - F&Vs perish too quickly
  - Social events – holidays, eating out
  - Not much choice
  - Limited access to F&Vs at work
  - Laziness
  - I make excuses
  - Not enough time
  - Busy Schedule (n=2)

- **Hoole**
  - Cost (n=7)
  - F&Vs cost too much
  - My favourite F&Vs are seasonal
  - The taste of F&Vs (n=2)
  - F&Vs are too perishable (n=3)
  - Too much choice
  - I don’t always cook
  - I run out before I buy more (n=2)
  - Others eat them before me (n=2)
  - I eat small meals
  - I skip meals sometimes (n=2)
  - Forgetfulness
  - Laziness
  - Too busy (n=7)
  - Busy schedule (n=3)
Figure 10.10: Suggested facilitating factors for overcoming barriers to consuming ‘5-A-Day’ consistently

**Blacon**

- Make F&Vs cheaper (n=3)
- Pre-prepared F&Vs (n=2)
- F&Vs at/near work
- More variety locally
- Make F&Vs stand out more in shops
- Nothing (n=2)
- Be more prepared/plan ahead (n=4)
- Ways of putting F&Vs in food (n=3)
- Improve awareness of the benefits of F&Vs
- Improve awareness of the benefits to weight management (n=2)

**Hoole**

- More affordable (n=8)
- Increase access/availability (n=10)
- Nothing (n=8)
- Be more prepared/organised (n=7)
- Improve knowledge/cooking skills (n=8)

- Decrease price of F&Vs (n=5)
- Grow it yourself
- Shop more often
- Reduce choice
- Increase convenience
- F&Vs at work scheme
- I eat enough (n=2)
- Nothing, I know I should but choose not to (n=4)
- Be better organised
- Plan ahead
- Make time
- Quick meal ideas
- How to get F&Vs into everyday diet
Figure 10.11: Do participants believe the foods they eat influence what others around them consume?

Blacon

- Kids copy what I eat (n=4)
- Everyone eats what I cook (n=2)
- Others copy what I eat (colleagues, partners)
- If I can't afford it, everyone in the house can't have healthy foods
- My kids eat well even if I don't (n=2)

Yes (n=24)

Hoole

- Others eat what I cook (n=6)
- Others copy what I eat (n=5)
- I buy the food (n=2)
- But you can't force them
- Others eat what I cook them – may be different to what I eat
- But I do watch what others eat

No (n=4)
Figure 10.12: Externalised participant suggestions to increase F&V consumption in Chester
4.4 Results Summary

- A number of recurring themes that inhibited consumption of F&Vs were highlighted (i.e. barriers). Barriers were deduced under the umbrella of these themes and it was observed that a large number of issues affected different participants in a variety of ways.

- The identified barriers affecting F&V consumption were often inhibitive in conjunction with other factors and therefore strategies to overcome those factors should be aware of the diversities/complexities of their affects.

- A number of solutions to overcome the stated barriers are proposed and often reflected ways of incorporating F&Vs into a busy lifestyle.

- This research also showed that;

  - While the general awareness of the need to consume a healthy diet was good, knowledge as to the factors that make up a healthy diet (including the affects that consuming healthy food have on an individual’s health) were inadequate in most cases. These findings suggest an opportunity exists to improve the knowledge of individuals, empowering them to make more informed healthy choices in relation to their diet.
In some cases, despite being aware of the diet-health relationship and the importance of adopting healthy dietary behaviours, a simple lack of desire to consume F&Vs appeared to be definitive.

The two wards examined in Chester had good levels of access to a range of healthy foods regardless of the level of access locally. This may be due to the close proximity of supermarkets to both wards and a willingness of the residents to travel in order to obtain cheaper, better quality foods.

A parent’s influence on their child’s diet was found to be profound. Many of the mothers included in this study suggested that their children copied what they consumed. Furthermore, children often consumed the same meals of the adults in a household, highlighting the important role of the individual(s) responsible for the households food purchases and cooking.

F&V intakes were marginally below those of national averages. Similar intake levels were observed between a ward affected by factors of multiple deprivation (Blacon) and a ward that is not (Hoole).

Consuming a healthy diet was said to be important to only approximately half of the total sample.
The data collection methods used captured a vast amount of information regarding the attitudes, behaviours and beliefs of individuals living in the Blacon and Hoole wards of Chester. Although very time consuming, the use of face-to-face interviews as a method of extracting opinions and experiences from the local community proved to be appropriate and successful. That said, gaps in the information obtained remain and require quantitative investigations to substantiate some findings made by this research and to explore unearthed areas of interest.

No apparent differences in the overall intakes of F&Vs were observed between the two contrasting wards (of multiple deprivation), nor were many differences highlighted in the attitudes and behaviours of individuals from both wards. These similarities may, in part, be due to the high levels of access to supermarkets of both wards and/or the unexpected similarities in social grades of the participants from the two wards who took part in this study.

Best practice for future research may wish to adopt quantitative and qualitative approaches in tandem.
CHAPTER 5. DISCUSSION

The research carried out for this study obtained a sizeable amount of information regarding the beliefs, behaviours and attitudes of certain Chester residents towards healthy food and F&Vs in particular. This section of the report will outline the main findings of the research and then go on to explain them in more detail in relation to the research objectives as stated in section 2.5. The limitations of the data collected will be discussed throughout because they affected different elements of the interview in different ways. Finally, the strengths and weaknesses of the research methods will be discussed before highlighting the potential implications of the research for professional practice and future research.

5.1 Participant Characteristics

The participants were informed at the onset of their interview that all information collected would be kept confidential and that they would not be identifiable from their answers. Despite this, it is possible that the participants may not have answered the questions completely honestly/truthfully. However, by completing the demographic information questions at the end of the interview, participants agreed that their answers were honest and as accurate as possible given the ‘on-the-spot’ situation.

The number of participants that volunteered to take part \( (n=24) \) was the maximum possible within the timeframe set for this study. Participants were extremely forthcoming and there was a constant flow of individuals volunteering to take part with very little time in-between. This may suggest that a larger sample could have been achieved, however, the time parameters of the study limited the number of interviews that could be
conducted. Nevertheless, data saturation was achieved with a number of similar responses from participants within and between wards. Furthermore, the number of participants obtained satisfies the suggested number of participants by Gray (2005) for an interview based phenomenological study. No participants withdrew from the study but were informed of their right to do so.

All participants were responsible for their household’s food shopping and subsequently may have an important role to play in the consumption patterns/behaviours of others in that household reinforcing the need to better understand their shopping behaviours and attitudes towards food and health.

5.1.2 Socio-Demographic Characteristics

The social grades of the participants (see Table 6.2) showed similarities between Blacon and Hoole as the majority of participants from each ward were in social grade C1 (see Appendix A for grade classification). However, the social class format and the occupational classification it uses are based on traditional male roles and are less appropriate for differentiating between groups of women (Celsius, 2008). Additionally, the female participants in this research may not be the main source of household income.

The social grade method of classification does not take into account the possibility of joint household incomes (more than one income), nor does it appreciate household expenditures or priorities (i.e. food may be a high or low priority). Therefore, it is difficult to accept the social grades of the participants as fact but instead they should be used as a guide to their probable demographic characteristics. That said, the main
purpose of this study was to compare and contrast the **perceived** levels of access to F&Vs of residents of **two contrasting wards** (one known to be characteristic of factors of multiple deprivation and the other not). It is the participants’ perceptions of their level of access in their ward that is of interest and not their social grade in particular.

Obtaining participants’ socioeconomic status (SES) may have provided a useful tool for further comparisons of the two samples. However the information required for this type of classification is extensive and would take a similar amount of time to obtain as the interviews themselves. Subsequently, this would not have been feasible within the timeframe of this research.

Moreover, contrary to the finding of Shohaimi et al. (2004) (residential area-based deprivation significantly predicts F&V intakes) and the aim of current dietary related national health policy (to target deprived neighbourhoods (DH, 2007), only minor differences were observed between the two wards. While this study is small scale and only applicable to the wards of Blacon and Hoole in Chester, this study hints at the need to evaluate dietary based health policy at a community level to discover whether current efforts are being misplaced. It is also important to note that this study looks at one aspect of health (F&V consumption) and therefore does not provide an overview of health which, as highlighted in section one, involves many interrelating factors.

It may be that other elements of a population’s diets are of greater concern to health policy such as saturated fat intakes of which, area based differences may be profound. As
the diet related health strategies of the DH (2007) and the North West Food and Health Taskforce (2008) are rather general, this is unclear.

Participant education showed a particular difference between participants from Blacon and Hoole. Six participants from Hoole compared to one participant from Blacon were educated to degree level or above. This may be important because, as outlined in the review of literature, education has been found to be positively associated with F&V intakes (Shaikh et al., 2008).

5.2 Objective 1: Ascertain the participants’ current F&V consumption levels

Participants recruited in Blacon were generally younger than those in Hoole (median age = 30 and 37 respectively). This may have a bearing on the results because as outlined in section 1, consumption of F&Vs increases with age (NHS, 2006). However, the average F&V intakes were very similar between wards with Blacon participants consuming an average of four portions per day compared with the four-and-a-half portions of Hoole participants.

These intake levels appear to be consistent with the national averages in 2006 of approximately four portions per person per day (Defra & National Statistics, 2006). Additionally, five participants from each ward (42%) believed they were consistently achieving ‘five-a-day’ at least. While these figures are promising as they are approaching the recommended intake level, they are someway short of the 58% of a national survey by the FSA (2008d) who were consuming five or more portions of F&Vs per day.
Of those not achieving the recommended benchmark of ‘five-a-day’ \( (n=7 \text{ in each ward}) \), the average (mean) intakes for both wards were 3.4 portions. All participants were, however, consuming at least one portion of fruit or vegetables which is an improvement on the six percent of women nationwide who consumed no F&Vs at all in 2004 (NHS, 2006). That said, the average intakes do fall below the recommended benchmark.

The following section explains the suggested reasons for the above consumption levels.

5.3 Objective 2: Identify the key factors of consuming the recommended five portions of F&Vs a day.

In order to satisfy this objective, participants were asked to state the factors stopping them from consistently consuming ‘five-a-day’ (i.e. barriers) and the factors that would help/motivate them to consume five-a-day consistently and overcome the barriers they experience (i.e. facilitators).

Figure 10.9 shows a number of barriers that could affect consumption levels individually or simultaneously with another/other barrier(s). The majority of participants stated more than one barrier as restrictive to their consumption levels suggesting that the following factors (summarised below) should be considered as compounding rather than individually restrictive. In addition, participants suggested possible facilitating factors that, in most cases, were aimed at addressing the barriers they experienced. For this reason, the highlighted barriers and facilitators will be addressed together in this section.
The apparent barriers tended to be highly individualised as there were barriers specifically stated by one participant only. In spite of this, there were also a number of reoccurring barriers/themes. The most frequently stated barriers were as follows;

- **Time** \((n=11)\) – “not enough time, too busy, busy schedule”
- **Cost of F&Vs** \((n=7)\) – “the price of F&Vs are too high, F&Vs are too expensive, F&Vs cost too much”.

The combination of these barriers were reported by the same number of participants in Blacon and Hoole \((n=9\) participants from each ward) and it would subsequently appear that they affect individuals regardless of their locality (area of deprivation).

It is important to note however, that the barriers stated less frequently are *not* less restrictive in achieving ‘five-a-day’ as they may affect different participants in different ways and by different intensities. A barrier stated by only one person (i.e. “limited access to F&V at work”) may form an equally or greater barrier to that person than a barrier experienced by a person that has also been stated by ten other participants (e.g. time). Each barrier will carry a different weight from individual to individual and would be extremely difficult to quantify and subsequently, all stated barriers must be treated as equally relevant to this research.

Likewise, the facilitating factors (*see* Figure 10.10) were wide ranging and therefore cannot be applied to all participants. However, there were a number of underlying
meanings/themes in the participants’ suggestions that when grouped together, showed a level of agreement between participants.

Again, there was little difference in the responses of participants from the two wards in regards to facilitating factors. For example, the suggestion, “be more prepared/organised” was stated by four participants in Blacon and three in Hoole. As with the highlighted barriers from the research, the facilitators will be explained in more detail according to their theme.

5.3.1 Grouped Barriers and Their Suggested Facilitators

5.3.1.1 Time

Somewhat surprisingly, time was not frequently found to be a barrier to a healthy diet in the existing literature. Participants, including some of those who achieved five-a-day from both wards, felt they did not have the time to prepare ‘proper meals’ or to work out how to include F&Vs in their meals, especially not to the level of five-a-day. These factors may suggest, as highlighted in the literature (Lawrence et al., 2007), that a lack of cooking skills and cooking knowledge may form a barrier in tandem with time. For example, if participants were aware of quick-and-easy methods of including F&Vs in their meals/diet, they may find that they do indeed have the time to cook something nutritious that is quick to prepare (Pollard et al., 2001).

Concurrently, participants suggested (n=5) that increasing their knowledge and cooking skills as to ways of incorporating F&Vs into their everyday life, through recipes and quick meal ideas, may increase their daily consumption of F&Vs (see Figures 10.10 and 10.12). Taylor (2007) suggests that increasing knowledge is an important factor as the
information and guidance it provides can increase an individual’s autonomy to make informed decision about their health. Knowledge is also an important factor in bridging the intention-behaviour gap of adopting healthy eating actions (Allan, Johnston & Campbell, 2008).

Current health strategies by the North West Food and Health Taskforce (2008) and the DH (2007) target the need for improved information, knowledge and education. The methods by which this is to be achieved are somewhat unclear. This research suggests that informing households as to ways of incorporating F&Vs into a busy lifestyle may well increase the intakes of individuals affected by such barriers.

5.3.1.2 Cost of F&Vs

The existing literature frequently suggests that F&Vs are “prohibitively expensive” (Barratt, 1997, p. 63) and as a result, those living in socially deprived areas or on a low household income may find it harder to buy F&Vs. Approximately one in three participants (n=7) interviewed stated cost as a barrier and in further support of this notion, eight participants (out of the 24) also believed that by reducing the cost of F&Vs, consumption may increase. Conversely, when these figure are broken down, only three participants from Blacon (an income deprived ward) highlighted the cost of F&Vs as a barrier suggesting that the findings of the literature may not be representative of these two wards in Chester. Furthermore, more participants in Hoole (n=5 compared to 3 in Blacon) suggested that a decrease in the price of F&Vs may result in an increase of their consumption. This finding goes some way to disproving the notion, in relation to Chester, that those living in a deprived ward will find healthy foods less affordable.
Further research into the perceived versus actual cost of F&Vs may quantify whether the participants actually could afford them and/or whether the participants’ perceptions of the price of F&Vs are correct. If their perceptions are above (more expensive) than the actual prices, there may be a calling to public health practice to educate the population as to the affordability of F&Vs. This is consistent with the findings of Kamphuis et al. (2006) which showed that people living in disadvantaged areas may consume fewer F&Vs due to the perceptions that F&Vs are expensive.

5.3.1.3 The Characteristics of F&Vs – Their Perishable Nature and Taste

Participants also brought to light that they believe F&Vs “go off too quickly”. This characteristic of F&Vs discouraged participants from buying in bulk or buying a variety of F&Vs. There were no suggested solutions directly related to this barrier, nor was it frequently highlighted in the existing literature. Perhaps, individuals who find this factor to be a barrier could be educated as to the possibility of including tinned or frozen F&Vs as they do not have the perishable nature of fresh F&Vs.

Certain participants also stated that they did not like the taste of fruit and/or vegetables or that they simply preferred other foods and would rather eat those than replace them with F&Vs. As referenced in the literature review, an individuals’ preference can affect whether they consume F&Vs, irrespective of their nutritional content. This research would appear to confirm this concept.

A limitation of this research, however, is that the reasons why the participants consumed F&Vs at all were not obtained. This would have been interesting in the context of food
taste and preference as it is unclear from the research conducted in this study whether the participants consumed F&Vs due to their taste and/or for the nutritional benefits they provide.

Participants suggested that increasing awareness as to the benefits of consuming F&Vs may potentially increase the intake levels of participants who were either unaware of the benefits or adverse to their taste. This is consistent with the aims of the North West Food and Drink Strategy (2007-2010) (foodnorthwest, 2006). Conversely, participants appeared to have good knowledge of the ‘five-a-day campaign’ and the reasons why it is recommended (i.e. “they’re good for your health”) (see Figure 10.3 and Table 6.4). This in turn could bias the responses to the question about intake levels of F&Vs as all participants seemed to be aware that they should be consuming five portions of F&Vs and may subsequently feel inclined to tailor their responses closer to this benchmark.

5.3.1.4 Traits of the Participants and Other Access Issues

Generally, the attitudes of the participants towards F&V consumption were positive (i.e. “I don’t get my ‘five-a-day’ but I know I should”). Only one participant stated that she did not like fruit because she was force-fed them as a child. All of the thematically grouped barriers under the above titles were expressed with a positive association to F&V consumption. For example, the phrase, “I know I should” was frequently used and followed by, for example; “but”...

- I’m lazy
- I’m forgetful
- The kids/others in the household have preference over them before me
This would again suggest that a lack of knowledge is not a problem but instead, the problem may be that the participants simply do not want to consume F&Vs.

Policy seems to accept this finding and instead aims to provide communities with the knowledge of the need to adopt healthier dietary behaviours rather than adopting a strategy of persuasion (DH, 2004).

5.3.2 Externalised suggestions for increasing F&V consumption in Chester

When the participants were asked to externalise their suggestions by proposing possible factors that could increase the F&V intakes of Chester residents in general, their responses were somewhat more creative (see Figure 10.12). Common themes that arose included;

- Reducing the cost of F&Vs
- Improving knowledge and awareness of F&Vs and their benefits through advertisements and promotional campaigns (Buy-on-get-one-free offers, taster samples in supermarkets).
- Increase/improve local availability (cost, quality)

The above themes are important issues to consider when looking at the level of access a population has to healthy food. Further research could trial initiatives that target the themes highlighted in this research to discover whether the opinions of local residents could in fact hold the key to improving the foods they consume.
5.4 Objective 3: Discover How Important Eating a Healthy Diet is to the Participants

The following section aims to fill in the gaps in the existing literature by explaining the psychological responses to healthy food and a healthy diet to discover the reasons why participants adopted certain dietary behaviours and attitudes.

More than half of the participants \((n=13)\) indicated that consuming a healthy diet was either “important” or “very important” to them \((\text{see Figure 10.7})\). Largely, these responses were due to either;

- **Medical reasons** - whereby a healthy diet was required to control or maintain a health condition such as high cholesterol,
- **Being a role model** – participants believed that they are role models for their children as their children often copied what they consumed. This suggests a possible focus for future policy.
- **A sense of wellbeing** – participants frequently suggested that eating a healthy diet made them feel better, less sluggish and ultimately gave them a sense of wellbeing.

Of those who believed that consuming a healthy diet was “quite important” or “not overly important” \((n=11)\), explanations often suggested that this was due to problems of sticking to a healthy diet or due to their children or ‘others’ in the household having preference over the healthy food which often left none for the participant.
Similar responses were found to the perceived importance of consuming ‘five-a-day’ with participants who stated that it was “important” or “very important” citing reasons relating to health maintenance as a major factor. Participants who stated that consuming ‘five-a-day’ was not so important generally replied that they either do consume ‘five-a-day’ but do it fleetingly and find it hard to stick to, or, that they appreciate the importance of consuming F&Vs but choose not to because they do not like the taste of F&Vs or they simply prefer other foods (see Figure 10.8). Only a quarter of the participants interviewed stated that consuming ‘five-a-day’ was important or very important to them. This figure was surprising as more than a quarter of the participants (n=10) said that they consistently consumed ‘five-a-day’ and all participants were aware of the ‘five-a-day’ campaign and the general benefits of consuming F&Vs. This figure could be misleading however, as those who consistently achieve the recommended intakes of F&Vs may not consciously think about their intake levels as it may simply be a part of their routine anyway.

Overall, the importance of eating healthily (including ‘five-a-day’) seemed to split both wards into two groups:- those who wanted to consume a healthy diet and those who did not despite being aware of the need to, for example, consume five portions of F&Vs everyday.

5.5 Objective 4: Determine the Perceived Affect of Diet on Health

The above objective was satisfied by exploring participants’ knowledge of what constitutes a healthy diet and the ways in which food may affect their health. Such findings are detailed below.
Participant knowledge regarding a healthy diet was generally good. Participants were aware, to a large degree, of what constitutes a portion of fruit or vegetables with only three participants stating that they were unsure. The remaining participants used reasonable/appropriate methods of “guesstimating” a portion (see Figure 10.2).

This is supported by the participants’ opinions of what makes up a healthy diet. The majority of participants \((n=19)\) identified F&Vs as part of a healthy diet suggesting that participants are aware they should be including F&Vs in their diet. However, other than this recognition, knowledge of the components of a healthy diet varied somewhat between Blacon and Hoole. Participants in Blacon tended to cite specific foods as important (e.g. cheese, nuts, crackers) whereas Hoole participants were more specific in their responses, for example, components such as ‘healthy fats’ and ‘the food groups’ were mentioned.

Participants often referred to the short-term affects of diet on health such as, “it can cause spots” and “a bad diet makes me feel sluggish”. On the other hand, some long-term affects were also cited, the most popular of which was that diet, “can cause cholesterol problems”. Long-term responses also included, “diet can cause atherosclerosis” (Hoole) and, “diet maintains health” (both wards) (see Figure 10.5).

All participants had a good grasp of the ‘five-a-day’ campaign and the benefits of consuming F&Vs. 100% of the participants had heard of the campaign in comparison to 78% nationally in 2008 (FSA, 2008d). It is important to note, however, that the targeted population of mothers from toddler groups may be more exposed to such campaigns than
the general population of Chester as a number of participants expressed that they receive a lot of information about healthy eating through their children’s schools and may themselves be more conscious of eating healthily because they want their children to conform.

Despite this fact, the knowledge of participants from Hoole tended to be better than that of Blacon as they stated more specific elements of a healthy diet compared to the somewhat erratic responses of participants from Blacon. This may be due to the level of education as proposed by Shaikh et al. (2008) as participants from Hoole were educated to a higher level than those from Blacon (see Table 6.2). The demographic differences of participants from Blacon and Hoole were discussed further in section 5.1.2.

Furthermore, a large majority of the participants agreed that the foods they consume could influence what others around them consume. Five responses from each ward stated that “my kids copy what I eat” while a further seven participants believed that other members of their household consumed the foods that they cooked for them. These findings add weight to the other discoveries of this study as it appears the attitudes and behaviours of the participants are transferrable to other individuals around them. These findings also suggest a need for public health policies and initiatives to target parents and/or those responsible for the household cooking.

5.6 Objective 5: Highlight Participant Shopping Behaviours

All participants in this study were responsible for the household food shopping which may also, to some extent, determine the household diet.
Participants from Blacon almost exclusively shopped in supermarkets for their food. This was put down to, in some cases, the perceived high cost of food (particularly F&Vs) and/or the poor quality of F&Vs locally. Despite these findings, the average maximum distance Blacon participants were willing to travel to do a food shop (3 miles) encompassed all but two supermarkets (n=4) they visited. More specifically, three of the supermarkets visited were within two miles of the centre of Blacon and the most frequently visited supermarket, Tesco (n=9), was only 1.3 miles from the centre of Blacon and well within the average maximum distance Blacon participants were willing to travel.

The close proximity of the supermarkets may contribute to the fact that Blacon participants did not shop locally for food. Additionally, having supermarkets so close to Blacon, and the economies of scale they can achieve, may have contributed to the reasonable intakes of F&Vs as outlined in section 5.2 because they can provide F&Vs of a consistent quality and possibly sell them at lower prices than in local shops.

Conversely, more than half (n=7) of the participants from Hoole visited their local shops (see Figure 10.6 and Table 6.6) more than once a week. Furthermore, half of the participants from Hoole stated that they frequently walked to the local shops which may suggest that either the access to local shops in Hoole is good. Participants living in Hoole may also be prepared to pay more for their food than Blacon participants as the local shops in both wards were perceived to be more expensive than the supermarkets participants used.
Of the supermarkets visited by Hoole participants, all \((n=4)\) were within the average maximum distance they were willing to travel to do a food shop (5 miles). Furthermore, the majority of participants from each ward \((n=9\) in each ward) did their food shopping by car.

Despite the contrast in local shopping behaviours of Blacon and Hoole participants, three out of four of the participants \((n=18)\) drove to supermarkets on a frequent basis \((see\ Table \ 6.7)\). This may have a wider environmental impact due to the harmful emissions produced by every car journey as opposed to using local shops either by foot or by particularly shorter car journeys.

As there are very few differences in intake levels of F&Vs and the associated barriers experienced, these findings may suggest that the provision of supermarkets within the distances participants are prepared to travel provide a ‘level playing field’ for acquiring healthy foods. Subsequently, the experiences of individuals living in an area of multiple deprivation are likely to be very similar to those not living in a ward which presents factors of deprivation, contrary to the findings of the existing literature.

What is more, participants in this study indicated that they would like to see a large variety of F&Vs in shops close to the number now available in supermarkets. On average, participants in Blacon admitted that they would like to have the option to choose from a minimum of nine different fruits and nine different vegetables. Similarly, Hoole participants suggested a minimum of seven fruits and seven vegetables \((see\ Table \ 6.8)\). Due to the restrictions placed on this research, it was not possible to ascertain whether
these quantities would be feasible in local shops. However, these numbers do suggest a leaning towards the type of choice supermarkets can provide and may be a major reason as to why participants prefer to do a main food shop in a supermarket.

The definitions of ‘access to food’ are wide ranging and varied. According to Pollard et al. (2001), for there to be access to food, an adequate amount of food must be within the physical reach of households. While there is no further explanation as to what “physical reach” means, participants in both wards sampled suggest that they have acceptable access to good quality food due to the close proximity of supermarkets. Consistent with the findings of Lang and Caraher (1998) discussed in section 2.3.1, the majority of participants did in fact shop in supermarkets, which in Blacon, was specifically attributed to the poor quality and choice of healthy foods locally. This is somewhat alarming as the findings of Townsend et al. (2001) suggest that F&V intakes are positively related to their good local availability. Additionally, the North West Food and Health Taskforce (2008) and the DH’s strategies to provide better choices for communities (Better Information, Better Choices, Better Health, 2007 & Choosing Health, 2004) specifically state their intentions to increase the availability and access (respectively) of healthy foods locally. This would seem to not be happening in Blacon regardless of the level of access to supermarkets nearby.

Of greater concern to local and regional policy may be the distinct lack of acceptable (as defined by the local community) access and availability of healthy food in Blacon and the subsequent possibility of leaning towards developing a food desert as local residents appear to not shop locally for food other than takeaways (indian, pizza, chips). The current predicament of the local shops in Blacon may be further exacerbated by the
monopolisation of the food market locally by supermarkets. Guy and David (2004) directly attribute the existence of food deserts in communities to this situation (the dominance of supermarkets).

The opening of the new Tesco supermarket (1.3 miles from Blacon) in addition to Morrisons supermarket (2 miles) could well contribute to the degeneration/poor sustainability of shops in Blacon. This could stimulate the need for future research in Blacon as to its affects and, in turn, direct local/regional policy. Current health policy applicable to ‘access to healthy food’ promotes the need for improved access but the methods by which this may be achieved are unclear.

Debate could also grow as to whether the extremes of ‘food deserts’ warrant concern in contemporary societies in Chester as local residents of Hoole and Blacon now more frequently turn to supermarkets for food that is likely to be of better quality and cheaper than those provided by local shops. These shopping behaviours subsequently pose questions for future research/policy such as; *are these shopping behaviours not to be encouraged as a means of purchasing acceptable F&Vs (price and quality) at the expense of local shops? and should the aims of health policy now focus on providing local access by facilitating the provision of healthy foods at an affordable price and of good quality?*
5.7 Methodology – Reflections and limitations of the methods used

Many of the limitations of the research are discussed in the methodology and above. There were also a number of other limitations to the research process that emerged during data collection and are described below.

- **In Blacon, interviews were conducted in the ‘play room’** – there was no other quiet space for the interviews to take place and subsequently the noise was quite distracting to both the interviewer and interviewee. The children, at times, also demanded attention from their mother during the interview which again was distracting and may have caused the participant to rush her answers. However, participants seemed to be extremely honest and forthcoming and did not appear to be concerned with giving the answers they thought the researcher wanted to hear. This may have been due to the researcher explaining that the participants would not be identifiable and that their answers could not be linked to them in any way. This seemed to put the participants at ease.

- **Audio-recording** - seemed to make some participants more nervous than others which may again have resulted in rushed/short answers whereby the participants tried to talk as little as possible. This was dealt with by explaining to the participants that the audio-recording was for the researchers benefit only (who would be hearing them anyway) and was required simply to ensure all answers were transcribed correctly.

- **Blacon drop-in sessions** – the Blacon toddler groups were held on the basis of a drop-in session. This resulted in a number of participants already obtained also attending the second session which restricted the total number of participants that
could be interviewed in Blacon. Hoole participants, on the other hand, were required to pre-book their place at the toddler group (there was a one year waiting list!) which resulted in 30 members attending the first session and a different 30 members at the second. This is inconsequential though as the members of the toddler groups in both wards were very forthcoming and the number of participants interviewed was the maximum possible within the allotted timeframe (a constant flow of volunteers).

- **The speed of the interviews** – because participants elaborated on their answers where possible and where prompted, it was very difficult to make comprehensive notes during the interview without affecting the flow of answers. This was appeased by an unforeseen dependency, to a large extent, on the audio-recordings obtained.

Participants appeared to be honest in their responses to the interview questions with one participant feeling confident enough to explain that she consumes F&Vs to alleviate constipation.

5.7.1 Systematic Errors

One participant in Hoole may have answered the question regarding her F&V intakes with an element of bias as the researcher asked whether she had heard of the ‘five-a-day’ campaign prior to asking for her intake levels. This may have been suggestive to that participant that the ideal answer is a combination of five F&Vs. Nevertheless, this error was recognised after the first interview and the following twenty-three interviews asked the question, “have you heard of the five-a-day campaign?” after ascertaining the F&V intake levels.
CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Conclusions

The information contained in this research should be used as a guide to locally occurring trends and behaviours in relation to F&V consumption in two wards of Chester. It may also stimulate the need for further research into the perceived versus actual factors that have an affect on the uptake of a healthy diet.

- The ‘five-a-day’ recommendations are well understood by the study population. This may be partly due to information provided to the children of those involved in the research.

- Participants had good knowledge of what constituted a portion of fruit or vegetables.

- The diet-health relationship was poorly understood in Blacon and in some cases in Hoole. Hoole participants generally were more aware of the long-term affects of food on health than participants from Blacon.

- Participants preferred to do their food shopping in supermarkets as opposed to local shops although Hoole participants also often shopped locally in addition.

- Access to healthy food was ‘good’ in both wards although this was largely due to the close proximity of supermarkets as opposed to the quality of local shops.

- Participants perceived the local shops in Hoole to provide satisfactory quality food whereas shops in Blacon were perceived to provide expensive and poor quality food (especially F&Vs). A shopping basket survey was initially planned as part of this research to answer this question. Unfortunately, due to a lengthy data analysis process, there was no time remaining to complete the additional survey.
6.2 Implications for Future Research and Professional Practice

Specific implications for further research or professional practice are discussed where appropriate in sections 5.1 to 5.6. In summary, the interrelating nature of the factors (barriers and facilitators) affecting food choice make it difficult for public health policy to tackle an individual factor, however, this is not to say that these barriers cannot be appeased, moreover, they suggest the need for a multi-directional approach as different factors affect different individuals in a variety ways.

6.2.1 Implications for Future Research

The encroachment of localised supermarkets may become a bigger issue for the provision of local shops providing good quality food at an affordable price. Wide ranging health policies consistently target an improvement in the local access of healthy food but seems to lack flexibility and relevance at a local level in the populations involved in this research. Participants were happy to travel to a supermarket in order to purchase food at a lower price and better quality than locally found, suggesting that access is satisfactory according to local residents.

Future research is required to explore the comparisons between perception and actual price and availability of F&Vs to determine their affordability. Such research could lead to strategies being developed to provide F&Vs and other healthy foods at a price residents could afford in their local shops cutting the length of car journeys to supermarkets and the subsequent burden on the environment.
The number of participants included in the research samples was largely determined by the set parameters of this research and subsequently may be too small to generalise to the wider population of Chester or nationally. However, as stated, if this research was to evolve quantitatively or simply expand in sample size in the future, the findings may then be appropriate to apply to a wider context.

This research also highlighted the “supermarket affect” whereby participants appeared to prefer shopping for food in supermarkets at the expense of their local shops. With the newly built Tesco on the outskirts of Blacon, research into the sustainability of local shops in the competitive environment created by such supermarkets could be of importance if strategies are needed to ensure their survival. A component of such research could investigate the value of local shops in contemporary society determining whether they still have a role to play in community provision, or whether that responsibility has now been taken on by supermarkets. The perceived advantages of shopping in a supermarket as opposed to local shops could also provide information of interest to future research and policy development.

6.2.2 Implications for Future Practice

By focusing on the barriers most frequently cited, professional practice could devise initiatives that could greatly improve uptakes of a healthy diet. For example, inexpensive methods/recipes for including F&Vs into a busy lifestyle may enable those who cited “Time” and “Cost of F&Vs” to increase their intakes of an important component of a healthy diet.
Future practice also needs to monitor the current economic climate and its affects on the affordability of healthy food as the money a household has to spend on food may fall. In addition, the imminent ban on 15 widely used pesticides by the European Commission is said to be likely to increase the cost of F&Vs grown in Europe by between 25-100% due to a decrease in crop yields (ADAS, 2008). An increase in cost could substantially reduce the intakes of F&Vs as they are frequently perceived as being too expensive currently.

The findings discussed in this section are purely the opinions (qualitative) of two samples of individuals from two wards in Chester. Therefore, the data collected explains the perceptions of access issues in Chester and is not necessarily based in fact.

That said, many themes of this research are consistent with those outlined in the literature suggesting that they may be applicable to a wider population.

Current initiatives such as the Healthy Schools Programme and the Food and Health Action Plan (launched in 2007) are said to be making good progress on actions towards reducing obesity in the North West of England (NHS North West, 2008). Specific projects such as the Burnley Food and Fitness Aimed at Lowering Obesity (BUFFALO) project, have recorded excellent results through an integrated package of food education, nutrition, physical activities and gardening. Although aimed at children initially, this project is now in a third phase whereby a parent programme is being included to tackle the issue of poor diet and nutrition in a family setting (NHS North West, 2008). The success of this programme could be used to demonstrate the possibility of adapting such initiatives to the population of Chester as the findings of this study suggest the need for similar methods to be implemented (i.e. to increase knowledge and awareness and cooking skills).
The research in this study was obtained through a qualitative community integrated method and unearthed a number of issues for consideration. The Policy Action Team 13 (PAT 13) 2006), responsible for improving shopping access, also advocate the need to respond to locally identified needs in a community integrated way and to provide a range of quality goods at an affordable price. As a result, this study provides evidence of the importance of such methods and indicates the need for future practice to adopt a similar approach (amongst others).
LIST OF REFERENCES


http://www.5aday.nhs.uk/DownloadsResources/documents/Poster.pdf
### Appendix A – Social Grade Classification Criteria

<table>
<thead>
<tr>
<th>Social Grade</th>
<th>Percentage of Total Population (% UK)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3</td>
<td>These are professional people, very senior managers in business or commerce or top-level civil servants. Retired people, previously social grade A, and their widows.</td>
</tr>
<tr>
<td>B</td>
<td>20</td>
<td>Middle management executives in large organisations, with appropriate qualifications. Principle officers in local government and civil service. Top management or owners of small business concerns, educational and service establishments. Retired people, previously social grade B, and their widows.</td>
</tr>
<tr>
<td>C1</td>
<td>28</td>
<td>Junior management, owners of small establishments, and all others in non-manual positions. Jobs in this group have very varied responsibilities and educational requirements. Retired people, previously social grade C1, and their widows.</td>
</tr>
<tr>
<td>C2</td>
<td>21</td>
<td>All skilled manual workers and those manual workers with responsibility for other people. Retired people, previously social grade C2, with pensions from their job. Widows, if receiving pensions from their late husband's job</td>
</tr>
<tr>
<td>D</td>
<td>18</td>
<td>All semi-skilled and un-skilled manual workers, apprentices and trainees to skilled workers. Retired people, previously grade D, with pensions from their job. Widows, if receiving a pension from their late husband's job.</td>
</tr>
<tr>
<td>E</td>
<td>10</td>
<td>All those entirely dependant on the state long-term, through sickness, unemployment, old age or other reasons. Those unemployed for a period exceeding six months. Casual workers and those without a regular income. Only households without a Chief Income Earner will be coded in this group.</td>
</tr>
</tbody>
</table>
Appendix B – Participant Information Sheet (PIS)

Access to Healthy Food in Chester and The Value of Eating Healthily

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask questions if there is anything that is not clear or if you would like more information. Please take time to decide whether or not you wish to take part.

What is the purpose of the study?
This research project will explore the issues associated with access to healthy foods, and in particular, the barriers and facilitators to consuming five or more portions of fruit and vegetables per day. A large proportion of the population in England consume less than the recommended amount of fruit and vegetables (5-a-day). By discussing your views on this matter, this study will aim to highlight the barriers and assisting factors to consuming five or more portions of fruit and vegetables in Chester.
A written report will be produced at the end of this study. The findings of the study may be used by Cheshire Primary Care Trust and/or Chester City Council to develop the access to fruit and vegetables in your local area, although they are not directly involved in this research.

Why have I been chosen?
You have been chosen because you live in one of two areas of interest to this study.

Do I have to take part?
It is up to you to decide whether or not to take part. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part, you are still able to withdraw from the research at any time without giving a reason. A decision to withdraw or not take part, will not affect you in any way.

What will happen to me if I take part?
If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. This will give your consent for a researcher from the University of Chester to receive information from you in a focus group session as arranged. At this session, you and other participants will have the opportunity to raise and discuss your views and experiences of the study subject. At the session, there will be between five and seven other participants taking part and the meeting, which will be led by a researcher (Adam Smith) and will last about
an hour. With your permission (and that of the others in the group), the meeting will be audio taped. No-one will be identifiable in the final report.

**What are the possible disadvantages and risks of taking part?**
There are no disadvantages or risks foreseen in taking part in the study.

**What are the possible benefits of taking part?**
As a resident of Chester it is possible that you may welcome the opportunities to share your views and experiences with other residents. The sessions will act as an opportunity for you to vent concerns regarding access to healthy food in your area of residence. Your concerns/views may form the basis of the research which may be presented to relevant parties/services (i.e. Chester City Council (re: access issues), Western Cheshire Primary Care Trust) who may take steps to improve certain aspects of your area in order to help residents consume healthy food.

You may become aware of food outlets you were unaware of that may save you time and/or money when food shopping. You may also pick up ideas from other participants about healthy eating and/or access to healthy food.

**What is something goes wrong?**
If you have any concerns or wish to complain about any aspect of the way you have been approached or treated during the course of the study, please contact Professor Sarah Andrew, Dean of the School of Applied and Health Sciences, University of Chester, Parkgate Road, Chester, CH1 4BJ, United Kingdom, 01244 513055.

If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone’s negligence (but not otherwise), then you may have grounds for legal action, but you may have to pay for this.

**Will my taking part in the study be kept confidential?**
All information that is collected about you during the course of the research will be kept strictly confidential so that only the researcher and the researcher’s supervisor will have access to such information. All data containing personal information will be coded in order to maintain your anonymity.

**What will happen to the results of the research study?**
The results will be written up into a report for the assessors of my MSc Dissertation. It is hoped that the findings of this research may also be used by local services to help improve any issues that arise from the focus group session. Individuals who participate will not be identified in any subsequent report or publication.

**Who is organising and funding the research?**
The research is funded by the University of Chester and undertaken by Adam Smith under the supervision of Dr B Ellahi.
Who may I contact for further information?
If you would like more information about the research before you decide whether or not to take part, please contact:

Adam Smith – 0200990@chester.ac.uk,
Department of Biological Sciences,
University of Chester, Parkgate Road, Chester, CH1 4BJ

Thank you for your interest in this research.
Appendix C - Consent Form

Project Title: An Exploration of the Factors Affecting Access to Healthy Food in Chester and the Importance of Eating Healthily According to Local Residents

Name of Researcher: Adam Smith

Please Tick Box

1. I confirm that I have read and understood the information sheet dated [insert date] for the above study and have had the opportunity to ask any questions.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason and without my legal rights being affected.

3. I agree to the interview being audio taped and to its contents being used for research purposes.

4. I agree to take part in the study.

Address of participant: .................................... Date: ................ Signature: ...........................................

(please do not state your name)..............................
Appendix D – Portion Sizes Card

1 medium apple
2 broccoli florets
2 halves of canned peaches
1 handful of grapes
1 medium banana
3 heaped tablespoons of peas
1 medium glass of orange juice
7 strawberries
3 whole dried apricots
3 heaped tablespoons of cooked kidney beans
16 okra

Just Eat More (fruit & veg)
www.doh.gov.uk/fiveaday

Appendix E – Interview Structure/Prompts and Notes from an Interview

Q1. What is a healthy diet?

*Prompt: what do you think a healthy diet contains?*

Q2. What is a portion of fruit or veg?

*Prompt: how would you define a portion?*

Q3. How many portions of fruit and how many portions of veg do you eat per day *on average*? Fruit:_____ Veg:_____ 5-A-Day? y/n

Q4. How important is eating healthily to you? Explain

Q5. How important is eating 5-a-day to you? Explain

Q6. How does food affect your health?

*Prompt: in what ways do you think the food you eat affects your health?*

Q7. What stops you eating 5 FV per day consistently?

*Prompt: what gets in the way/barriers?*

Q7. What would encourage you to eat more FV?

*Prompt: help you overcome the barriers you just mentioned?*

Q8. How many F&V should a shop provide for there to be a good choice? F= ___ V= ___

*Prompt: how many Fs and Vs do you like to be able to choose from (as a minimum)?*

Q9. Do you personally do the food shopping?

- Where do you do your main food shopping?
- How often do you do your food shopping?
- How do you get to and from the shops?

Q10. How far are you willing to travel to do your main shop? *The maximum distance?*

Q11. Do you think that what you eat affects what others around you eat? (i.e. children/child)

Q12. What do you think could be done to increase the amount of FV people in Hoole/Blacon eat?

Q13. Could you name all of the food outlets (shops, takeaways etc) that you buy food from. (list)
Example of notes taken during an interview:

1. What is a healthy diet?
   - Lots of fruit
   - Balance of fish + meat
   - Lots of water

2. What is a portion of fruit or veg? 5 a day?
   - Spearhill @ home
   - Supermarket = use guidelines - 2 fruits, 1 piece of whole fruit (e.g., apple)

3. How many portions of fruit and how many portions of veg do you eat per day?
   - Fruit: 1
   - Veg: 1

4. How important is eating healthily to you? Explain.
   - It is - it feels better about myself when I do not feel sluggish.
   - It’s hard to get Sunday in, watch what I eat.

5. How important is eating 5 a day to you? Explain.
   - Not that important - if I was more educated on how to get Sunday in I would eat better.

6. How does food affect your health?
   - Unhealthy (food: takeaways, crisps, etc.) = feel sluggish, unhealthy = energised + feel good.

7. What stops you eating 5 a day consistently?
   - Planning what makes up Sunday (soup?)
   - Alternative +: no other heat contribute heat small meals

8. What would encourage you to eat more 5 a day?
   - More knowledge, charts, quick ref guides, read of how to incorporate into everyday life without keeping them on the unit

9. How many fruit and veg should a shop provide for there to be a good choice of 5 a day?
   - Fruit: 5
   - Veg: 7-8
Q9. Do you personally do the food shopping? Y

Where do you do your main food shopping?
Supermarkets, Tesco, Morris

How often do you do your food shopping? 1/2 weeks, locally: 3x

How do you get to and from the shops?
Car - Drive
Walk to local shops.

Q10. How far are you willing to travel to do your main shop?
15 mins max
6-10 miles

Q11. Do you think that what you eat affects what others around you eat? Not really but I watch what others eat.

Q12. What do you think could be done to increase the amount of LV people in healthy/nutritious eat?
Information, understanding of getting a day, local shops to stock more LV.

Q13. Could you name all of the food outlets (shops, takeaways etc.) that you buy food from? (list)
Tesco, Morrisons, Sandwiches, Gr-Op, one-stop, Fish & Chips, pizza, Chinese

<table>
<thead>
<tr>
<th>Age: 26</th>
<th>Post Code: CH2 3DL</th>
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<tr>
<td>Occupaion (or Occupation of main source of income in your household): Administrator</td>
<td>Education (GCSEs, NVQs, A-levels etc.): F.I.T. Degree (BSc)</td>
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Appendix F – Letter of Ethical Approval

20 August 2008

Dear Adam

Study title: Factors affecting access to healthy food, and the importance of eating healthily; a case study of Blacon and Hoole

FREC reference: 248/08/AS/BIO

Version number: 2

Thank you for sending the above-named application to the Faculty of Applied and Health Sciences Research Ethics Committee for review.

The application has been considered on behalf of the Committee by Alison Roberts as Lead Reviewer, and reported to the Faculty Research Ethics Committee.

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form and supporting documentation.

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

The final list of documents reviewed and approved by the Committee is as follows:

<table>
<thead>
<tr>
<th>Document</th>
<th>Version</th>
<th>Date</th>
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<tbody>
<tr>
<td>Application Form</td>
<td>1</td>
<td>July 2008</td>
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<tr>
<td>Letter to local schools</td>
<td>1</td>
<td>June 2008</td>
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<tr>
<td>Letters of agreement from local schools (4)</td>
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<td>July 2008</td>
</tr>
<tr>
<td>Letter of invitation to participants</td>
<td>2</td>
<td>Aug 2008</td>
</tr>
<tr>
<td>Participant information sheet</td>
<td>2</td>
<td>Aug 2008</td>
</tr>
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<td>Consent form</td>
<td>1</td>
<td>July 2008</td>
</tr>
<tr>
<td>Focus group topic guide</td>
<td>2</td>
<td>Aug 2008</td>
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<tr>
<td>Consent to use venue (2)</td>
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<td>July 2008</td>
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<tr>
<td>Response to FREC’s request for further information</td>
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<td>Aug 2008</td>
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With the Committee’s best wishes for the success of this project.

Yours sincerely,

[Signature]

Stephen Fallow
Chair, Faculty Research Ethics Committee

Enclosures Standard conditions of approval.

c.c. Supervisor
FREC Representative
Appendix G – Samples of Raw Data

Participant F&V intakes on average per day:

<table>
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<tr>
<th>Participant</th>
<th>Blacon</th>
<th>Hoole</th>
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<tr>
<td></td>
<td>Fruit</td>
<td>Vegetables</td>
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<td><strong>2.6</strong></td>
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Participant’s desired choice of F&Vs in a shop:

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<th>Hoole</th>
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<tbody>
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<tr>
<td><strong>Mean</strong></td>
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* All other raw data are displayed with their thematic groupings in spider diagram format in section 4.