Hot Food Takeaways around schools: Can fast food be healthier?

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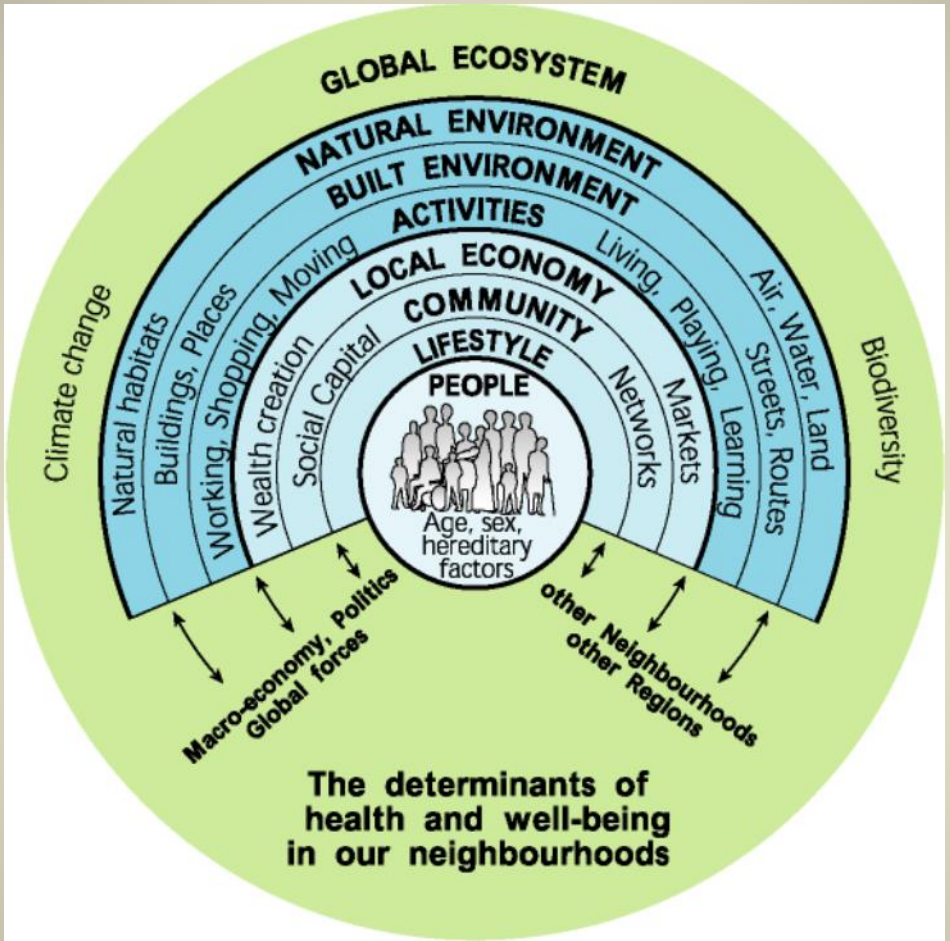
Fast Food and Obesity

- Background to the study
- Why I chose this topic
- Research question
- Methodology
- Results
- Discussion
- Conclusions
- Recommendations for the future

Background

- £73billion turnover
- 88 – 96.5 per 100,000
- 14% more fast food restaurants in Plymouth since 2014
- Over 1/3rd children are overweight or obese
- 40% by the end of secondary school



Barton, H. and Grant, M., (2006) A health map for the local human habitat, Journal of the Royal Society for the Promotion of Public Health, 126 (6) pp252-261.

- Obesogenic environment – Swinburn in

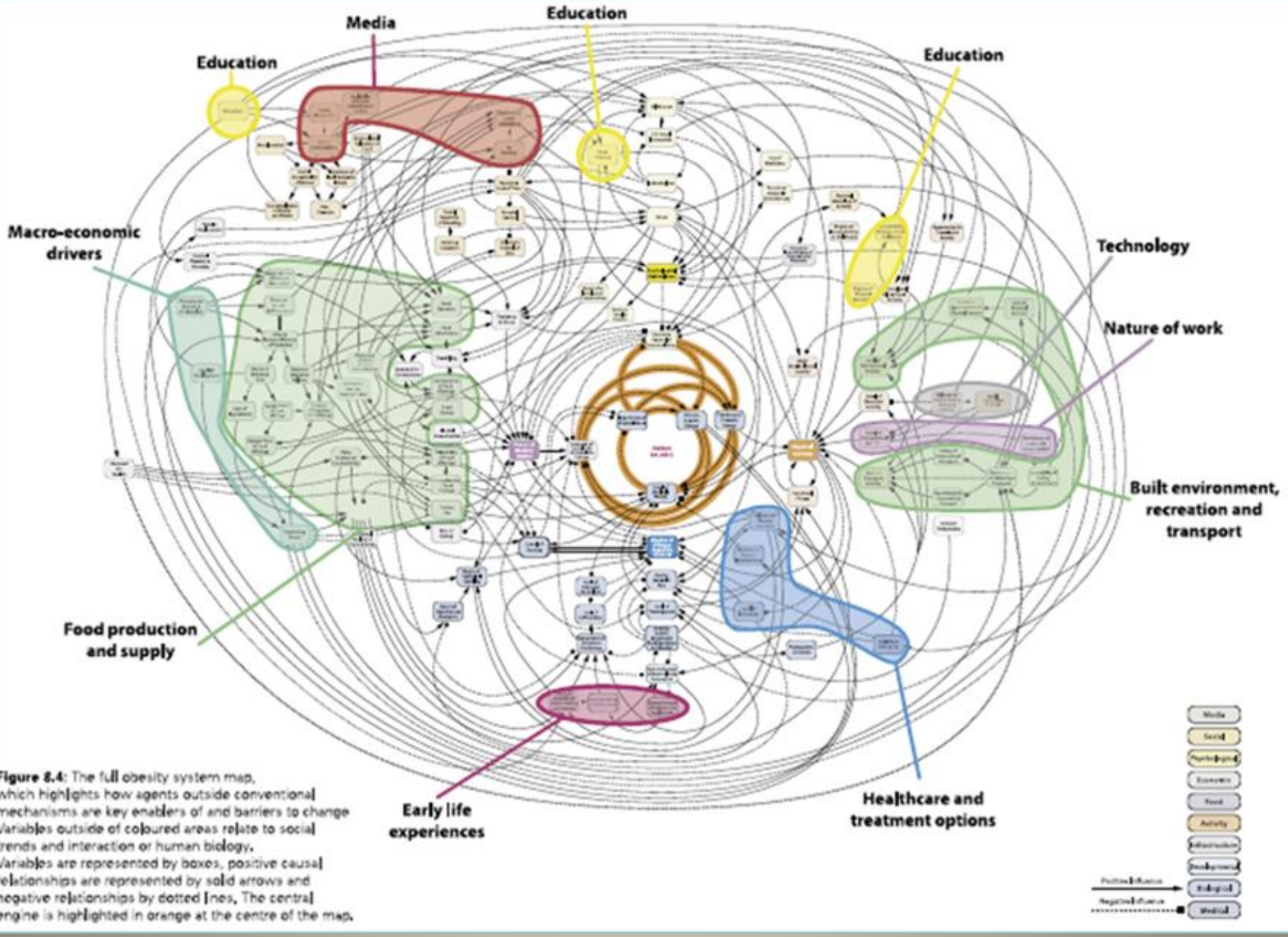
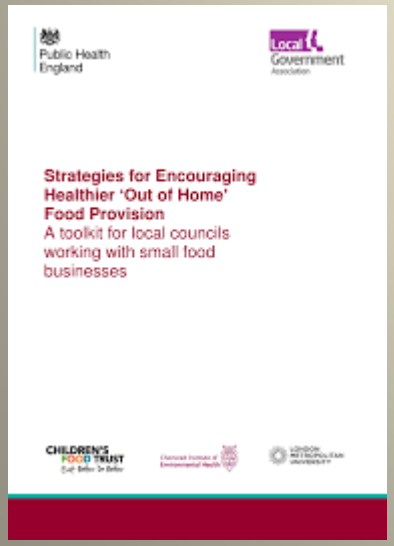
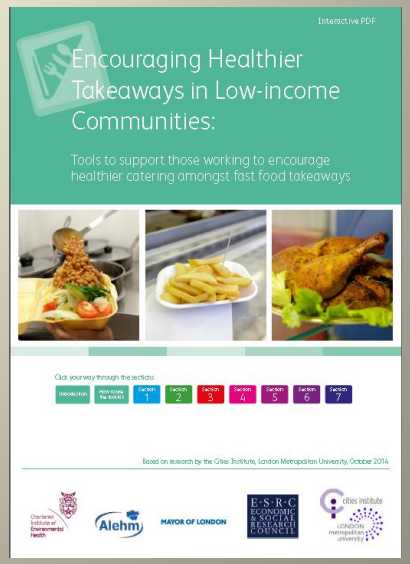


Figure 8.4: The full obesity system map, which highlights how agents outside conventional mechanisms are key enablers of and barriers to change. Variables outside of coloured areas relate to social trends and interaction or human biology. Variables are represented by boxes, positive causal relationships are represented by solid arrows and negative relationships by dotted lines. The central engine is highlighted in orange at the centre of the map.

PHE guidance

- In 2014 they published *"Obesity and the environment briefing: regulating the growth of fast food outlets"* a document which calls for controls on the numbers of fast food outlets developed in areas where children congregate





Takeaway Toolkit

- Available since 2011
- Case studies (not rigorous)
- Referenced by PHE guidance
- Encouraged EHPs to implement the toolkit

HEALTHIER CATERING COMMITMENT for London

eatwellwirral healthier choices for takeaways

Systematic Review

The review intended to answer the following questions

1. What research has been undertaken relating to fast food businesses around schools?
2. What research has been undertaken into the attempt to control childhood obesity through influencing the food environment or the built environment around schools?
3. What is known about fast food and obesity in relation to schools and school children?

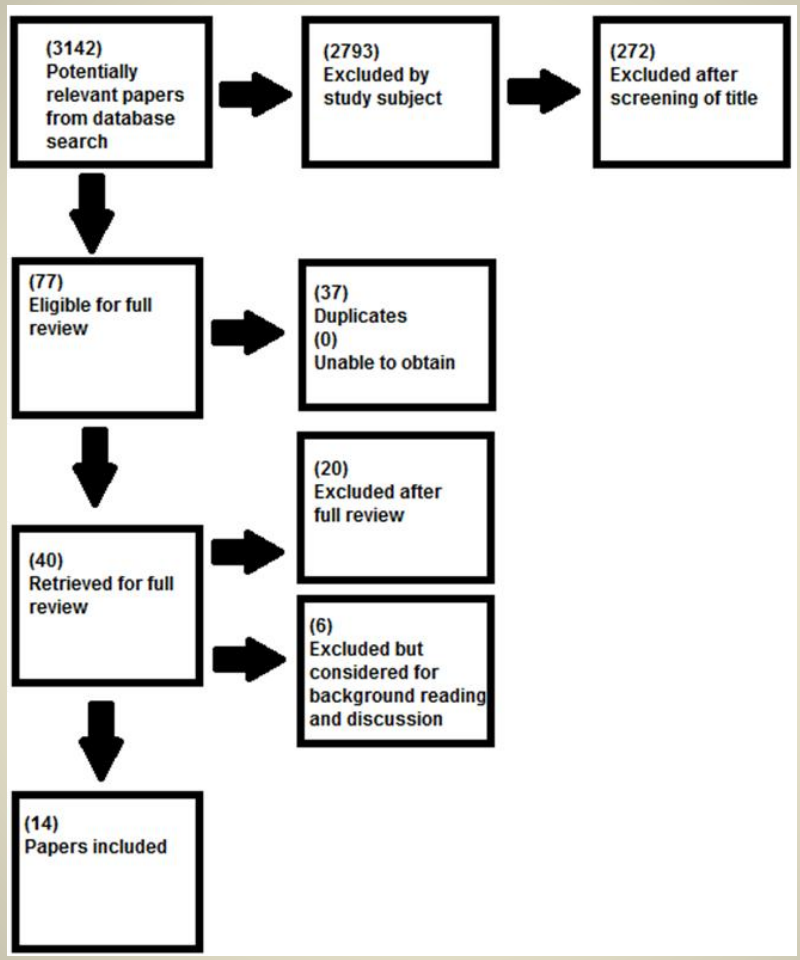
Inclusion Criteria	Papers reporting impacts of food environment around schools on obesity
	Papers reporting impacts of food environment on schools
	Papers based on analysis and discussion of obesity in relation to leadership, education, attitudes and behaviours
	Papers discussing obesity views, opinions or developments in relation to the built environment's spatial planning
	Policy documents relating to obesity, children, fast food and school food cultures
	Papers published in English and relating to the UK

Exclusion Criteria	News articles
	Non English
	Letters to academic journals
	Editorials
	Commentaries
	Papers not reporting empirical research
	Papers not published in peer reviewed journals
	Papers not studying the UK
	Papers published before 1998
	Papers not mentioning fast food

Search term string
1 Obes* OR BMI OR “Body Mass Index” OR “obesity cause*” OR “obesity attitude*” OR fat* OR adiposity OR overweight OR over-weight OR “over weight”
2 School* OR child* OR adolesen* OR teenag* OR “ school* children” OR youth OR young* OR primary OR secondary
3 “hot food takeaway*” OR HFSS OR “High Fat Salt Sugar” OR A5 OR “Food environment” OR “food culture” OR environment OR “fast food” OR takeaway

- Cochrane Library;
- NICE guidance,
- Medline;
- PubMed;
- Web of Science;
- AMED;
- CINAHL;
- Embase;
- psycinfo;
- SOCINDEX;
- TRIP (Turning Research into Practice) BMJ.

These databases cover medical, educational and social science databases and were likely to find the most relevant papers from each field of study


(3142)
Potentially relevant papers from database search
(2793)
Excluded by study subject
(272)
Excluded after screening of title
(77)
Eligible for full review
(37)
Duplicates
(0)
Unable to obtain
(20)
Excluded after full review
(40)
Retrieved for full review
(6)
Excluded but considered for background reading and discussion
(14)
Papers included

Quality Assessment and data extraction

- Observational studies were quality assessed using criteria adapted from the CRD handbook
- Qualitative papers were assessed using criteria adapted from Spencer's framework for Quality in Qualitative Evaluation
- Systematic reviews were quality assessed using criteria adapted from Greenhalgh's 'Improving the quality of reports of meta-analyses of randomised controlled trials: the QUORUM statement'

Themes within the evidence

1) Problems, effects or impacts of hot food takeaways in the food environment surrounding schools on BMI/Weight/Obesity

2) Strategic policy for food environments surrounding schools

3) Food related behaviour by pupils or adults in the environment surrounding schools.

Findings

- Analysis of interventions that change the food environment around schools is missing from the literature
- Most studies included in this review compared anthropometric measures with geographical location of hot food takeaways
- the definition of hot food takeaways varies considerably between studies

Main finding

The lack of reliable evidence found in this systematic review regarding the impact of hot food takeaways in the food environment around schools on obesity in children attending those schools is more a factor of the ability of the studies found to identify the correlation than the actual lack of a correlation between the two variables.

Gap identified

- No robust papers were found investigating the impact of an intervention in the fast food environment around schools intended to reduce childhood obesity.

Research Question

"What is the impact of a nutritional intervention (based on the takeaway toolkit) on a fast food retailer?"

This question was broken down into parts:

(1) Was the nutritional content of the foods sold in the recruited fast food retailer improved following the intervention?

(2) Was there an impact on customer numbers as a result of the intervention?

(3) What was the experience of the fast food retailer after implementing the intervention?

Methodology

- Took a pragmatic approach to the research which resulted in a mixed methods before and after study.
- Quantitative methods
  - Survey
  - Measuring nutritional content
  - Counting customers
- Qualitative methods
  - One-to-one interview

Research process and timeline

- Ethical approval was obtained - Oct 2016
- Survey was completed with school - Feb 2017
- Fast food retailers were identified from survey – Feb 2017
- Fast food retailer recruited – Mar 2017
- Footfall survey completed - April 2017
- Food sample obtained and tested – April 2017
- Intervention delivered – April 2017
- Footfall survey repeated in Feb 2018
- Food sample repeated – Feb 2018
- One-to-one interview with fast food retailer completed July 2018

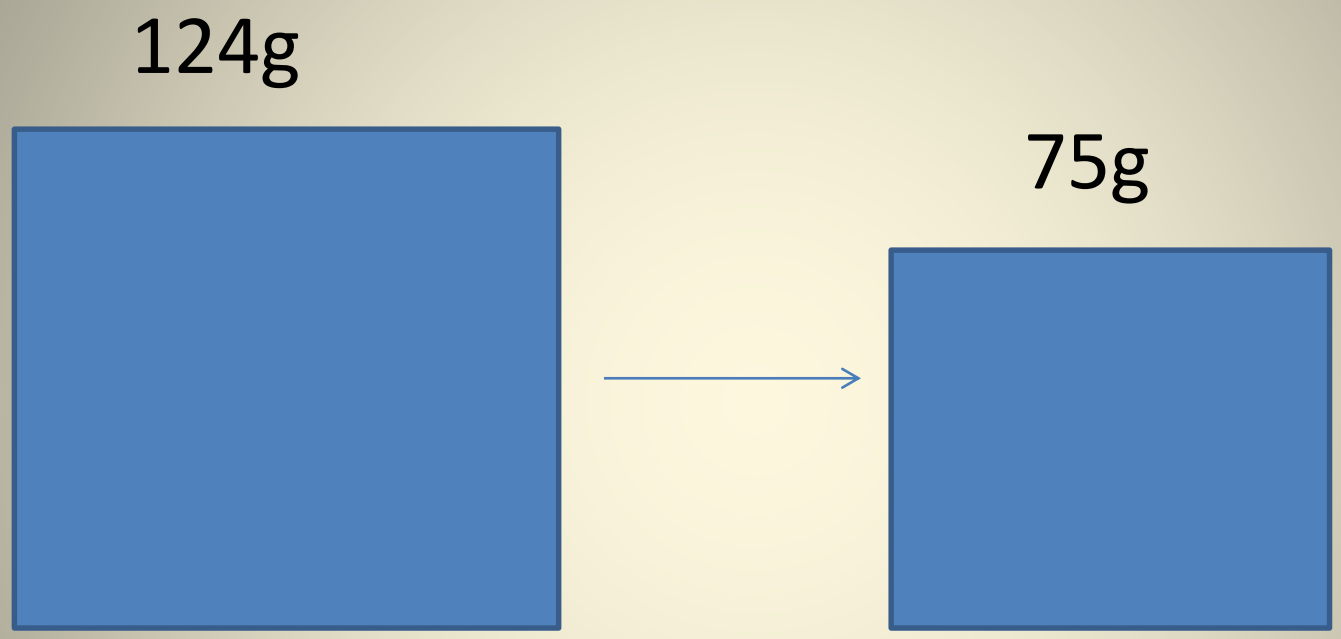
Results

- Food sample
- Footfall survey
- Interview

Changes made as result of intervention

- Fat/Oil use
- Dairy
- Sugar/Salt reduction
- Portion sizes
- Healthier meal options
- Promoting healthier options to customers

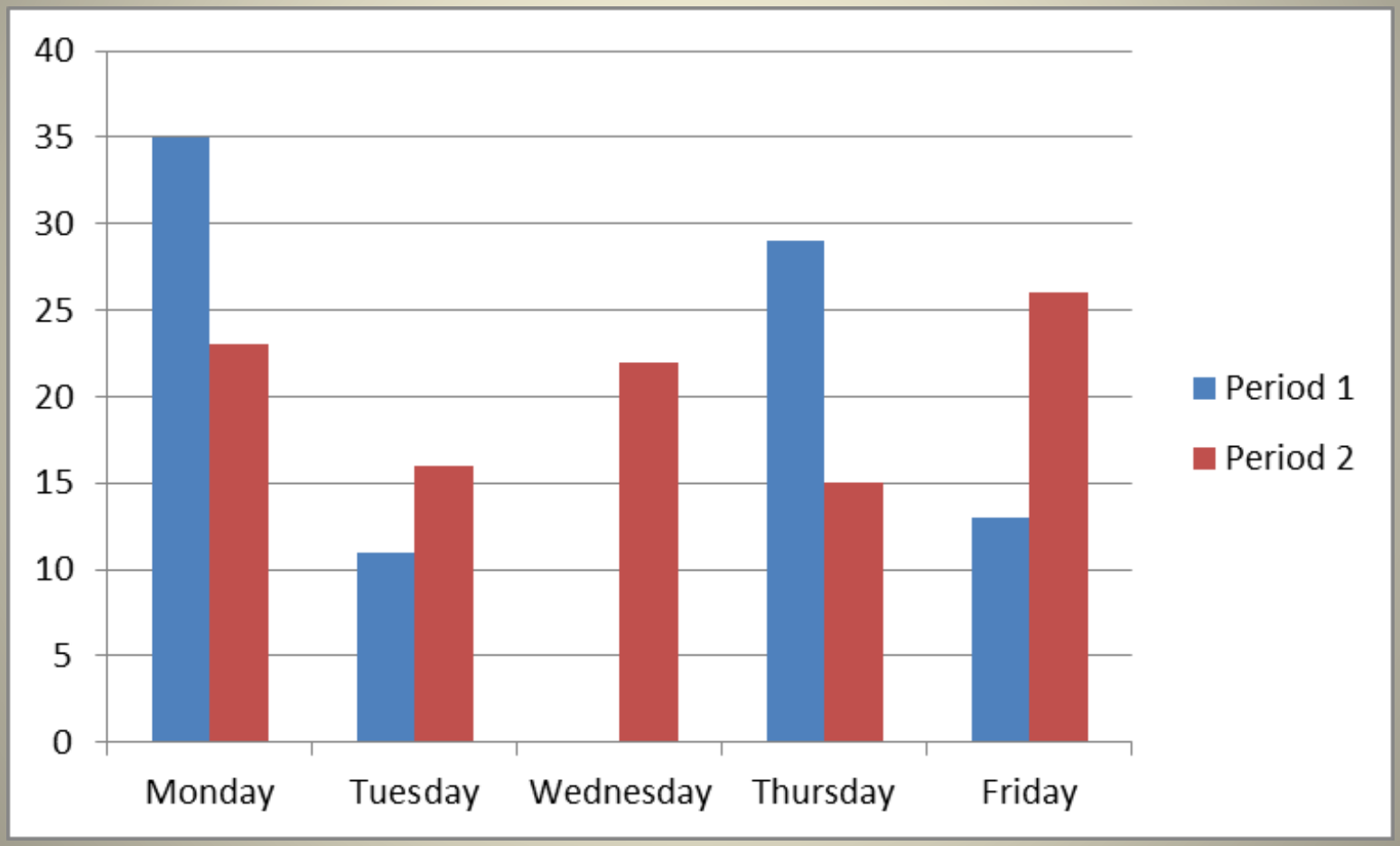
Food sample



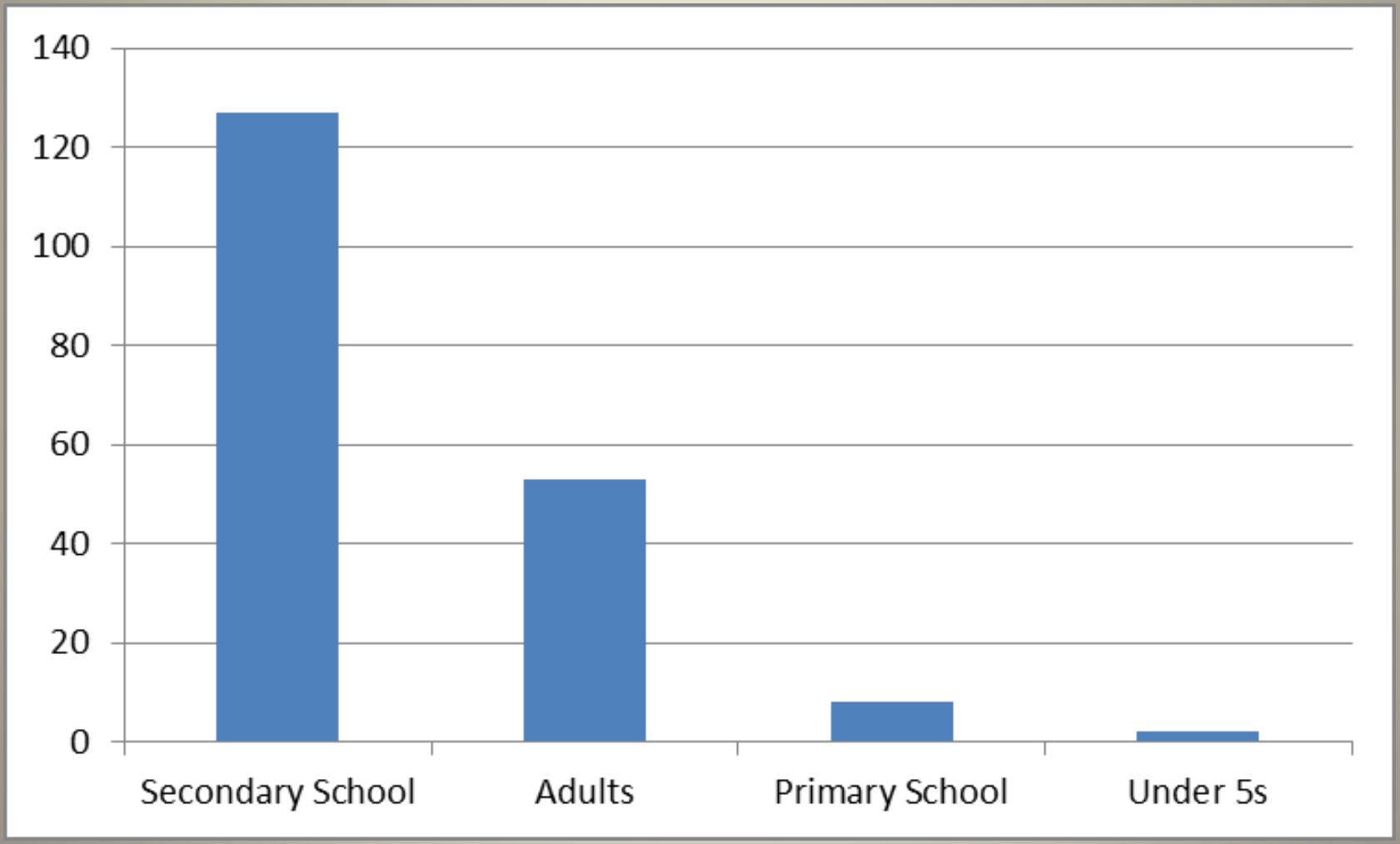
70 kcal reduction

Nutrient test	Sample 1 124g portion	Sample 2 75g portion	Difference
Saturated Fat	7.4	5.4	2.0 – reduction
Trans Fat	0.36	0.27	0.09 – reduction
Carbohydrates	30.1	23	7.1 – increase
Total Sugars	0.4	0.15	0.25 – reduction
Crude Protein	6.9	4.0	2.9 – increase
Total dietary fibre	2.6	2.5	0.1 – increase
Salt (Sodium x 2.5)	0.78	0.36	0.42 - reduction

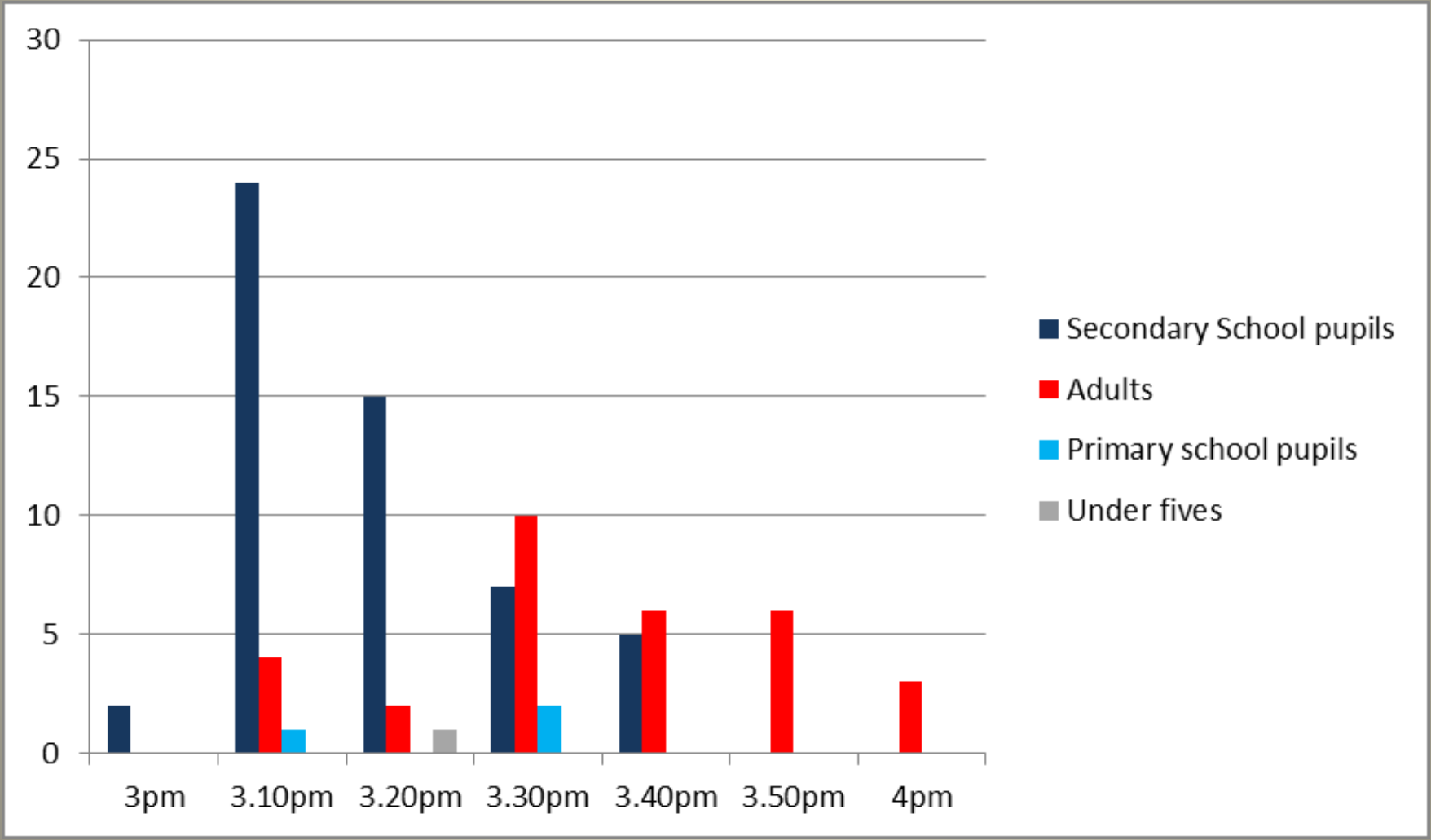
Footfall survey



Footfall survey



Footfall survey



Interview

Theme	Sub themes
Customer preference	Customer happiness Customer preference Customer experience Customer choice Taste (Quality) Healthy choices
Cost/Revenue/Profit	Cost Revenue Profit Competition Portion size

Customer preference

“It’s about keeping customers happy as well as keeping our revenue up”.

Retailer: There is different things we could put on the menu, but will children go for it? If they're pushed by their parent's maybe.

Researcher: *Do most of the kids who come in (the shop) have parents with them?*

Retailer: *No, schoolchildren? No. It's straight from school straight in the shop."*

Cost/revenue/profit

“You can put things in place but at the end of the day it’s about getting your sales and it’s about profit. That’s what this game’s about I think.”

“The main thing we spoke about was the beef fat, changing it to vegetable oil. But that was one thing we couldn’t do cos it’s just not cost effective, it’s too expensive.”

Competition

“I think it’s a lot of competition within chip shops; everyone kind of puts on the same menu. Near enough the same thing.”

Portion Size

“Before they were probably getting one and a half portions to what they get now. And it’s still the same price, so that was probably one of the biggest things people picked up on, but you know its 99p not £4. And that’s only children’s so you know.”

“What is the impact on a fast food retailer of an intervention based on the takeaway toolkit?”

Discussion

- Reduced portion size
- Reduced salt
- Healthier options introduced
- Competition

Recommendations

- Competition
- Consumer perspective
- Healthy food provision in fast food takeaways
- Customer taste preference

- Strengths
- Weaknesses
- Conclusions

Thank you

- Any questions?

References

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