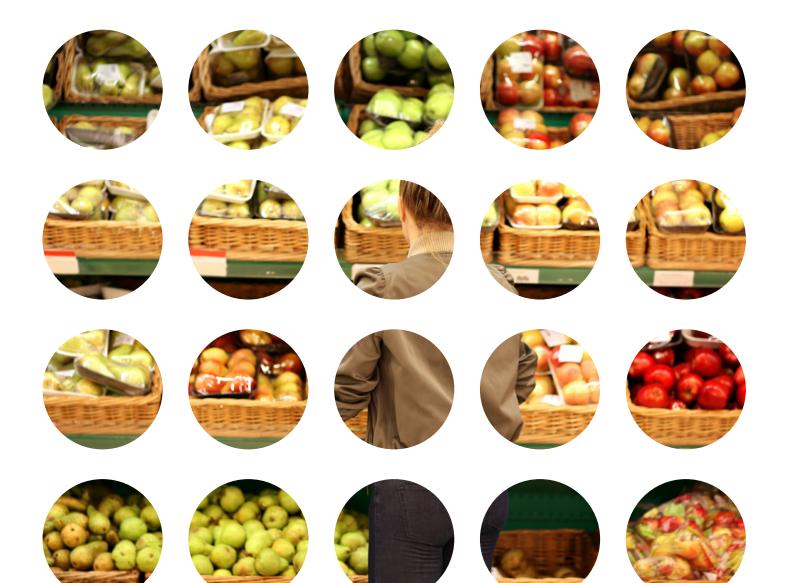


NatCen Social Research that works for society

THE FOOD AND You survey

WAVE 5

Secondary Analysis: The Food Landscape in Wales



Authors: Amelia Benson, Joe Crowley, Clare Littleford, Karen Windle NatCen Social Research

Alizon Draper University of Westminster

Date: October 2019 Prepared for: Food Standards Agency

Contents

5
6 6 7 7
9
10 10 12 12 13
14
15
16
17 18 19

UNSAFE AND SAFE FOOD PRACTICES	22
Index of Recommended Practice (IRP) Scores in Wales, England and Northern Ireland IRP scores and demographic characteristics Differences in food safety practices between people in high and low food security households	23 23 25
TRUST	26
Measuring trust Trust in the FSA Trust in the food supply chain Relationship between trust in the FSA and trust in the food supply chain	27 27 28 31
DIETARY CHOICES AND FOOD HYPERSENSITIVITIES	32
Food Hypersensitivities Prevalence, diagnosis and characteristics of those participants in Wales with food hypersensitivities Prevalence of vegetarian and vegan diets in Wales	33 33 36
DISCUSSION	 37
Introduction Food security Food safety Trust in food and in the FSA Food hypersensitivities Policy implications and further research	38 38 39 40 41 42
APPENDIX A: TECHNICAL ANNEX	43
APPENDIX B: SUPPORTING TABLES	47

Key findings

This report provides an overview of four key areas for Welsh food policy: food security; food safety; food hypersensitivities; and trust in the Food Standards Agency (FSA) and food supply chains. Key findings in each of these sections are presented below. Unless otherwise stated, all findings refer to respondents in Wales, and all comparisons made to respondents in England and Northern Ireland are statistically significant.¹

Food security

- 10% of respondents in Wales reported experiencing low food security (10% marginal food security, 80% high food security), which are consistent with the levels reported in England and Northern Ireland.
- Among respondents in Wales, 3% reported often being worried about running out of food before they had money to buy more, 2% that they often ran out of food, and 3% reported that they often could not afford balanced meals. These findings were similar in England and Northern Ireland.
- Respondents in low food security households were most likely to be young (18% of 16-34-year olds), in households with children (23% of households with children under the age of 16) and with lower household incomes (22% of households with income lower than £20,799).
- There have been no significant changes to levels of high or low food security since Wave 4 (2016), although marginal food security has decreased from 17% in 2016 to 10% in 2018.
- Low food security has a clear impact on wellbeing. Those in low food security households are less likely to have high

or very high life satisfaction (64%), least likely to report a high or very high score when asked if they felt their lives were worthwhile (64%), least likely to report high or very high happiness (61%) and, least likely to report low or very low anxiety (45%).

Food safety

- Food and You includes a composite measure of food hygiene knowledge and behaviours within the home known as the Index of Recommended Practice (IRP). A higher IRP score indicates more reported behaviours that are in line with recommended food safety practice.²
- The average IRP score for respondents in Wales was 69, slightly lower than Northern Ireland (72) but higher than in England (67).
- The average IRP score in Wales has remained similar to the previous wave conducted in 2016 (also 69).
- Households with incomes of £41,600 or more had a lower average IRP score (66) than lower income households (69-72).
- People aged 35-64 were more likely to score between 81-100 on the IRP (out of 100) than younger or older people. Just over a quarter (27%) of 35-64year olds

¹ Further information can be found in Section 2, Technical Notes.

² See Appendix A for an expanded definition of the IRP.

scored 81-100, compared with 10% of 16-34 year olds and 20% of those aged 65 or over.

- Women had a higher average IRP score (72) compared to men (65).
- One-person households had a lower average IRP score (64) than twoperson households (69), three-person households (68) and households with four or more people (71).

Trust in the Food Standards Agency (FSA) and food supply chain

- Wave 5 of Food and You included a module on trust which asked respondents a series of questions about their trust in food and the FSA. These questions were used to develop two composite measures of (i) trust in the FSA and (ii) trust in the food supply chain which grouped people into high, medium and low trust.
- In exploring levels of trust in the FSA held by respondents in Wales, 40% reported high trust, 33% medium trust and 27% low trust in the FSA.
- Respondents in Wales were more likely to have high trust in the FSA (40%) than those in England (32%) but less likely than respondents in Northern Ireland (47%).
- Respondents in Wales were almost evenly split between high trust (35%) and low trust (37%) in the food supply chain, with 28% reporting medium trust.
- A similar proportion of respondents in Wales (37%) had low trust in the food supply chain when compared with England (38%), while respondents in Northern Ireland were least likely to have low trust in the food supply chain (28%).
- Overall, younger respondents (aged 16-34) were more likely to have low trust in the FSA and the food supply chain

than older respondents. Half (49%) of 16-34-year olds reported low trust in the food supply chain compared to 35% of 35-64-year olds and 28% of those aged 65 years or over. Similarly, nearly half of younger respondents (aged 16-34) had low trust in the FSA, compared with 21% of respondents 65 years old or over.

- When looking at the individual questions that make up the composite measure of trust in the food supply chain, 59% of respondents in Wales were very or quite sure that food from Britain has been prepared to the highest standard and 53% that all guidelines have been followed in its production. The vast majority of participants (85%) were very or quite sure that the food they buy is safe.
- Respondents in work (21%) were nearly twice as likely as those out of work (12%) to be very or quite sure that food from outside Britain has been prepared to the highest standard.
- Respondents without children under 16 in the household were more likely (88%) than those with children under 16 (78%) to believe that foods bought in Britain are safe to eat.
- Those with higher household incomes (£41,600 and above, 94%) were more likely than those in lower household incomes (up to £20,799, 78%) to be very or quite sure that foods bought in Britain are safe to eat.

Food hypersensitivities and diets

 Respondents in Wales (9%) were less likely than respondents in England (11%) but more likely than respondents in Northern Ireland (5%) to report that they were vegan, vegetarian or partially vegetarian.

- In Wales, 4% of respondents reported a food allergy; 8% reported a food intolerance; and 6% reported an 'other' adverse reaction. Overall, 83% of respondents reported no adverse reaction to food.
- In comparing reported food allergies in Wales (4%) across the UK, respondents in England were most likely to report a food allergy (5%), with fewer in Northern Ireland (2%). While similar proportions of respondents in Wales (8%) and Northern Ireland (9%) reported food intolerances, a greater number of individuals in England reported living with such conditions (11%).
- Women in Wales (20%) were more likely to report an adverse reaction to food, in comparison to men (13%).
- Respondents with bad health (11%) in Wales were more than twice as likely as those with good (4%) or fair (4%) health to report that they had a food allergy (8%).
- Respondents with higher household incomes (£41,600 or higher) were least likely (10%) to report food allergies or intolerances, in comparison to respondents with a household income between £20,800-£41,599 (22%) or below £20,799 (18%).

Introduction

The policy context

A range of documents from the Welsh Government identify the production, distribution and consumption of food as a fundamental concern for public policy in Wales.³⁴⁵ A number of specific issues have been identified. These include farming and rural development, the promotion of sustainability and resilience in food production, as well as the maintenance and expansion of export markets. There is also a strong focus on managing and mitigating inequalities. For example, food security has been focussed upon and recognised for its centrality to the health, poverty and community development agendas. In addition, food consumption and health are being addressed, particularly in relation to obesity, child poverty and low levels of fruit and vegetable consumption in Wales. Finally, food safety and standards are perceived as an essential policy area. The current Welsh food strategy Food for Wales, Food from Wales 2010-2020 advocates an integrated approach to addressing these issues.

Exit from the EU poses considerable challenges to the achievement of these policy goals. For consumers, there may be a number of direct impacts on the social determinants of health, including the supply and cost of foods and, indirectly on wellbeing and livelihoods.⁶ Those living on a low income and/or those who are unemployed are particularly vulnerable to these negative effects. In addition to immediate impacts on food security, EU exit may also have adverse effects on food standards, safety and labelling and how these are regulated.⁷

Food security in Wales

Food security exists when people, at all times, "have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life".8 In contrast, food insecurity is defined as "limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (e.g. without resorting to emergency food supplies, scavenging, stealing or other coping strategies)".9 Data from Wave 5 of Food and You (2018) demonstrated that overall, 80% of respondents in Wales lived in households with high food security, 10% in marginally food insecure households and 10% in households with low or very low food security.¹⁰ While the percentage of households living in marginal food security has decreased significantly since 2016 (17%), there has been no change in the proportion of respondents living in food insecure (9%) or high food secure (74%)

- 3 Research Service, National Assembly for Wales (2016). Key issues for the Fifth Assembly. National Assembly for Wales, Cardiff.
- 4 Research Service, National Assembly for Wales (2013). Food security. National Assembly for Wales. Cardiff.

- 9 Taylor, A. and Loopstra, R. (2016) *Too Poor to Eat: Food insecurity in the UK*. [Online] Available at: https://foodfoundation.org.uk/wp-content/uploads/2016/07/FoodInsecurityBriefing-May-2016-FINAL.pdf.
- 10 NatCen (2019). The Food and You survey wave 5 survey: Wales report. NatCen, London for the Food Standards Agency.



⁵ Welsh Assembly Government (2010). Food for Wales, *Food from Wales 2010/2020*. WAG10-10583. Welsh Assembly Government, Cardiff.

⁶ Edmonds, N. (2019). Synthesizing emerging evidence to promote and protect health and well-being in uncertain times: a health impact assessment of Brexit in Wales. Public Health Wales.

⁷ Lang, T, et al. (2018). Feeding Britain: food security after Brexit. Food Research Collaboration Food Brexit Briefing. [Online] Available at: https://foodresearch.org.uk/publications/feeding-britain-food-security-after-brexit/.

⁸ Derived from guidance from: FAO (1996). Rome Declaration on World Food Security and World Food Summit Plan of Action. World Food Summit 13-17 November 1996. Rome.

households.¹¹ In both waves, levels of food insecurity varied by age (higher among respondents aged 16-34), the presence of children (higher in households with children present) and income (with low income households reporting higher levels of food insecurity).

Longer term trends are challenging to identify as the food security module was only first included in Wave 4 of the Food and You survey (2016). However, findings from Trussell Trust demonstrate a long-term increase in use of food banks in Wales, (as in other regions), with the number of emergency food parcels distributed to adults and children rising from 79,049 in the financial year 2013-14¹² to 113,373 in 2018-19.¹³ The reasons identified for this increase include the impact of austerity measures and welfare reform, as well as the rising costs of living.¹⁴

The causes of food insecurity are complex, however, the academic literature suggests poverty is a significant contributory factor.¹⁵ Whilst poverty rates in Wales have dropped from 27% in 1994/1997 to 24% in 2015/2018, the poverty rate in Wales remains higher than in England (22% in

2015/2018), Scotland (20% in 2015/2018) and Northern Ireland (18% in 2015/2018).16 The proportion of individuals living in households with less than 60% of median income has dropped from 22% in 1994/1995 to 19% in 2017/2018, a level comparable to the North West, North East and the West Midlands, but higher than the other regions. Low income households spend a higher proportion of their household budget on food and this makes them particularly sensitive to any increases in the price of food.¹⁷ The latest data from the Family Food Survey 2016/17 show that households in the lowest 20% of equivalized income spent 14.3% of the household budget on food compared with an average of 10.5%.¹⁸ These data also show a number of responses to the food price rises 2014 to 2017. Households in the lowest income decile are spending less on particular foods (buying less beef, lamb, fish, tea, coffee and hot drinks, and potatoes), as well as trading down (i.e., moving from purchasing free-range to more intensively farmed meat and eggs or, from 'brand-name' to supermarket products). Other studies have shown that increases in food prices are linked with a decrease in the nutritional value of dietary intakes, increases in obesity and an exacerbation

11 NatCen (2017). The Food and You survey wave 4 survey: Wales report. NatCen, London for the Food Standards Agency.

12 The Trussell Trust (2019). *End of year stats: 2013 - 2014*. The Trussell Trust, Wiltshire. [Online] Available at: https://www.trusselltrust. org/news-and-blog/latest-stats/end-year-stats/#fy-2013-2014.

13 The Trussell Trust (2019). End of year stats: 2018 - 2019. The Trussell Trust, Wiltshire. [Online] Available at: https://www.trusselltrust. org/news-and-blog/latest-stats/end-year-stats/#fy-2018-2019.

14 Lambie-Mumford, H.; Green, M.A. (2017). Austerity, welfare reform and the rising use of food banks by children in England and Wales. 49.3: 273-279.

15 Dowler, E.; Turner, S.; Dobson, D. (2001). Poverty Bites: Food, Health and Poor Families. Child Poverty Action Group, London.

16 Poverty rates are measured as three-year averages of households living in below average incomes. Joseph Rowntree Foundation (2018). *Poverty levels and trends in England, Wales, Scotland and Northern Ireland*. Joseph Rowntree Foundation, London. [Online] Available at: <u>https://www.jrf.org.uk/data/poverty-levels-and-trends-england-wales-scotland-and-northern-ireland</u>.

17 As originally observed in the nineteenth century by the German statistician Engels, the proportion of household expenditure spent on food varies with household income such that food budget share increases with decreasing income, even if actual expenditure falls. This statistic has been used as an indicator of welfare and levels of household poverty.

18 DEFRA (2018). Family Food 2016/17: *Expenditure*. DEFRA, UK. [Online] Available at: <u>https://www.gov.uk/government/publications/</u> <u>family-food-201617/expenditure</u>. of existing health conditions.^{19 20} Studies in North America have similarly demonstrated that food insecurity is linked with low levels of wellbeing and stress²¹ as well as poor management of diabetes.²²

Food safety practices

Little is known about the impact of food insecurity on other aspects of food consumption, including food safety practices. A previous analysis of Food and You data from Waves 1-3 that examined the impact of austerity and changes in food affordability found that more households in the lowest income guintile reported eating leftovers after more than two days (contrary to FSA advice) and avoiding food waste (although this was not statistically significant).²³ A qualitative study in the UK of family food practices in the context of rising food prices also found that, in addition to trading down and "shopping around", many parents also reported throwing less food away and eating more leftovers.²⁴ The extent of these behaviours and whether food insecure households are more likely to engage in "riskier" practices is unclear. However, an analysis of national surveillance data on listeriosis in England found that incidence was highest in the most deprived areas, suggesting that food insecurity could be a driver for

increases in foodborne disease.²⁵ A previous analysis of Food and You data Waves 1-3 found that those respondents reporting low levels of life satisfaction or life being worthwhile were significantly less likely to report food practices in line with FSA recommendations.²⁶

Trust in food

Trust is a highly complex phenomenon and operates at many levels, from the societal to the individual. Trust can help us in carrying out everyday tasks, including shopping and eating out, by allowing consumers to take "short cuts" when making decisions about which foods to purchase and/or where to eat out. Findings from workshops held by the FSA in 2017, for example, found that concepts of 'trust' allow consumers to avoid complex risk assessments in daily decision making, instead relying on 'trust' or their 'gut instinct' to accept or reject decisions, including where to purchase and eat food.²⁷ For institutions, such as the FSA, it is also essential that they be trusted to ensure legitimacy and public support, as a source of information, as well as confidence in any ability to regulate the safety of the food supply system. General levels of trust amongst the UK population are high, with trust in other people reported at a 20-year high in the 2018 British Social Attitudes

- 19 Lake, I. et al. (2012). Climate Change and Food Security: Health Impacts in Developed Countries. *Environmental Health Perspectives*, 120(11): 1520-1526.
- 20 Tarasuk, V.S. (2001). Household food insecurity with hunger is associated with women's food intakes, health and household circumstances. *The Journal of Nutrition*, 131(10): 2670-2676.
- 21 Knowles, M. et al. (2016). "Do you wanna breathe or eat?": parent perspectives in child health consequences of food insecurity, tradeoffs, and toxic stress. *Maternal and Child Health*, 20: 25-32.
- 22 Heerman, W.J. et al. (2016). Food insecurity is associated with diabetes self-care behaviours and glycaemic control. *Diabetic Medicine*, 33: 844-850.
- 23 Roberts, C. et al. (2016). Food affordability and safety. Paper 4 Food and You Waves 1-3 Secondary Analysis. NatCen, London.
- 24 O'Connell, R., and Brannen, J. (2016). *Food, Families and Work*. Bloomsbury, London.
- 25 Gillespie, I.A. et al. (2010). Human listeriosis in England, 2001-2007: an association with neighbourhood deprivation. *Euro Surveillance*: 15: 7-16.
- 26 Roberts, C. et al. (2016). Wellbeing and food safety. Paper 2 Food and You Waves 1-3 Secondary Analysis. NatCen Social Research, London.
- 27 Community Research (2017). Trust in a changing world: deliberative forums research for FSA. Food Standards Agency, London.



survey,²⁸ but some argue that many consumers are anxious about food.²⁹ A goal of the Welsh Government is to strengthen and 'join-up' food supply chains in Wales.³⁰ As such, it is important to understand the levels of trust in the FSA and their role around the food supply chain in Wales.

Dietary choices and food hypersensitivities

In Waves 4 and 5 (2016-2018) of the Food and You survey 11% of respondents in Wales reported having a food intolerance, 5% a food allergy and a further 5% reported an 'other' adverse reaction to food.

Research has demonstrated that those with a food hypersensitivity have complex risk management strategies when shopping or eating out to ensure that they avoid consumption of the food or food component that causes adverse symptoms.^{31 32} These strategies incorporate a range of information sources, both written and oral, as well as personal experience. There is no comparable research from the UK, but studies from North America show that managing a food hypersensitivity can place additional costs on household food expenditure because of the need to buy special foods³³ and that low incomes can make this difficult.34

- 28 Phillips, D. et al. (eds.) (2018). British Social Attitudes: The 35th Report, London: The National Centre for Social Research.
- 29 Jackson, P. (2015). Anxious appetites: food and consumer cultures. Bloomsbury Academic, London.
- 30 Welsh Government (2019). Consultation Paper: Our ambition to further develop Wales' food and drink sector. [Online] Available at: https://gov.wales/sites/default/files/consultations/2019-07/food-and-drink-consultation-document.pdf.
- 31 Barnett, J., at al. (2017). *The preferences of those with food allergies and/or intolerances when eating out (FS305013)*. Final Report. [Online] Available at: <u>https://www.food.gov.uk/sites/default/files/media/document/fs305013-final-report.pdf.</u>
- 32 Nettleton, S., et al. (2010). Experiencing Food Allergy and Food Intolerance. Sociology, 44(2): 289-305.
- 33 Gupta, R., et al. (2013). The Economic Impact of Childhood Food Allergy in the United States. JAMA Pediatrics, 167(11): 1026-1031.
- 34 Migaker, L.M., et al. (2015). Low income, high risk: the overlapping stigmas of food allergy and poverty. Critical Public Health, 25: 599-

Technical notes

Notes to text and tables

- 1. Tables accompanying each chapter in this report can be found in the appendices. The chapter texts include references to the relevant tables.
- 2. The data used in the report have been weighted. Weighted and unweighted sample sizes are shown at the foot of each table.
- 3. Weights were applied to correct for the lower selection probabilities of adults aged 16 and over in multi-adult households and dwellings, as well as for the selection of one dwelling unit or household if two or more were found at the selected address.
- 4. Unless stated otherwise, where comparisons are made in the text between different population groups or variables, only those differences found to be statistically significant at the 95% level are reported. In other words, differences as large as those reported have no more than a five per cent probability of occurring by chance. The term 'significant' refers to statistical significance (at the 95% level) and is not intended to imply substantive importance.
- 5. The following conventions have been used in tables:
 - no observations (zero value)
 - 0 non-zero values of less than 0.5% and thus rounded to zero
 - [] estimates based on 30 to 49 cases are presented in square brackets.
 - * estimates based on fewer than 30 cases are not shown.
- Because of rounding, column percentages may not add exactly to 100%. For questions where respondents could give more than one response, the percentages will add up to more than 100%.
- 7. 'Missing values' occur for several reasons, including refusal or inability to answer a particular question/section and cases where the question is not applicable to the participant.
- Where a table contains more than one variable, the bases may not be exactly the same. Tables will usually show the bases for the first variable in the table, and for any other variables where the bases are not of a similar magnitude.
- Further details of questions and measures used within this report can be found within Appendix A, Technical Annex.

Food security

.

The FSA has enacted a range of policies and procedures to protect consumer interests in relation to food, food production and availability. Key priorities for the FSA are to ensure food is safe, that it is what it says it is, and that consumers have access to an affordable diet. Improving understanding of the relationship between food security and safety is fundamental to the effective delivery of these aims.

The prevalence of food insecurity in Wales and comparison with England and Northern Ireland

Food security means people having practical access to enough nutritious and safe food to maintain a healthy and active lifestyle, as well as meeting their particular dietary needs and preferences; food insecurity is where people have restricted or unreliable access to adequate food.^{35 36} Food security in the Food and You survey is measured using a series of questions developed by the United States Department of Agriculture Economic Research Service.³⁷ Households' responses to these are then combined to give a score which categorises their level of food security as follows:

- High food security (score = 0): These households did not have problems or anxiety around getting enough food.
- Marginal food security (score = 1–2): At times these households had problems or anxiety around getting enough food, but the quality, variety, and quantity of their

food did not fall significantly.

- Low food security (score = 3–5): These households did not substantially change the amount of food or their normal eating patterns, but did reduce the quality, variety, and desirability of their diets.
- Very low food security (score = 6–10): During the last year the eating patterns and the amount of food eaten by one or more household members was disrupted because they did not have enough money or other resources for food.³⁸

Owing to the relatively small number of cases with low and very low food security scores, these scores have been analysed together as low food security. This measure provides a summary of how people are doing in terms of access to and concerns around food and is the main measure of food security used in this report. In addition to presenting findings on the prevalence of low food security by country, this section also focuses on three individual questions on how often respondents (i) worry about running out of food, (ii) have run out of food, and (iii) have been unable to afford balanced meals.

³⁵ Derived from guidance from: FAO (1996). Rome Declaration on World Food Security and World Food Summit Plan of Action. World Food Summit 13-17 November 1996. Rome.

³⁶ Taylor, A. and Loopstra, R. (2016) Too Poor to Eat: Food insecurity in the UK. [Online] Available at: <u>https://foodfoundation.org.uk/wp-content/uploads/2016/07/FoodInsecurityBriefing-May-2016-FINAL.pdf</u>.

³⁷ Economic Research Service, USDA (2012). *US Household Food Security Survey Module: Three-Stage Design, With Screeners*. [Online] Available at: www.ers.usda.gov/topics/food-nutrition-assistance/food-security Survey Module: Three-Stage Design, With Screeners.

³⁸ Bates, B. et al. (2017). The Food and You Survey: Wave 4: Combined report for England, Wales and Northern Ireland. Food Standards Agency, UK.

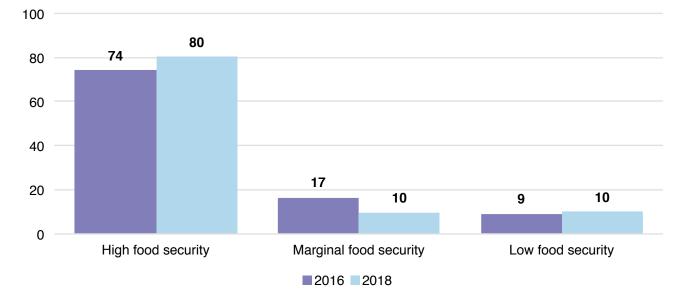


Figure 1: Food security by year, % (Wales)

Looking first at overall food security, 10% of respondents in Wales reported experiencing low food security, 10% marginal food security and the remaining 80% high food security. These were consistent with the levels in England and Northern Ireland, where 10% and 8% of people respectively reported low food security (Table 1). There were no significant differences between levels of low and high food security between Waves 4 and 5, although there was a significant difference in marginal food security, which decreased from 17% in 2016 to 10% in 2018 (Figure 1, Table 2).

Among respondents in Wales, 3% reported often being worried about running out of food before they had the money to buy more, 14% sometimes worried and the remaining 83% never worried (Table 3). When asked about having actually run out of food, 2% reported this had often happened, 10% that they had sometimes run out and 87% that they had never done so (Table 4). Finally, 3% of people reported that they had often been unable to afford balanced meals, 7% had sometimes been unable to and the remaining 90% could always afford them

18

(Table 5). These different measures of food insecurity were not significantly different across Wales, England and Northern Ireland.

The profile of individuals in high, marginal and low food security households

To identify which groups of people were more likely to experience low food security, this report focuses on the overall food security score, which summarises several aspects of food security into one measure. In Wales, younger respondents, households with children under the age of 16, and households in the lowest household income group, were most likely to report being in low food security households. There were also differences by the number of people in the household, although these did not show a consistent pattern.

 Younger people were more likely to report being in low food security households than other age groups. Nearly a fifth (18%) of respondents in Wales aged 16-34 were in low food security households, compared with 10% of 35-64-year olds and 2% of those aged 65 or over (Table 6).

- Looking at the differences by household composition, 23% of households with children under the age of 16 were in low food security households, compared with only 5% of those without children (Table 7). This was different to the levels seen in England and Northern Ireland, where 13% and 12% respectively of households with children under 16 reported low food security (Table 7).
- Low food security was most common among the lowest income group, reported by 22% of households with an income up to £20,799 (Table 8, Figure 2).
- There were significant differences in food security by the number of people in the household, although no clear pattern was demonstrated (Table 9).

There were no significant differences in the level of food security by gender or by work status.³⁹

Quality of life scores and food security status

Measures of quality of life that seek to quantify concepts such as personal wellbeing, are increasingly being used to evaluate the impact of policy and to understand social trends, such as the Crime and Wellbeing Survey, the National Survey for Wales and the English Housing Survey.⁴⁰ Higher levels of personal wellbeing have been shown to predict several positive health outcomes, including reduced risk of chronic disease and longer life spans.⁴¹ Analysis based on previous waves of Food and You has also found that increased personal wellbeing, in terms of life

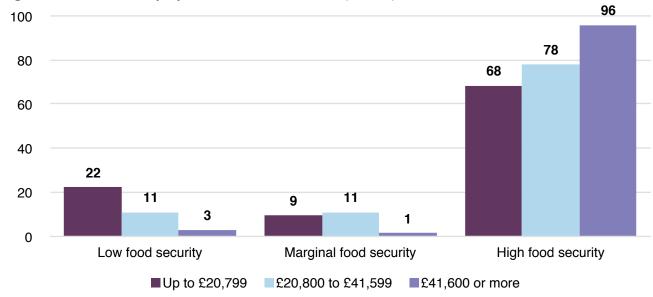


Figure 2: Food security by household income, % (Wales)

39 Owing to the low base size within Wales, those who were unemployed, retired or who had given an 'Other' response when asked about their current employment, were grouped into one category.

40 Office for National Statistics (2018). Surveys using our four personal well-being questions: A guide to what surveys include the four ONS personal well-being questions. Office for National Statistics, UK. [Online] Available at: <u>https://www.ons.gov.uk/</u> peoplepopulationandcommunity/wellbeing/methodologies/surveysusingthe4officefornationalstatisticspersonalwellbeingquestions.

41 NatCen (2016). *Wellbeing and food safety: Food and You Briefing Paper 2*. Food Standards Agency, UK. [Online] Available at: <u>https://www.food.gov.uk/research/food-and-you/food-and-you-secondary-analysis-waves-1-3</u>.

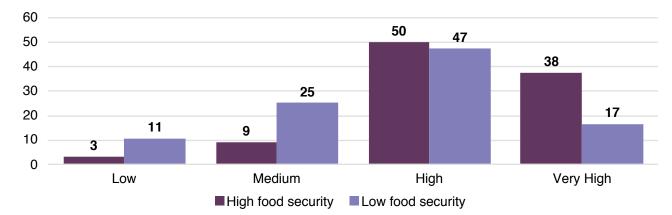


Figure 3: Life satisfaction by food security, % (Wales)

satisfaction and feeling life is worthwhile, was associated with better food safety practices.⁴²

To measure quality of life, Food and You uses four harmonised Office for National Statistics (ONS) wellbeing questions. These ask about wellbeing across four areas: life satisfaction, how worthwhile the respondent considers their life to be, happiness, and anxiety. They are measured using a zero to ten scale grouped into low, medium, high and very high.43 Across all groups most people reported positive responses for quality of life, although those in low food security households scored less positively across all four measures. This is an important finding because it demonstrates that people in low food security households report poorer quality of life across a range of different areas. Owing to the small number of respondents with marginal food security, this section reports on the difference between respondents with high food security and low food security only.

Life satisfaction

When looking at life satisfaction, those in low food security households (64%) are less likely to have a high or very high score, compared to those with high food security (88%) (Table 10, Figure 3).

Worthwhile

Respondents with low food security scores were least likely to report a high or very high score when asked if they felt their lives were worthwhile (68%), compared to 87% of those in high food security (Table 11, Figure 4)

Happiness

Of those in low food security households, 61% reported a high or very high happiness score, compared to 84% of those in high food security (Table 12, Figure 5).

Anxiety

Those in high food security households were most likely to report low or very low anxiety (64%), compared to 45% of those with low food security (Table 13, Figure 6).

42 Ibid.

⁴³ ONS (2018). *Personal well-being user guidance*. ONS, UK. [Online] Available at: <u>www.ons.gov.uk/peoplepopulationandcommunity/</u> wellbeing/methodologies/personalwellbeingsurveyuserguide</u>. For life satisfaction, worthwhile and happiness score: 0-4 is low, 5-6 is medium, 7-8 is high and 9-10 is very high. For anxiety scores 0-1 is very low, 2-3 is low, 4-5 is medium and 6-10 is high.

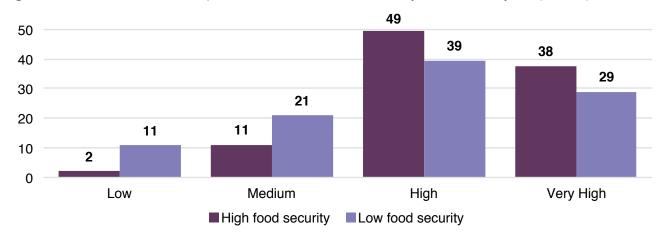
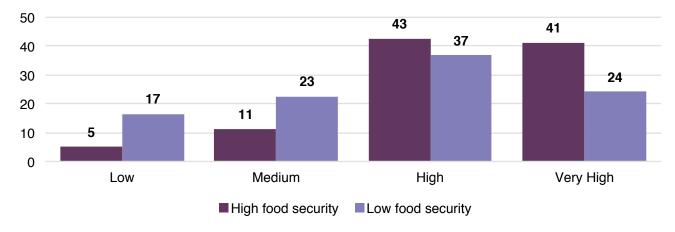
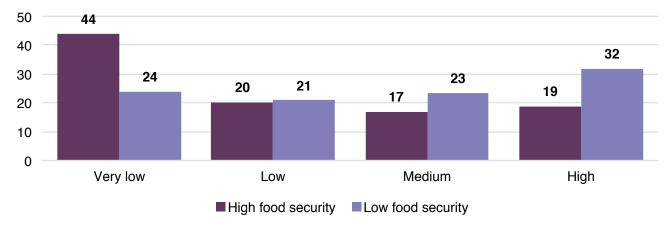


Figure 4: How worthwhile respondents feel their lives are by food security, % (Wales)

Figure 5: Happiness by food security, % (Wales)







Unsafe and safe food practices Food safety is a core responsibility for the FSA. This section assesses peoples' food safety practices in their everyday lives and examines if disparate behaviours are reported across different demographic groups. Food and You includes a composite measure of food hygiene knowledge and behaviours within the home known as the Index of Recommended Practice (IRP). It summarises people's behaviour across five areas: use-by dates, cooking food, chilling food, cleanliness, and cross-contamination between foods. A higher IRP score indicates more reported behaviours that are in line with recommended food safety practice.⁴⁴

Index of Recommended Practice (IRP) Scores in Wales, England and Northern Ireland)

The level of recommended food safety practices as measured by average score on the IRP for respondents in Wales (69), was higher than in England (67) but lower than in Northern Ireland (72) (Table 14). Respondents' food safety knowledge and behaviour in Wales has remained similar to the previous survey (Wave 4 in 2016) (Table 15). As shown in Figure 7, the distribution of IRP scores was broadly similar for England and Wales, although in Wales a greater proportion of individuals scored 81-100 (16%) and a lower proportion scored 21-40 (4%) compared to in England (12% and 7%) (Table 16, Figure 7).

IRP scores and demographic characteristics

There were significant differences in food safety practices by gender, age group, household size and income group. Overall, women, people aged between 35 and 64, households with more than one person and households with an income below £41,600, tended to have higher food safety scores.

- There was no significant difference in average IRP score by age group. However, differences were identified among the grouped scores, with respondents aged 35-64 being more likely than younger or older people to fall into the highest group of food safety scores (Figure 8, Tables 17 and 18).
- Women reported more food safety practices in line with recommended practice than men, whether measured by their average IRP score (72 compared with 65) or their reported scores in the highest and lowest food safety groupings, with a fifth (21%) of women scoring 81-100 compared with 12% of men (Tables 19 and 20).
- One-person households tended to report less food safety practices in line with recommended practice than larger households, whether by average IRP score (64 compared with 69 in twoperson households, 68 in three-person households and 71 in four or more-person households) or by their reported scores in



⁴⁴ Please see Appendix A for a full definition of the IRP.

the different food safety groupings (Tables 23 and 24).

 Households in the highest income group (£41,600 or more) had a lower average IRP score of 66 than lower income households (Tables 29 and 30). There were no significant differences in respondents' food safety scores between households with children under 16 and those without (Tables 21 and 22), by respondents' health (Tables 25 and 26), or by respondents' work status (Tables 27 and 28).

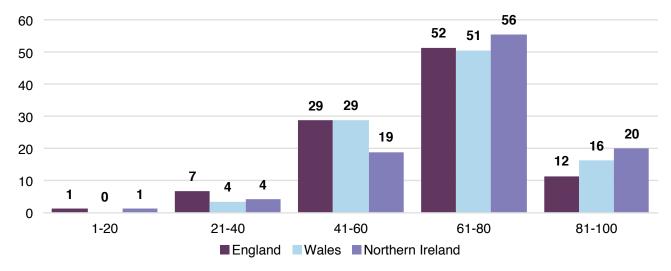
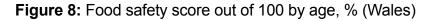
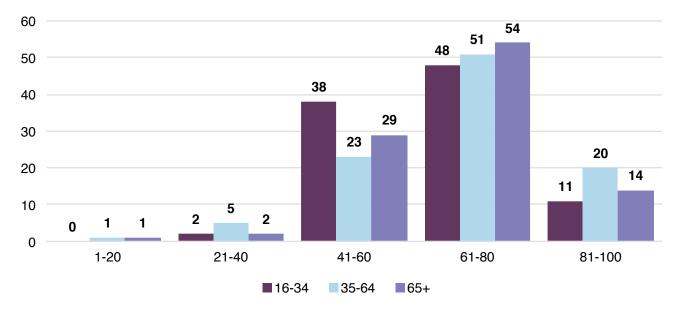


Figure 7: Food safety score out of 100 by country, %

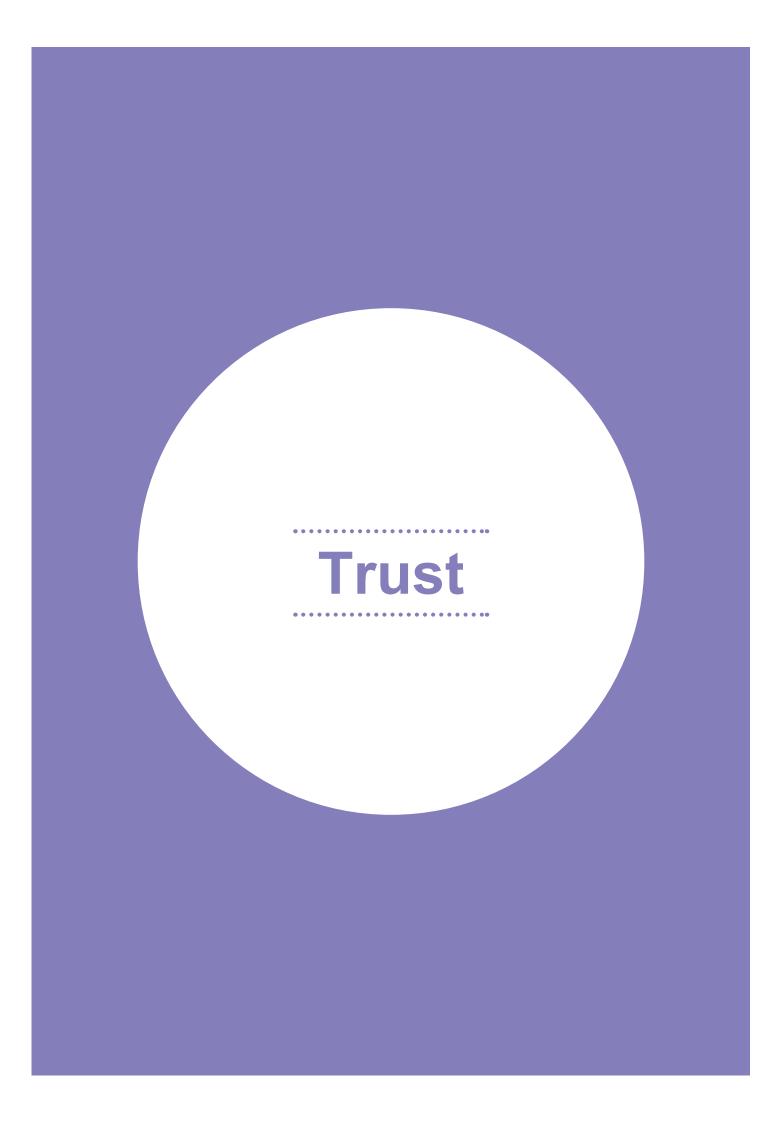




Differences in food safety practices between people in high and low food security households

The presence of food insecurity in a household may indicate that individuals are struggling to meet their food needs, and so may be pushed to engage in less safe food practices, such as eating left-overs which may have been prepared a number of days previously. To address this, respondents' overall IRP score was analysed to see if there was a difference by food security status. To provide further insight, different domains of food safety were also analysed separately.

Whilst overall IRP scores were similar between high (69 points) and low food security households (67 points) (Table 31), respondents in high food security households were more likely to be eating leftovers prepared more than two days ago (20%) than those in low food security (7%) (Table 32). No other statistical differences were found for the additional food safety questions.



.

To better understand and monitor consumer trust in food as well as the FSA, the FSA has commissioned a range of focused research. This has included an evidence review, deliberative forums and questions in the biannual public attitudes tracker survey.^{45 46} As part of this work, new questions exploring trust in food and in the FSA were included in Wave 5 of the Food and You survey (2018). This section of the report examines levels of trust exhibited in Wales and, where possible, compares responses across England, Wales and Northern Ireland.

Measuring trust

OECD guidelines recommend an approach to measuring trust. This comprises of a core set of five questions which measure general levels of trust, alongside questions about three other types of trust: evaluative, expectational and experiential.⁴⁷ Each set of questions can be further divided into interpersonal trust (for example trust in neighbours, trust in other people in general) and institutional trust (for example trust in Parliament or the police). The trust questions asked in Wave 5 of the Food and You survey broadly followed the OECD guidelines, focusing on institutional trust as opposed to interpersonal trust. The questions were also guided by the OECD's five dimensions of trust in government: integrity, responsiveness, reliability, openness, and fairness.

This report focuses on two concepts of trust in food:

- Trust in the FSA itself as a department (that the department meets the five dimensions of trust); and,
- Authenticity (that food is what it says it is).

Trust in the FSA

Trust in the FSA was analysed using a composite measure that put respondents into three groups, reflecting high, medium and low trust in the FSA. This was derived from the following seven questions asked in the Food and You survey:

How likely or unlikely the FSA is
To look into a food related issue reported to them by the respondent.
To take action in the event of a food poisoning outbreak to protect the public
To inform the public if new evidence about food safety came to light
To respond as soon as possible if new evidence about food safety came to light
To tell the truth to the public if new evidence about food safety came to light
To be impartial, in the sense of being neutral, unprejudiced and acting independently of external sources

To put the public first

Respondents in Wales were more likely to have high trust in the FSA (40%) than those in England (32%) but less likely than those in Northern Ireland (47%) (Figure 9, Table 33).

⁴⁵ ICE Consulting Ltd (2018). *Trust in a Changing World: Rapid Evidence Assessment*. FS303018. [Online] Available at: https://www.food. gov.uk/research/research-projects/trust-in-a-changing-world.

⁴⁶ FSA (2019). Public Attitudes Tracker, Wave 18. Food Standards Agency, UK. [Online] Available at: https://www.food.gov.uk/about-us/ biannual-public-attitudes-tracker.

⁴⁷ OECD (2019). OECD Guidelines on Measuring Trust. OECD. [Online] Available at: <u>http://www.oecd.org/governance/oecd-guidelines-on-measuring-trust-9789264278219-en.htm.</u>

Population groups with high trust in the FSA

The trust composite measure was used to identify which groups in the population were most likely to report high or low trust in the FSA. Overall, there were few significant differences found between demographic groups, suggesting that levels of trust in the FSA remain consistent across these groups. Of all the demographic characteristics of interest⁴⁸, age was the only predictor of trust in the FSA. Younger respondents aged 16-34 were most likely to have a low trust in the FSA score (45%) (Table 35).

In Food and You, respondents were also asked to report their trust in British Parliament, the police, and other people to provide some context when interpreting trust levels in the FSA. There was a broad correlation between respondents in Wales who reported high trust in the British Parliament and high trust in FSA, with 62% of those reporting high trust in Parliament also reporting high trust in the FSA (Table 34).^{49 50}

Trust in the food supply chain

Trust in the food supply chain was also analysed using a composite measure, derived from the following five questions included in Food and You:

now sure or unsure would you be		
Food origin	that you know where the food has come from?	
British food quality	that the food that comes from Britain has been prepared to the highest quality standards?	
Non-British food quality	that the food that comes from abroad has been prepared to the highest quality standards?	
Transport standards	that all the guidelines have been properly followed at all stages in bringing food from the farm to your house?	
Food safety	that foods bought for your household are safe to eat?	

If you were buying food and groceries in Britain, how sure or unsure would you be...

This measure was used to create three groups of respondents, reflecting those with high, medium, and low trust in the food supply chain.⁵¹

There were mixed results for trust in the food supply chain. Respondents in Wales were almost evenly split between high trust (35%) and low trust (37%). Whilst respondents in Wales reported very similar levels of trust in the food chain as respondents in England, respondents in Northern Ireland were less likely to report low trust in the food chain (Figure 10, Table 36).

When analysing the individual questions that make up the composite measure of trust in the food supply chain, 59% of respondents in Wales were very or quite sure that food from Britain has been prepared to the highest standard and 53% that all guidelines

49 Information about scoring for other trust measures is included in Appendix A, Technical Annex.

⁵¹ The final score was computed as follows. Each of the five questions was asked on a 5-point scale. The total score is a mean score based on the number of questions answered by each respondent. This trust composite measure has not been reported as a raw score but presented in tertiles named as Low, Medium and High trust in this report for ease of reading. The cut-off points for each tertile are as follows: High, >3.8: Medium, 3.2<3.8; Low: <3.2.



⁴⁸ Other demographic characteristics tested included: gender, self-reported health status, work status, household income and whether the respondent had children below the age of 16. No statistically significant differences were found.

⁵⁰ Respondents were also asked about trust in people and in the police. However, owing to small base sizes, analysis of the relationship between trust in the FSA, trust in the police and trust in people could not be carried out.

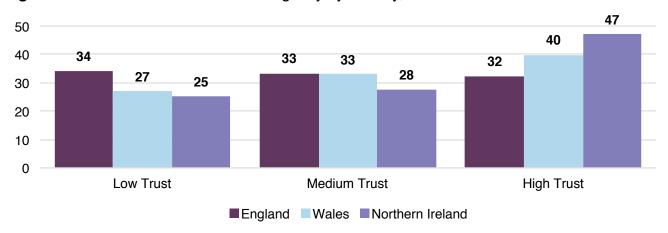


Figure 9: Trust in the Food Standards Agency by country, %

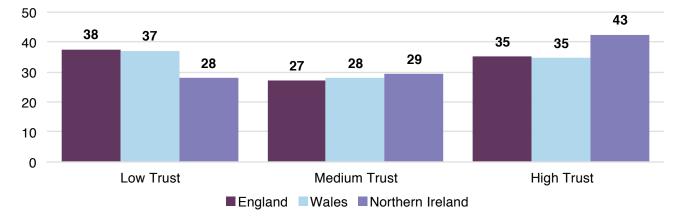


Figure 10: Trust in the food supply chain by country, %

had been followed (Tables 37 and 38). When asked specifically about whether the food they buy is safe, the vast majority (85%) were very or quite sure that it was (Table 39).

Looking at cross-national differences, respondents in Wales (59%) and England (58%) were less likely than those in Northern Ireland (67%) to be certain British food was prepared to the highest standards (Table 37). Similarly, respondents in Wales were less likely (53%) to be sure that guidelines had been followed than those in Northern Ireland (58%), with those in England least likely (47%) (Table 38). Finally, respondents in Wales (85%) and Northern Ireland (86%) were similar in how likely they were to be quite or very sure that food bought in Britain was safe, compared with 80% in England. (Table 39).

In addition to the five questions asked as part of the composite measure, respondents were asked whether they could trust that food was what it said on the label or menu. In Wales, 30% of respondents always trusted the label, 59% most of the time, with only 2% rarely trusting the label (Table 40). There were no significant differences by country.

Population groups and trust in the food supply chain

Similar to the reported pattern of trust in the FSA, respondents in the youngest age group (16-34 years old) were most likely to have low trust in the food supply chain (49%), compared to adults aged 35-64 years old (35%) and those aged 65 years or over (28%) (Table 41). There were no other significant differences in socio-demographic characteristics.⁵²

When exploring the individual questions included in the composite measure, there were several differences in response by socio-demographic characteristics:

 Respondents in work (21%) were nearly twice as likely as those out of work (12%) to be very or quite sure that food from outside Britain has been prepared to the highest standard (Table 42).

- **Respondents with children under 16** in the household were less likely (78%) than those without children under 16 (88%) to believe that foods bought in Britain are safe to eat (Table 43).
- Those with **lower household incomes** (up to £20,799) were least likely (78%) to be very or quite sure that food bought in Britain is safe to eat (Figure 11, Table 44).

Nevertheless, this lack of findings by sociodemographic characteristics suggests that overarching trust in the food supply chain and trust in the FSA is relatively consistent across the different populations in Wales.

Actions taken if unsure about food labels

In addition to questions about the FSA and food supply chains, respondents were also asked about actions that they had taken when they were unsure that food was what

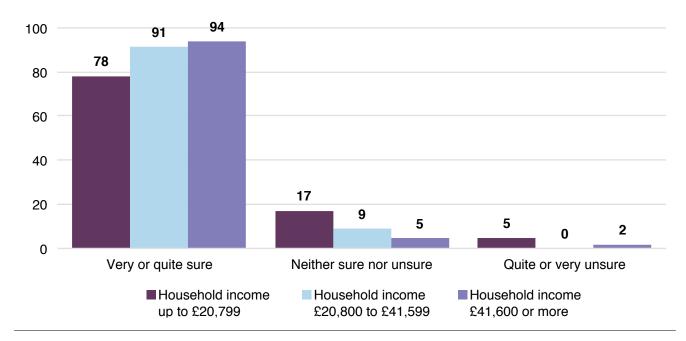


Figure 11: How sure respondents are that food from Britain is safe to eat by income group, % (Wales)

52 Other demographic characteristics tested included: gender, self-reported health status, work status, household income and whether the respondent had children below the age of 16. No significant differences were found.

it said on the label or menu. The most common response was to take no action (55%), while 29% reported reading food labels more carefully and 12% stopped eating certain foods (Table 45).

Relationship between trust in the FSA and trust in the food supply chain

Respondents in Wales with high trust in the food supply chain were also most likely to have high trust in the FSA (49%) (Table 46). Conversely, those with low trust in the food supply chain were most likely to have low trust in the FSA (36%) suggesting a relationship between trusting food supply chains and trusting the FSA (Table 46). This is perhaps unsurprising, given the pivotal role that the FSA plays in overseeing and monitoring food production, safety and supply.⁵³

When exploring the individual questions that comprise the trust in the food supply chain measure, there were few significant differences between those with high, medium or low trust in the FSA. Certainty about food provenance did not appear to be related to the respondents' level of trust in the FSA. The exception was in relation to certainty about where food has come from; 65% of those with high trust in the FSA were very or quite sure that they knew where food that they bought in Britain came from, in comparison to 46% of those with low trust in the FSA (Table 47).

53 Food Standards Agency (2015). *Food We Can Trust: Food Standards Agency Strategy 2015-20*. Food Standards Agency, UK. [Online] Available at: <u>https://www.food.gov.uk/sites/default/files/media/document/Food-Standards-Agency-Strategy%20FINAL.pdf.</u> Dietary choices and food hypersensitivities This section of the report discusses dietary choices and food hypersensitivities in Wales. Owing to the low numbers of individuals reporting a vegetarian or vegan diet, food allergies and food intolerances, this section analyses results from Wave 4 (2016) and Wave 5 (2018) to allow for further sub-group analysis. The levels of vegan and vegetarian dietary preferences and food hypersensitivities have not changed significantly between Wave 4 (2016) and Wave 5 (2018) of the Food and You survey (Tables 48 and 49).

Food Hypersensitivities

Food hypersensitivities are reactions to certain types of food which cause symptoms to develop when they are eaten. The two main food hypersensitivities reported on here are allergies and intolerances. A food allergy is an immune response to a foodbased allergen, usually a protein. Exposure can occur through ingestion of the food containing the allergen, but also through skin contact or air-borne particles. Symptoms may be mild (for instance, itching and swelling), but in extreme cases can include anaphylactic shock with potentially fatal consequences. Many food allergies present in early childhood but are outgrown in later childhood.⁵⁴ A food intolerance is a condition in which an individual has difficulty in digesting certain foods or food components, (e.g., lactose), causing symptoms such as abdominal pain but not involving the immune system. Respondents were also able to select 'Other reactions' within the survey but were not required to give further details although some examples which were given and recorded included Crohn's disease and irritable bowel syndrome (see Appendix A for a full description of the different food hypersensitivities described in this report).

Some respondents also reported having Coeliac disease, defined as a "common digestive conditions where the small intestine becomes inflamed and unable to absorb nutrients".55 Symptoms include diarrhoea, abdominal pain and bloating. The symptoms of and treatments for Coeliac disease are medically and socially different from the other reaction types included in the questionnaire and could not be included in any of the four analytical categories in Table 49. However, owing to the small numbers of respondents with Coeliac disease in the survey, it was impossible to analyse this group separately. It was therefore determined that cases of Coeliac disease would be excluded from the report. Cases which reported both an intolerance and Coeliac disease were included in the intolerance category.

Prevalence, diagnosis and characteristics of those participants in Wales with food hypersensitivities

Prevalence of food hypersensitivities

In Wales, 4% of respondents reported having a food allergy (Table 50); 8%

⁵⁴ Savage, J. and Johns, C. (2015). Food allergy: epidemiology and natural history. *Immunology and Allergy Clinics of North America*, 35: 45-59.

⁵⁵ NHS (2016). Coeliac disease. [Online] Available at: https://www.nhs.uk/conditions/coeliac-disease/.

reported a food intolerance (Table 51); and 6% reported another reaction (Table 52). Overall, 83% of respondents had no reaction (Table 53). The differences between countries is represented in Figure 12 below. The prevalence rates presented here include all reported instances of food hypersensitivities, whether diagnosed by a clinician, by an alternative therapist, or selfdiagnosed. Respondents were able to select multiple categories of food hypersensitivities for this question.

Respondents in Wales were less likely to report having a food allergy (4%) than those in England (5%), but more likely than respondents in Northern Ireland (2%). Similarly, they were less likely (8%) than respondents in England (11%) and Northern Ireland (9%) to report a food intolerance. Respondents in Wales were also less likely to report no reaction (83%) than those in Northern Ireland (84%), but more likely than respondents in England (79%). Conversely, respondents in Northern Ireland (84%) were most likely to report no reaction, compared to 79% of respondents in England. In each country, 6% of respondents reported an 'other' adverse reaction to food while the incidence of coeliac disease in England and Northern Ireland was 1% in each country (Tables 50-53, Figure 12).

To enable further analysis of how socioeconomic and demographic characteristics were related to food hypersensitivities, respondents were grouped into one of four categories⁵⁶: respondents with no reactions to food; respondents with a food allergy; respondents with a food intolerance; and respondents with an 'other' adverse reaction. The prevalence of hypersensitivities using this grouping is shown in Table 54. All further analysis is conducted using these groupings.⁵⁷

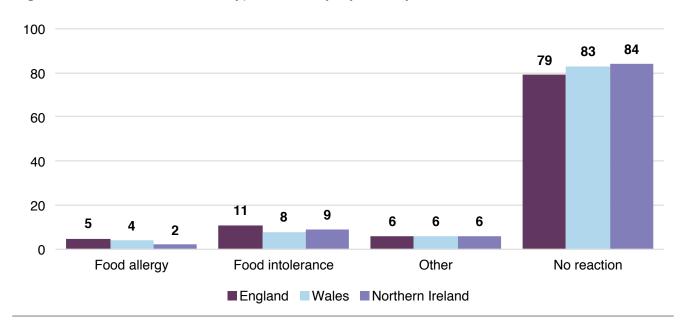


Figure 12: Prevalence of food hypersensitivity, by country, %

56 As further described in Section 2.2, Technical notes.

57 The proportion of respondents in Wales reporting coeliac disease was below 1%, therefore respondents who reported coeliac disease are not included in further analysis.

Respondents were asked the number of allergies that they experienced. In Wales, 3% of the sample reported having one food allergy and 1% two or more. Of those participants reporting food intolerances, 5% had one food intolerance, 2% two, and 1% reported three or more (Tables 55 and 56). This was in line with the numbers reported in England and Northern Ireland.

Diagnosis of food hypersensitivity

Respondents were also asked about their route to diagnosis. Of those respondents in Wales reporting a food hypersensitivity, 32% had received a clinical diagnosis (Table 57) whilst 67% self-diagnosed (Table 58). Diagnosis by an alternative therapist, such as homeopathists, reflexologists, online testing or a walk-in allergy testing service, was uncommon, reported by just 1% of all respondents (Table 59).

Respondents were also asked the age at which they first experienced a food hypersensitivity reaction. Among respondents in Wales, food hypersensitivities tended to emerge relatively early in life. A majority (60%) had their first reaction before they were 35 years old, with 25% experiencing their first reaction before the age of 16, although reactions continued to appear until the age of 75 years old (Table 60). There was no significant cross-national difference in the age of onset in respondents' hypersensitivities, with a similar proportion of respondents in England (28%) and Northern Ireland (27%) having their first reaction before 16 when compared to the 25% reported in Wales (Table 60).

Socio-demographic characteristics of respondents with food hypersensitivities

Analysis was conducted to identify which demographic and socioeconomic groups report higher levels of food hypersensitivity. In this section, only results which show a significant difference between individuals with food hypersensitivities and individuals without food hypersensitivities are discussed.

Women were more likely than men to report a food hypersensitivity for both food allergies and food intolerances. (Figure 14, Table 61). Food hypersensitivity experiences also varied by health status. Respondents who described their health as bad (28%) were more likely than those in good (15%)

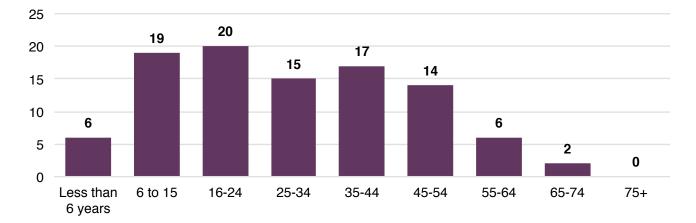


Figure 13: Age at first food hypersensivity reaction, respondents, % (Wales)

or fair (19%) health to report that they had a food hypersensitivity – the same pattern is observed for food allergy and food intolerance (Table 62).

Respondents who were in work (14%) were less likely than those not in work (20%) to report that they had a food hypersensitivity. The rationale underpinning this finding is unclear owing to the variation among those who are not in work. For example, those who are retired may have different health needs to those who rely on benefits owing to a health condition or disability. These findings suggest further research is required to better understand the reasons for this difference (Table 63).

There is a relationship between food hypersensitivities and income. Respondents with higher incomes (£41,600 or higher) were the least likely (10%) to report a food reaction (Table 64).

Prevalence of vegetarian and vegan diets in Wales

Respondents were asked whether they followed a vegetarian, partially vegetarian or vegan diet. Owing to the small proportion of respondents in each category, these responses were grouped together and are reported in Table 65.

Nearly a tenth (9%) of respondents in Wales were vegan, vegetarian or partially vegetarian. This was similar to in England (11%) but higher than in Northern Ireland (5%) (Table 65).

In Wales, there were few differences in partially vegetarian, vegetarian or vegan dietary choices by most socio-economic or demographic characteristics.⁵⁸ However, there were differences when analysed by income. Respondents living in households in the highest income tertile (income over £41,600, 12%) were more likely than those in the middle household income group (£20,800 - £41,599, 5%) or lowest household income tertile (£20,799 or lower, 7%) to report being a partial vegetarian, vegetarian or vegan (Table 66).

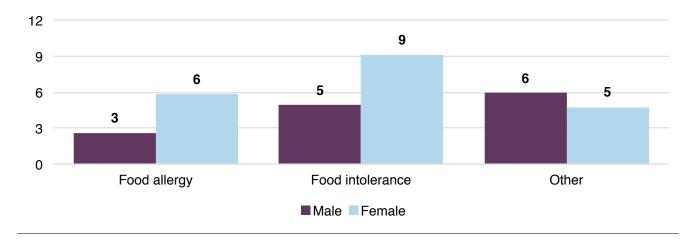


Figure 14: Food hypersensitivity by gender % (Wales)

36

58 There were no significant differences found by gender, age, household size, health status, work status or family type/children below 16 in the household.

Discussion

Introduction

The introduction to this report outlined how the production, distribution and consumption of food was a core component in the food policy landscape in Wales. The analysis has shown that the experience of consumers in Wales would seem to be linked to individual socio-economic status and on-going social inequality. This is reflected perhaps most clearly through links between poverty and food (in)security, but also in less tangible outcomes, such as levels of trust in institutions, the food supply chain, and in measures of quality of life and wellbeing. The findings provide compelling evidence of clear links between low income and low food security, and the impact of low food security on wellbeing.

Many of our findings reflect the important role of the FSA in meeting the policy challenges associated with ensuring that consumers in Wales have the requisite knowledge, skills and resources to safely purchase, prepare and consume food. However, it can be argued that if poverty and consequent food outcomes (i.e. low food security) are to be mitigated in Wales, robust cross-government initiatives are required.

Food security

38

Overall, the picture of food security in Wales seen in this report is similar to that seen in other parts of the UK and has not changed significantly since Wave 4 of the Food and You survey (2016). Those reporting low food security were young, in households with children under 16 or in the lowest income households.

Almost a quarter of households in Wales with children under the age of 16 are facing food insecurity, far higher than in England and Northern Ireland, emphasising the importance of country-specific policies aimed at tackling child poverty and disadvantage. Whilst parents may go without food to ensure their children do not go hungry,⁵⁹ children may still face a range of health and educational consequences owing to insufficient food or food of poor nutritional value. This can include obesity, type 2 diabetes, cancer,60 as well as poor cognition and lower academic achievement,⁶¹ with food shortages "penetrating deeply into the emotional heartland of children's personal and family lives".62

Addressing low food security may generate improvements in wellbeing and quality of life. Our analyses have demonstrated that there is a link between low food security and quality of life, although this finding is likely to be interrelated to overarching poverty and socio-economic status.⁶³ These quality of life factors are known to be significant for health outcomes, with links to mental health conditions such as depression,⁶⁴ as well as exacerbation of physical health conditions, including cardiovascular

⁵⁹ Main, G. and Bradshaw, J. (2014). *Child Poverty and Social Exclusion: Final report of 2012 PSE study*, [Online] Available at: http://www.poverty.ac.uk/sites/default/files/attachments/PSE-Child-poverty-and-exclusion-final-report-2014.pdf.

⁶⁰ Kirkpatrick, S.I. (2010). Child hunger and long-term adverse consequences for health. Arch Pediatr Adolesc Med, 164: 754-62.

⁶¹ Shankar, P et al., (2017). Association of Food Insecurity with Children's Behavioural, Emotional and Academic Outcomes: A Systematic Review. *Journal of Developmental & Behavioural Pediatrics*, 38 (2): 135-150.

⁶² O' Connell et al. (2018). Child food poverty requires radical long term solutions. BMJ, 362.

⁶³ Livingstone, N. (2015). The Hunger Games: Food poverty and politics in the UK. Capital and Class, 39 (2).

⁶⁴ Wood A and Joseph, Sa (2009) The absence of positive psychological (eudemonic) well-being as a risk factor for depression: a ten-

conditions,⁶⁵ immune system response and pain tolerance.⁶⁶ If further actions are taken to develop policies and/ or interventions to mitigate food insecurity, the wider agendas of community health, prevention and early intervention are likely to see improvements, albeit over the long term.⁶⁷

Food safety

As with food security, findings around food safety were broadly consistent with those from Wave 4 (2016), and with those from England and Northern Ireland. Analysis looked particularly at groups who scored most highly on the measure of food safety practices (based on IRP scores) and identified that women and people aged 16-34 were most likely to score highly for these behaviours. It may be this reflects wider trends in food preparation practices, for example, a continuing bias towards women carrying out more domestic tasks such as cooking and cleaning than men, particularly in households where young children are present.68 The difference seen in the younger age group (those aged 16-34) suggests greater familiarity among this age group of current food safety practices. However, analysis of the National Diet and Nutrition Survey in 2008 found evidence that this age group were least likely to report confidence with preparing food,69 suggesting that this knowledge is not linked to a generally greater interest in food and food preparation. Further research into

changes in food safety awareness and behaviour at different ages and across different generational groups would provide interesting insights into food practices and changing trends.

It would be easy to assume that, as with food security, issues of food safety would align with familiar socio-economic factors, and that lower food safety scores would be seen among lower income groups. For example, it may be that the need to manage on a tight budget results in leftovers being eaten later than may be necessarily safe and/ or prepared inappropriately owing to low or no access to cooking facilities. Respondents in the highest income group had a lower mean score (66) for food safety practices than those in the lowest income group (69), however the highest IRP score was observed in the middle-income group (72). This suggests that there may be a range of other demographic factors at play, rather than the single explanatory variable of 'income'. For example, we demonstrated that those in single-person households are more likely to score lower in food safety, a finding that may be linked to the perception of control. Similarly, research has demonstrated that older people perceive themselves to have lower levels of risk for foodborne illness than other individuals, suggesting optimistic bias and personal invulnerability.70 Whilst there is a dearth of literature that might explain these

⁶⁵ Boehm, J.K. and Kubzansky, L.D. (2012). The heart's content: The association between positive psychological well-being and cardiovascular health. *Psychological Bulletin*, 138(4): 655-691.

⁶⁶ Howell R.T. et al. (2007). Health benefits: Meta-analytically determining the impact of well-being on objective health outcomes. *Health Psychology Review*, 1(1): 83-136.

⁶⁷ Kiran, T. and Pinto, A.D. (2016). Swimming 'upstream' to tackle the social determinants of health. BMJ Quality and Safety, 25: 138-140.

⁶⁸ Moreno-Colum, S. (2015). The gendered division of housework time: Analysis of time use by type and daily frequency of household tasks. *Time and Society*, 26 (1).

⁶⁹ Adams, J. et al. (2015). Prevalence and socio-demographic correlates of cooking skills in UK adults: cross-sectional analysis of data from the UK National Diet and Nutrition Survey. *International Journal of Behavioral Nutrition and Physical Activity*, 12: 99.

⁷⁰ Evans, E.W. and Redmond, E.C. (2019). Older Adult Consumers' Attitudes and Perceptions of Risk, Control, and Responsibility for Food Safety in the Domestic Kitchen. *Journal of Food Protection*, 82 (3): 371-378.

differences, our findings do point to the necessity of providing appropriate targeted advice and guidance to individuals, enabling all to embed appropriate food safety in the preparation, cooking and storing of food.

Trust in food and in the FSA

Overall, levels of trust in the supply chain were fairly evenly spread across low, medium and high categories (in Wales, at 37%, 27% and 35% respectively). However, when trust is looked at more closely, other factors could be seen to play a role. Looking specifically at the origins of food, those in work are nearly twice as likely to be very or guite sure that food from outside Britain has been prepared to the highest standard (21%) compared to those who are out of work (12%). Those in the highest income group are more likely to be very sure or sure that foods bought in Britain are safe (94%) than those in the lowest income group (78%). These findings mirror the results of a study around trust in food safety and quality in Australia. This study found that lower income groups, older people, and women were more likely to place greater importance on food-related quality and safety issues.⁷¹ These findings may hint at deeper assumptions about the origins of food. For example, it may be that those in higher income groups are more able to purchase food that they perceive to be of high quality, as a result able to be less concerned about the safety of the food they eat. However, little prior research has been identified that examines the relationship between income, perceived quality of food and concern about food safety.

A further dimension of trust is hinted at by the age profile of trust issues. Lowest levels of trust in the food supply chain are seen among 16-34-year olds, with almost half (49%) reporting low trust. In contrast, over a guarter of those aged 65 and over (28%) reported low trust in the FSA. This pattern is seen again when looking at trust in the FSA itself, with 45% of 16-34-year olds reporting low trust in the FSA, compared to 21% aged 65 and over. Furthermore, a relationship is seen between trust in the British Parliament and trust in the FSA, with 62% of those expressing high trust in parliament also expressing high trust in the FSA, and 35% of those expressing low trust in parliament also expressing low trust in the FSA. These figures suggest that trust in the FSA may in fact be driven by deeper issues around trust in institutions and government. Research has identified a long-term trend decline in perceptions of government honesty in the UK, as is also seen in other countries across Europe, and this is linked to overall reductions in levels of trust in institutions.⁷² It could be argued that the picture in Wales is somewhat different. For example, the 2011 Welsh Referendum Study identified that two thirds of the Welsh public (66%) trusted the Welsh Government to work in Wales' best interests. This contrasted with just over a quarter of participants (27%) who trusted the UK government to do the same.73 Nevertheless, owing to a lack of recent literature, along with the unprecedented recent political discord seen across the UK (as well as in the devolved parliaments), it is unclear if the differences of perceived trust in institutions between Wales and the wider UK are still shown.

⁷³ Eds., Paun, A. and Macrory, S. (2019). *Has Devolution Worked? The first 20 years*. Institute for Government, London. [Online] Available at: https://www.instituteforgovernment.org.uk/sites/default/files/publications/has-devolution-worked-essay-collection-FINAL.pdf.



⁷¹ Taylor, A.W., et al. (2012). The Australian Food and Trust Survey: Demographic indicators associated with food safety and quality concerns. *Food Control*, 25(2): 476-483.

⁷² Whitely, P., et al. (2015). Why do voters lose trust in governments? Public perceptions of government honesty and trustworthiness in Britain 2000-2013. *The British Journal of Politics and International Relations*, 18(1): 234-254.

Food hypersensitivities

A detailed paper solely focusing on food hypersensitivities across Wales, England and Northern Ireland is available, although specific findings relevant to Wales have been reported in this paper.⁷⁴

In Wales, as in both England and Northern Ireland, there were few differences found between the food behaviours of those living with allergies and intolerances and those who had no adverse reaction to food. Respondents in Wales were less likely to report a food allergy (4%) than those living in England (5%) but were more likely than those in Northern Ireland (2%). Similarly, respondents in Wales were less likely (8%) to report an intolerance than those in England (11%) or Northern Ireland (9%).

Looking in detail at the results within Wales, differences were seen within several demographic groups. Women were more likely (20%) than men (13%) to report any reaction. Research has shown that there is a greater awareness among women of food related risks, higher health knowledge, and overarching gendered health seeking behaviours, for example women are far more likely to follow-up health concerns and attend clinical appointments.⁷⁵ In addition, those on higher incomes (over £41,600) were least likely (10%) to report a reaction, while those in the middle income bracket (£20,800 to £41,599) were most likely (22%) to report a reaction, with 18% of those in the lowest bracket (below £20,799) reporting a reaction. A difference was also found in the reports of adverse reactions among those who were not working (20%) and those in work (14%). However, the differences between these two groups are difficult to disentangle, because the size of the sample meant that people who were unemployed, retired and not working for other reasons were grouped together to allow analysis to take place.

Perhaps the largest difference in reports of reactions was seen between those respondents who self-reported being in poor health (28%) and those reporting good (4%) or fair (4%) health. While it is not possible from these figures to determine the extent to which the food hypersensitivity contributes to the perception of poor health, the link between food hypersensitivity and poor health or poor wellbeing is slowly being identified. Research has explored the impact of food hypersensitivities in children on the wider family,⁷⁶ identifying that parents of children with food allergies had significantly lower quality of life when compared with parents of children with no food allergies or reactions.⁷⁷ However, as yet there are few qualitative (or quantitative) studies that explore the impact of food allergies or intolerance on wider health and wellbeing.

⁷⁴ Benson, A. (2019). Consumers with food hypersensitivities. [Forthcoming] Available at: <u>https://www.food.gov.uk/research/food-and-you/food-and-you-secondary-analysis-waves-1-5.</u>

⁷⁵ Thompson, A., et al. (2016). The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study. BMC Family Practice, 17(1).

⁷⁶ Brantlee Broome-Stone, S. (2012). The Psychosocial Impact of Life-Threatening Childhood Food Allergies. *Paediatric Nursing*, 38(6): 27-330.

⁷⁷ Valentine, A.Z. and Knibb, R.C. (2011). Exploring quality of life in families of children living with and without a severe food allergy. *Appetite*, 57(2): 467-474.

Policy implications and further research

The analysis and discussion presented here point to the centrality of food and the issues examined in this report to a wide range of social issues and policy priorities. The evidence in Wales indicates a policy environment in which numerous influences, of demographic, socioeconomic and political natures, all shape and interact with the supply and consumption of food.

In particular, food insecurity and its links with low income, child poverty and other disadvantages are an area of significant priority for policymakers. Evidence shows the links between food insecurity and a number of outcomes including poorer health, poorer educational achievement, and poorer levels of wellbeing. Policies that addressed issues of food insecurity, improving access to quality food would form important elements within wider policies addressing social disadvantage. However, further research is needed to understand the links between wellbeing, physical health and food issues.

Further research would also be beneficial into some more general aspects of food safety. Further understanding of changes in food practices over time and between generations would develop a clearer picture of who tends to take on responsibility for food preparation, food safety and decisionmaking. This would allow policymakers to direct their policies at the appropriate audiences, targeting support and advice that could increase levels of food safety awareness and practice.

Exploration of issues of trust in institutions and the food supply chain would also provide useful insight in a context where changing relationships with the European Union and other international suppliers may affect how people perceive the food available on supermarket shelves in Wales.

Appendix A: Technical Annex

Defining food hypersensitivities

To ensure that respondents are only asked questions that are most relevant to their experiences, the Food and You survey uses routing.⁷⁸ Respondents who report that they experience any reaction to foods are asked which of the following descriptions best match their experiences:

- 1. Food allergy;
- 2. Food intolerance;
- 3. Coeliac disease;
- 4. Non-coeliac gluten sensitivity;
- 5. Gluten intolerance;
- 6. Lactose intolerance;
- 7. Cow's milk intolerance;
- 8. Food protein-induced enterocolitis syndrome (FPIES);
- 9. Other.

Due to the large number of possible options available to respondents, several categories were merged together, as per Table A below.

Reaction types in Food and You Survey	Variable for analysis
Food allergy	Food allergy
Food intolerance	Food intolerance
Non-coeliac gluten sensitivity	
Gluten intolerance	
Lactose intolerance	
Cow's milk intolerance	
Food protein-induced enterocolitis syndrome	
Other	Other reaction
No answer given	No reaction
Coeliac disease	Not included

Although respondents were able to report multiple types of food reaction in the survey, as this is a break variable, it was important that individuals were placed in one of the four, exclusive, groups above. Therefore, respondents who reported both a food allergy and a food intolerance were grouped in the category of 'food allergy'. In many cases, food allergies can create immediate risk after exposure or consumption, leading individuals to manage eating, shopping and other food-related activities more cautiously than individuals who have food intolerances, which although severe, are less likely to cause immediate harm. It was therefore felt that individuals who experience both food allergies and food intolerances would manage their behaviour more similarly to those who experience allergies only, rather than those who experience intolerances only.

78 Questions for routing which relate to food hypersensitivities are discussed in Appendix A.

There were a small number of respondents who reported Coeliac disease, defined as a "a common digestive condition where the small intestine becomes inflamed and unable to absorb nutrients"⁷⁹ with symptoms including diarrhoea, abdominal pain and bloating. The symptoms of and treatments for Coeliac disease are medically and socially different from the other reaction types included in the questionnaire and could not be included in any of the four analytical categories included in Table A, yet due to the small numbers of respondents with Coeliac disease in the survey, it was impossible to analyse this group separately. It was therefore determined that cases of Coeliac disease would be excluded from the analyses described above. Cases which reported both an intolerance and Coeliac disease were included in the intolerance category.

Measuring trust

OECD guidelines recommend an approach to measuring trust. This comprises of a core set of five questions which measure general levels of trust, alongside questions about three other types of trust: evaluative, expectational and experiential.⁸⁰ Each set of questions can be further divided into interpersonal trust (for example trust in neighbours, trust in other people in general) and institutional trust (for example trust in Parliament or the police). The trust questions asked in Wave 5 of the Food and You survey broadly followed the OECD guidelines, focusing on institutional trust as opposed to interpersonal trust. The questions were also guided by the OECD's five dimensions of trust in government: integrity, responsiveness, reliability, openness, and fairness.

This report focuses on two concepts of trust in food:

- Trust in the FSA itself as a department (that the department meets the five dimensions of trust); and,
- Authenticity (that food is what it says it is).

Defining trust in the police, Parliament and other people

The respondents were asked about their trust in the FSA as well as about their trust in other people and institutions. Specifically, the respondents were asked how much they trust:

- Other people (in general);
- Other people they know personally;
- The British parliament;
- The police.

Questions regarding the British parliament were not asked of respondents from Northern

⁷⁹ NHS (2016). Overview: Coeliac disease. NHS, UK. [Online] Available at: https://www.nhs.uk/conditions/coeliac-disease/.

⁸⁰ OECD (2019). OECD Guidelines on Measuring Trust. OECD. [Online] Available at: <u>http://www.oecd.org/governance/oecd-guidelines-on-measuring-trust-9789264278219-en.htm.</u>

Ireland, therefore the scores for this question do not include respondents from Northern Ireland. Each of these was scored on a scale from 0 (not at all) to 10 (complete trust). These have been grouped into three categories:

- Low trust (0 to 3);
- Medium trust (4 to 6);
- High trust (7 to 10).⁸¹

These scores were not computed as part of the composite measure and instead are presented as individual scores.

Index of Recommended Practice

The Index of Recommended Practice (IRP) summarises people's domestic food safety practices across five areas: use-by dates, cooking food, chilling food, cleanliness, and cross-contamination between foods. It was developed to provide more information about which groups were least likely to follow the FSA's recommended practices.

The IRP uses several questions across each of these areas to categorise people based on whether their food safety practices are in line with the FSA's recommended practice.

For each question, an answer in line with FSA recommendations receives a score of 1, whilst those responses not in line, receive a score of 0. This is then converted into a score out of 100 to provide a measure of food safety practice for each respondent.

81 Small numbers of respondents answered 'don't know' to each of these and have been excluded from the analysis.



Appendix B: Supporting Tables

Table 1: Food security status, by country

Base: All aged 16+		Country			
	England	Wales	Northern Ireland		
	%	%	%	%	
High food security	80	80	80	80	
Marginal food security	10	10	12	10	
Low food security	10	10	8	10	
Unweighted base	2066	536	467	3069	
Weighted base	2816	161	93	3069	

Table 2: Food security status by survey year, Wales only

Base: All aged 16+	Surve	Total	
	Wave 4	Wave 5	
	%	%	%
High food security	74	80	77
Marginal food security	17	10	13
Low food security	9	10	10
Unweighted base	492	536	1028
Weighted base	492	536	1028

Table 3: How often did respondent worry that their food would run out before they had money to buy more, by country

Base: All aged 16+		Country		
	England	Wales	Northern Ireland	
	%	%	%	%
Often true	4	3	3	4
Sometimes true	13	14	13	13
Never true	83	83	84	83
Unweighted base	2064	535	465	3064
Weighted base	2809	159	92	3061

Table 4: How often did the food the respondent bought just not last and they didn't have money to get more, by country

Base: All aged 16+	Country			Total
	England	Wales	Northern Ireland	
	%	%	%	%
Often true	2	2	2	2
Sometimes true	10	10	9	10
Never true	88	87	90	88
Unweighted base	2064	535	465	3064
Weighted base	2809	159	92	3061

Table 5: How often could the respondent not afford to eat balanced meals, by country

Base: All aged 16+	Country			Total
	England	Wales	Northern Ireland	
	%	%	%	%
Often true	2	3	3	2
Sometimes true	9	7	8	8
Never true	89	90	89	89
Unweighted base	2060	535	465	3060
Weighted base	2804	159	92	3056

Table 6: Food security status by age, Wales only

Base: All in Wales, aged 16+		Age		
	16-34	35-64	65+	
	%	%	%	%
High food security	67	81	94	80
Marginal food security	15	9	5	10
Low food security	18	10	2	10
Unweighted base	92	247	197	536
Weighted base	152	249	136	536

Table 7: Food security status by family type, Wales only

Base: All in Wales, aged 16+	Children under 1	Children under 16 in household		
	Children below 16	No children below 16		
	%	%	%	
High food security	68	85	80	
Marginal food security	10	10	10	
Low food security	23	5	10	
Unweighted base	130	406	536	
Weighted base	147	389	536	

Table 8: Food security status by income, Wales only

Base: All in Wales, aged 16+	Househo	Household income: three groups			
	Up to £20,799	£20,800 to	£41,600 or		
		£41,599	more		
	%	%	%	%	
High food security	68	78	96	80	
Marginal food security	9	11	1	10	
Low food security	22	11	3	10	
Unweighted base	177	134	96	536	
Weighted base	131	139	122	536	

Table 9: Food security status by household size, Wales only

Base: All in Wales, aged 16+	Household size (4 categories)				Total
	One	Two	Three	Four or more	
	%	%	%	%	%
High food security	83	90	75	70	80
Marginal food security	7	5	10	18	10
Low food security	10	5	15	12	10
Unweighted base	165	209	78	84	536
Weighted base	82	198	102	153	536

Table 10: Life satisfaction by food security, Wales only

Base: All in Wales aged 16+	Food secu	rity status	Total
	High food	Low food	
	security	security	
	%	%	%
Low	3	11	4
Medium	9	25	11
High	50	47	50
Very High	38	17	35
NET: High/Very High	88	64	85
Unweighted base	432	61	493
Weighted base	425	53	478

Table 11: Worthwhile by food security, Wales only

Base: All in Wales aged 16+ (excluding those in marginal	Food secur	ity status	Total
food security)	High food security	Low food security	
	%	%	%
Low	2	11	3
Medium	11	21	12
High	49	39	48
Very High	38	29	37
NET: High/Very High	87	68	85
Unweighted base	431	61	492
Weighted base	424	53	477

Table 12: Happiness by food security, Wales only

Base: All in Wales aged 16+ (excluding those in marginal	Food securi	ty status	Total
food security)	High food	Low food	
	security	security	
	%	%	%
Low	5	17	6
Medium	11	23	12
High	43	37	42
Very High	41	24	39
NET: High/Very High	84	61	81
Unweighted base	433	61	494
Weighted base	430	53	483

Table 13: Anxiety by food security, Wales only

Base: All in Wales aged 16+ (excluding those in marginal	Food secur	Food security status		
food security)	High food	Low food		
	security	security		
	%	%	%	
Very low	44	24	42	
Low	20	21	20	
Medium	17	23	18	
High	19	32	20	
NET: Low/Very Low	64	45	62	
Unweighted base	433	61	494	
Weighted base	430	53	483	

Table 14: Average IRP score, by country

Base: All aged 16+		Country		
	England	Wales	Northern Ireland	
	%	%	%	%
Mean	67	69	72	67
Standard deviation	16	15	16	16
Unweighted bases	2066	536	467	3069
Weighted bases	2816	161	93	3069

Table 15: Average IRP score, by survey wave, Wales only

Base: All in Wales, aged 16+	Survey	Total	
	Wave 4	Wave 5	
	%	%	%
Mean	69	69	69
Standard deviation	15	15	15
Unweighted base	492	536	1028
Weighted base	492	536	1028

Table 16: Grouped IRP score, by country

Base: All aged 16+		Country			
	England	Wales	Northern Ireland		
	%	%	%	%	
1-20	1	0	1	1	
21-40	7	4	4	7	
41-60	29	29	19	29	
61-80	52	51	56	52	
81-100	12	16	20	12	
Unweighted base	2066	536	467	3069	
Weighted base	2816	161	93	3069	

Table 17: Grouped IRP score, by age, Wales only

Base: All in Wales, aged 16+		Age			
	16-34	35-64	65+		
	%	%	%	%	
1-20	-	1	1	0	
21-40	2	5	2	4	
41-60	38	23	29	29	
61-80	48	51	54	51	
81-100	11	20	14	16	
Unweighted base	92	247	197	536	
Weighted base	152	249	136	536	

Table 18: Average IRP score, by age, Wales only

Base: All in Wales, aged 16+	Age			Total
	16-34	35-64	65+	
	%	%	%	%
Mean	66	70	69	69
Standard deviation	14	16	15	15
Unweighted base	92	247	197	536
Weighted base	152	249	136	536

Table 19: Grouped IRP score, by sex, Wales only

Base: All in Wales, aged 16+	Se	Sex		
	Male	Female		
	%	%	%	
1-20	1	-	0	
21-40	6	1	4	
41-60	33	25	29	
61-80	48	54	51	
81-100	12	21	16	
Unweighted base	191	345	536	
Weighted base	260	276	536	

Table 20: Average IRP score, by sex, Wales only

Base: All in Wales, aged 16+	Sex		Total
	Male	Female	
	%	%	%
Mean	65	72	69
Standard deviation	16	14	15
Unweighted base	191	345	536
Weighted base	260	276	536

Table 21: Grouped IRP score, by presence of children under 16 in, Wales only

Base: All in Wales, aged 16+	Children under 1	6 in household	Total
	Children below	No children	
	16	below 16	
	%	%	%
1-20	-	1	0
21-40	5	3	4
41-60	27	30	29
61-80	47	52	51
81-100	21	14	16
Unweighted base	130	406	536
Weighted base	147	389	536

Base: All in Wales, aged 16+ Children under 16 in household Total Children below No children below 16 16 % % % Mean 71 68 69 Standard deviation 15 15 15 Unweighted base 130 406 536 Weighted base 147 389 536

Table 22: Average IRP score, by presence of children under 16 in household, Wales only

Table 23: Grouped IRP score, by household size, Wales only

Base: All in Wales, aged 16+			Total		
	One	Two	Three	Four or more	
	%	%	%	%	%
1-20	-	1	-	-	0
21-40	4	4	4	2	4
41-60	39	26	28	27	29
61-80	50	49	56	51	51
81-100	7	20	12	20	16
Unweighted base	165	209	78	84	536
Weighted base	82	198	102	153	536

Table 24: Average IRP score, by household size, Wales only

Base: All in Wales, aged 16+		Total			
	One	Two	Three	Four or more	
	%	%	%	%	%
Mean	64	69	68	71	69
Standard deviation	14	17	14	14	15
Unweighted base	165	209	78	84	536
Weighted base	82	198	102	153	536

Table 25: Grouped IRP score, by health, Wales only

Base: All in Wales, aged 16+		Total		
	Good	Fair	Bad	
	%	%	%	%
1-20	1	-	-	0
21-40	3	3	7	4
41-60	29	31	22	29
61-80	50	53	57	51
81-100	17	13	15	16
Unweighted base	381	110	44	536
Weighted base	418	86	32	536

Table 26: Average IRP score, by health, Wales only

Base: All in Wales, aged 16+		General health			
	Good	Fair	Bad		
	%	%	%	%	
Mean	69	68	69	69	
Standard deviation	16	15	15	15	
Unweighted base	381	110	44	536	
Weighted base	418	86	32	536	

Table 27: Grouped IRP score, by work status, Wales only

Base: All in Wales, aged 16+	Work Stat	us Binary	Total
	In Work	Not in work	
	%	%	%
1-20	1	0	0
21-40	4	3	4
41-60	29	29	29
61-80	47	55	51
81-100	19	13	16
Unweighted base	232	304	536
Weighted base	313	223	536

Table 28: Average IRP score, by work status, Wales only

Base: All in Wales, aged 16+	Work Stat	Total	
	In Work	Not in work	
	%	%	%
Mean	69	68	69
Standard deviation	16	14	15
Unweighted base	232	304	536
Weighted base	313	223	536

Table 29: Grouped IRP score, by income, Wales only

Base: All in Wales, aged 16+	Househo	Id income: three g	Iroups	Total
	Up to £20,799	£20,800 to	£41,600 or	
		£41,599	more	
	%	%	%	%
1-20	1	-	1	0
21-40	3	1	9	4
41-60	32	24	28	29
61-80	45	55	52	51
81-100	19	19	11	16
Unweighted base	177	134	96	536
Weighted base	131	139	122	536

Table 30: Average IRP score, by household income, Wales only

Base: All in Wales, aged 16+	Househ	Total		
	Up to £20,799	£20,800 to £41,599	£41,600 or more	
	%	%	%	%
Mean	69	72	66	69
Standard deviation	16	14	17	15
Unweighted base	177	134	96	536
Weighted base	131	139	122	536

Table 31: Grouped IRP score, by food security, Wales only

Base: All in Wales, aged 16+	Food security status		Total
	High food security	Low food security	
	%	%	%
Mean	69	67	69
Standard deviation	15	15	15
Unweighted base	433	62	495
Weighted base	430	53	484

Table 32: How long would keep left-overs for, by food security status, Wales only

Base: All in Wales, aged 16+ (excluding those in marginal	Food secur	ity status	Total
food security)	High food	Low food	
	security	security	
	%	%	%
The same day	1	3	2
Monday	40	43	41
Tuesday	30	42	31
Wednesday	16	3	14
Thursday	3	3	3
Friday	1	2	1
Saturday	0	-	0
More than a week	0	-	0
Never have leftovers - always finish or throw away immediately	7	5	7
Don't know	2	-	1
NET: More than two days	20	7	18
Unweighted base	433	62	495
Weighted base	430	53	484

Table 33: Trust in the FSA by country

Base: All aged 16+		Country		Total
	England	Wales	Northern Ireland	
	%	%	%	%
Low Trust	34	27	25	34
Medium Trust	33	33	28	33
High Trust	32	40	47	33
Unweighted base	1854	509	413	2776
Weighted base	2533	153	84	2771

Table 34: Trust in the FSA by trust in Parliament, Wales only

Base: All aged 16+	The Briti	Total		
	Low	Medium	High	
	%	%	%	%
Low Trust	35	21	17	27
Medium Trust	33	36	21	33
High Trust	32	43	62	40
Unweighted base	228	222	50	509
Weighted base	211	245	48	512

Table 35: Trust in the FSA by age, Wales only

Base: All aged 16+		Total		
	16-34	35-64	65+	
	%	%	%	%
Low Trust	45	20	21	27
Medium Trust	27	34	38	33
High Trust	28	46	41	40
Unweighted base	86	239	184	509
Weighted base	141	242	129	512

Table 36: Trust in the food supply chain, by country

Base: All aged 16+	Country			Total
	England	Wales	Northern Ireland	
	%	%	%	%
Low Trust	38	37	28	37
Medium Trust	27	28	29	27
High Trust	35	35	43	35
Unweighted base	1968	513	434	2915
Weighted base	2685	153	87	2925

Base: All aged 16+		Country		Total
	England	Wales	Northern Ireland	
	%	%	%	%
Very sure	10	8	16	10
Quite sure	49	51	50	49
Neither sure nor unsure	29	31	24	29
Quite unsure	9	9	7	9
Very unsure	4	1	2	3
NET: Very or quite sure	58	59	67	58
Unweighted base	1989	516	442	2947
Weighted base	2702	154	88	2944

Table 37: Certainty that food from Britain has been prepared to the highest standard, by country

Table 38: Certainty that all guidelines have been properly followed, by country

Base: All aged 16+		Country		Total
	England	Wales	Northern Ireland	
	%	%	%	%
Very sure	6	4	11	6
Quite sure	41	49	46	42
Neither sure nor unsure	32	28	24	32
Quite unsure	14	13	13	14
Very unsure	6	6	6	6
NET: Very or quite sure	47	53	58	48
Unweighted base	1947	505	436	2888
Weighted base	2663	152	87	2901

Table 39: Certainty that foods bought are safe, by country

Base: All aged 16+		Country		Total
	England	Wales	Northern Ireland	
	%	%	%	%
Very sure	17	18	27	18
Quite sure	63	67	59	63
Neither sure nor unsure	15	13	11	15
Quite unsure	4	1	3	4
Very unsure	1	1	1	1
NET: Very or quite sure	80	85	86	80
Unweighted base	2021	528	446	2995
Weighted base	2755	156	88	2999



Base: All aged 16+		Country		Total
	England	Wales	Northern Ireland	
	%	%	%	%
Always	26	30	28	26
Most of the time	58	59	57	58
Some of the time	13	10	12	13
Rarely	1	2	2	2
Never	1	-	0	1
Don't know	1	0	1	1
Unweighted base	2066	536	467	3069
Weighted base	2816	161	93	3069

Table 40: Trust in food labels or menus, by country

Table 41: Trust in the food supply chain by age, Wales only

Base: All in Wales, aged 16+		Age			
	16-34	35-64	65+		
	%	%	%	%	
Low Trust	49	35	28	37	
Medium Trust	20	29	35	28	
High Trust	31	35	37	35	
Unweighted base	85	240	188	513	
Weighted base	138	243	130	511	

Table 42: Certainty that food from outside Britain has been prepared to the highest standard by work status, Wales only

Base: All in Wales, aged 16+	Work S	Status	Total
	In Work	Out of Work	
	%	%	%
Very sure	1	1	1
Quite sure	20	11	16
Neither sure nor unsure	47	42	45
Quite unsure	23	34	27
Very unsure	10	12	11
NET: Very or quite sure	21	12	17
Unweighted base	225	284	509
Weighted base	300	207	508

Table 43: Certainty that foods bought are safe by family type, Wales only

Base: All in Wales, aged 16+	Children under	16 in household	Total
	Children below	No children	
	16	below 16	
	%	%	%
Very sure	14	20	18
Quite sure	64	68	67
Neither sure nor unsure	20	10	13
Quite unsure	0	1	1
Very unsure	1	1	1
NET: Very or quite sure	78	88	85
Unweighted base	128	400	528
Weighted base	145	376	521

Table 44: Certainty that foods bought are safe by income, Wales only

Base: All in Wales, aged 16+	Househ	old income: three	groups	Total
	Up to £20,799	£20,800 to	£41,600 or	
		£41,599	more	
	%	%	%	%
Very sure	19	16	20	18
Quite sure	59	75	74	67
Neither sure nor unsure	17	9	5	13
Quite unsure	3	-	-	1
Very unsure	1	-	2	1
NET: Very or quite sure	78	91	94	85
Unweighted base	175	131	96	528
Weighted base	129	137	122	521

Table 45: Over the past year, have you ever done any of the following because you were not confident that food was what it said it was on the label or the menu? By country

Base: All aged 16+		Country		Total
-	England	Wales	Northern Ireland	
	%	%	%	%
Tried to get more information about the issue	8	5	11	8
Read about the issue when you saw it but did not seek out	6	7	8	6
Read food labels more carefully	31	29	39	31
Changed the way you cook food	4	5	6	4
Changed the way you prepare food	3	5	6	3
Stopped shopping for food at certain places	9	8	16	10
Stopped eating certain foods	11	12	18	11
Other	1	2	1	1
Took no action	49	55	46	49
Unweighted base	1523	375	322	2220
Weighted base	2052	113	66	2231

Table 46: Trust in the FSA by trust in the food supply chain, Wales only

Base: All aged 16+	Trust in	Total		
	Low Trust	Medium Trust	High Trust	
	%	%	%	%
Low Trust	36	22	20	27
Medium Trust	34	36	31	33
High Trust	30	41	49	40
Unweighted base	171	144	174	509
Weighted base	183	138	172	512

Table 47: Certainty in where food has come from, by trust in the FSA, Wales only

Base: All aged 16+	Trust in	the supply chain t	ertiles	Total
	Low Trust	Medium Trust	High Trust	
	%	%	%	%
Very sure	5	5	7	7
Quite sure	41	53	57	51
Neither sure nor unsure	29	28	26	28
Quite unsure	14	13	7	10
Very unsure	11	1	3	5
NET: Very or quite sure	46	57	65	57
Unweighted base	133	173	190	520
Weighted base	136	168	200	522

Table 48: Prevalence of veganism/vegetarianism by year, Wales only

Base: All in Wales, aged 16+	Surve	Survey Year		
	Wave 4	Wave 5		
	%	%	%	
No	91	92	92	
Yes	9	8	8	
Unweighted base	492	536	1028	
Weighted base	492	536	1028	

Table 49: Prevalence of hypersensitivities by year, Wales only

Base: All in Wales, aged 16+	Survey Year		
	Wave 4	Wave 5	
	%	%	%
No reaction	83	83	83
Food allergy	5	3	4
Food intolerance	6	8	7
Other	5	6	5
Unweighted base	489	534	1023
Weighted base	490	535	1025

Table 50: Prevalence of allergies, by country

Base: All aged 16+		Country			
	England	Wales	Northern Ireland		
	%	%	%	%	
Not mentioned	95	96	98	95	
Mentioned	5	4	2	5	
Unweighted base	4171	1028	988	6187	
Weighted base	5675	325	187	6187	

Table 51: Prevalence of intolerances, by country

Base: All aged 16+		Country		
	England	Wales	Northern Ireland	
	%	%	%	%
Not mentioned	89	92	91	89
Mentioned	11	8	9	11
Unweighted base	4171	1028	988	6187
Weighted base	5675	325	187	6187

Table 52: Prevalence of other reaction, by country

Base: All aged 16+	Country			Total
	England	Wales	Northern Ireland	
	%	%	%	%
Not mentioned	94	94	94	94
Mentioned	6	6	6	6
Unweighted base	4171	1028	988	6187
Weighted base	5675	325	187	6187

Table 53: Prevalence of no reactions, by country

Base: All aged 16+	Country			Total
	England	Wales	Northern Ireland	
	%	%	%	%
Not mentioned	21	17	16	20
Mentioned	79	83	84	80
Unweighted base	4171	1028	988	6187
Weighted base	5675	325	187	6187

Table 54: Prevalence of hypersensitivities, by country

Base: All aged 16+		Country			
	England	Wales	Northern Ireland		
	%	%	%	%	
No reaction	79	83	85	80	
Food allergy	5	4	2	5	
Food intolerance	11	7	8	10	
Other	5	5	5	5	
Unweighted base	4125	1023	975	6123	
Weighted base	5624	324	185	6132	

Table 55: No. of allergies, by country

Base: All aged 16+		Country			
	England	Wales	Northern Ireland		
	%	%	%	%	
0	95	96	98	95	
1	3	3	1	3	
2+	2	1	1	2	
Unweighted base	4171	1028	988	6187	
Weighted base	5675	325	187	6187	

Table 56: No. of intolerances, by country

Base: All aged 16+		Country		Total
	England	Wales	Northern Ireland	
	%	%	%	%
0	89	92	91	89
1	7	5	4	7
2	3	2	2	3
3+	1	1	2	1
Unweighted base	4171	1028	988	6187
Weighted base	5675	325	187	6187

Table 57: Clinical diagnosis by hypersensitivity, Wales only

Base: All in Wales, aged 16+	Туре с	Type of food hypersensitivity			
	Food allergy	Food intolerance	Other		
	%	%	%	%	
Not mentioned	44	79	72	68	
Mentioned	56	21	28	32	
Unweighted base	[49]	83	61	193	
Weighted base	[44]	72	55	171	

Table 58: Self-diagnosis by hypersensitivity, Wales only

Base: All in Wales, aged 16+	Туре с	Total		
	Food allergy	Food intolerance	Other	
	%	%	%	%
Not mentioned	41	17	47	33
Mentioned	59	83	53	67
Unweighted base	[49]	83	61	193
Weighted base	[44]	72	55	171

Table 59: Alternative diagnosis by hypersensitivity, Wales only

Base: All in Wales, aged 16+	Туре о	of food hypersen	sitivity	Total
	Food allergy	Food intolerance	Other	
	%	%	%	%
Not mentioned	97	98	100	99
Mentioned	3	2	-	1
Unweighted base	[49]	83	61	193
Weighted base	[44]	72	55	171

Table 60: Age of onset of adverse reaction, by country

Base: All aged 16+	Country			Total
	England	Wales	Northern Ireland	
	%	%	%	%
Less than 6 years	10	6	7	10
6 to 15	18	19	21	18
16-24	21	20	27	21
25-34	15	15	15	15
35-44	13	17	9	13
45-54	11	14	12	12
55-64	6	6	6	6
65-74	4	2	3	4
75+	1	0	1	1
NET: Under 16	28	25	27	28
Unweighted base	896	194	156	1246
Weighted base	1138	54	29	1220

Table 61: Prevalence of hypersensitivities by sex, Wales only

Base: All in Wales aged 16+	Sex		Total
	Male	Female	
	%	%	%
No reaction	87	80	83
Food allergy	3	6	4
Food intolerance	5	9	7
Other	6	5	5
NET: Any reaction	13	20	11
Unweighted base	374	649	1023
Weighted base	498	527	1025

Base: All aged 16+	General health			Total
	Good	Fair	Bad	
	%	%	%	%
No reaction	85	81	72	83
Food allergy	4	4	11	4
Food intolerance	7	8	11	7
Other	5	7	6	5
NET: Any reaction	15	19	28	17
Unweighted base	741	202	79	1023
Weighted base	796	169	60	1025

Table 62: Prevalence of hypersensitivities by health status, Wales only

Table 63: Prevalence of hypersensitivities by work status, Wales only

Base: All in Wales aged 16+	Work State	us Binary	Total
	In Work	Not in work ⁸²	
	%	%	%
No reaction	86	80	83
Food allergy	4	5	4
Food intolerance	6	8	7
Other	4	7	5
NET: Any reaction	14	20	17
Unweighted base	470	553	1023
Weighted base	597	428	1025

Table 64: Prevalence of hypersensitivities by income, Wales only

Base: All in Wales aged 16+	Household income: three groups			Total
	Up to £20,799	£20,800 to	£41,600 or	
		£41,599	more	
	%	%	%	%
No reaction	82	78	90	83
Food allergy	4	6	3	4
Food intolerance	8	11	5	7
Other	5	5	3	5
NET: Any reaction	18	22	10	17
Unweighted base	348	241	207	1023
Weighted base	267	250	263	1025

82 Includes respondents who are unemployed, retired, or 'other' work status.

Table 65: Vegan, vegetarian or partially vegetarian, by country

Base: All aged 16+	Country			Total
	England	Wales	Northern Ireland	
	%	%	%	%
No	89	91	95	89
Yes	11	9	5	11
Unweighted base	4171	1028	988	6187
Weighted base	5675	325	187	6187

Table 66: Whether partially vegetarian, vegetarian or vegan by income, Wales only

Base: All in Wales, aged 16+	Household income			Total
	Up to £20,799	£20,800 to £41,599	£41,600 or more	
	%	%	%	%
No	93	95	88	92
Yes	7	5	12	8
Unweighted base	350	242	207	1028
Weighted base	268	251	263	1028

