JN 197020 Food and You Segmentation Report

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Exploring food attitudes and behaviours: Findings from the Food and You Survey 2010: Food Safety Segmentation

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1. Background to the Food and You survey

This report presents the findings from a segmentation exercise which was conducted on the Food and You survey[1], a new cross sectional survey commissioned by the Food Standards Agency and conducted by TNS-BMRB, the Policy Studies Institute (PSI) and the University of Westminster.

The main aim of the survey was to collect quantitative information about the UK public's attitudes, beliefs and values towards food issues (such as food safety and healthy eating), as well as their behaviour, in order to ensure a sound social science evidence base to support policy making at the FSA and across relevant government departments.

The survey also collected supporting information on lifestyle, such as people's eating habits, shopping and eating outside of the home, all of which may influence food behaviours.

More specifically, the objectives were to collect quantitative information to enable the Agency to:

- Monitor public understanding of, and engagement with, the Agency's aims of promoting healthy eating and improving food safety;
- Assess public attitudes to new developments, such as emerging food technologies;
- Identify the complex influences on knowledge, attitudes and behaviour;
- Assess knowledge of, and response to, messages and interventions aimed at raising awareness and changing behaviour;
- Identify specific target groups for future interventions (e.g. those most at risk or those where there is likely to be the greatest impact);
- Monitor changes over time in attitudes and behaviour; and,

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[1] For the full report and technical annex please see:
http://www.foodbase.org.uk/results.php?f_report_id=641

- Broaden the evidence base and develop indicators to assess progress in fulfilling the Agency's strategic plans, aims and targets.

The survey is intended to be the first in a time series with future waves being carried out on an annual or biennial basis. The results form a baseline of robust quantitative information about the prevalence of different views and behaviours amongst the general population from which changes over time can be monitored in future waves. The survey will play a vital role in helping the Agency monitor its strategic priorities, as subsequent waves of data will enable the FSA to chart changes in attitudes, knowledge or behaviour over time.

1.1 Method

The survey sample was a stratified random probability sample of private households in the UK, using the Postcode Address File (PAF) as a sampling frame. In each eligible household, one adult aged 16+ (with no upper age limit) was selected for interview, using a random selection procedure in households where there was more than one eligible adult.

The survey comprised 3163 interviews with adults across the UK, carried out face-to-face in respondents' homes. The samples in Scotland and Northern Ireland were boosted (increasing the sample to around 500 in each country) to enable more detailed analysis at a country level.

The fieldwork for the survey took place between March and August 2010.

Interviews took, on average, 60 minutes to complete. A response rate of 52% was achieved.

Corrective weighting was applied at the analysis stage, to ensure the weighted sample was representative of the UK as a whole.

1.2 Questionnaire

Extensive development work was carried out to develop the questionnaire and survey procedures. This included initial qualitative work (focus groups, depth interviews and kitchen explorations), cognitive testing of draft survey questions, and placing a number of draft questions on TNS's Omnibus survey.

A dress-rehearsal pilot was conducted in February 2010 to test the questionnaire and survey procedures.

The final questionnaire covered a number of topics outlined in the table below. In order to cover additional topics, without over-burdening respondents, three sections of the questionnaire (eating patterns, eating out and shopping habits) were rotated, that is, each was asked of a random third of respondents.

Table 1   Topics covered in Food and You

Food safety topics

- Frequency of self-reported behaviours relating to the 4C's (cleaning, cross-contamination, chilling and cooking)
- Food storage practices
- Knowledge of correct fridge temperature
- Understanding & use of date labelling
- Self-reported use of leftovers
- General attitudes to food safety
- Experience of food poisoning

Healthy eating topics

- Perceptions of diet
- General attitudes towards healthy eating
- Self-reported eating behaviours – patterns and consumption of different foods
- Knowledge of the eatwell plate, '5 a day', fat, salt & calories intakes
- Importance of different foods for a healthy lifestyle
- Changes to diet over the last 6 months and triggers/barriers to change

Cross-cutting topics

- Socio-demographics
- General attitudes to food
- Frequency of cooking/preparing food
- Self-reported level of physical measurements and physical activity

- Eating outside of the home*
- Shopping behaviour*
- Perceptions of food prices* and expenditure
- Recontact

* indicates a rotating section asked of a third of the sample

It should be remembered that at the time of commissioning and indeed fieldwork, the FSA was responsible for advice on nutrition and healthy eating as well as food safety. On 1 September 2010, responsibility for food labelling other than food safety aspects of labelling and nutrition labelling in England transferred to the Department for Environment, Food and Rural Affairs

(Defra). On 1 October 2010, responsibility for nutrition policy (including labelling) transferred to the Department of Health (DH) in England and to the Welsh Assembly Government in Wales. Nutrition policy in Scotland and Northern Ireland remains the responsibility of the Agency. Following these changes, the Agency updated its Strategic Plan[2].

A number of topics included in the Food and You survey are related to nutrition and the policy areas to which the findings contribute are now part of DH's remit.

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[2] http://www.food.gov.uk/aboutus/publications/busreps/strategicplan/

2. Background to the segmentation

When the Food and You survey was being developed there was discussion around revisiting the original segmentation which was carried out on the 2006 Consumer Attitudes Survey which segmented consumers with respect to their attitudes and concerns about food and specifically healthy eating. However it was decided that a new segmentation should be created for the new survey, with a focus on food safety behaviour and attitudes.

The requirements for the new segmentation were specified as:

- it should be primarily based around both food safety attitudes and behaviours, as there was currently a lack of available information on this topic, whereas the healthy eating area has been looked at this way already by both FSA and other organisations.

- it should provide segments which are easy to understand, and identify, with demographic differentiators. This will mean that the segments can be used to understand behaviour more specifically and also in communication/ targeting of messages to key groups.

The decision to go ahead with a segmentation exercise was made after the project was in field, so the segmentation had to be developed from agreed questions rather than ones which were written specifically to be included in a segmentation exercise. The segmentation was designed to reflect both attitudes and behaviours, rather than only one or the other, so all iterations of the segmentation featured both.

Qualitative work carried out as part of the survey development indicated that while different respondents may behave similarly in the kitchen, their motivations and reasons for doing so could vary greatly and it was intended that the segmentation would provide greater insight into this. Indeed identifying these groups and their characteristics would be useful for targeting communication messages around food safety.

2.1 Segmentation method and techniques

The segmentation was developed using both attitude and behaviour measures. The Annex gives a full description of the method, and technical information which describes the statistical validity of the results.

However in brief terms the segmentation was developed using cluster analysis. This was done after carrying out factor analysis as a data reduction technique on the attitudinal questions, along with the creation of safety indices around behaviours.

2.1.1 Factor analysis

Twenty four attitudinal statements were selected from the questionnaire covering food safety and general attitudes to food and food preparation. Factor analysis was used to statistically reduce the large number of statements into a smaller number of concepts or 'factors', which would then feed into the segmentation. Statements which are most closely correlated together are combined to create a factor, so for instance in this survey as might be expected answers given to 'I enjoy cooking and preparing food' and 'I enjoy making new things to eat' were highly correlated along with two others, and it was not necessary to include each statement into the segmentation individually.

The 24 statements and how they combine into seven factors are shown below. Statements have been allocated to the factor on which they had the highest loading. Statements had a positive loading on the factor, except where indicated. The response categories for all items were Definitely agree, Slightly agree, Neither agree nor disagree, Slightly disagree and Definitely disagree, except where indicated.

Factors have been given a name to summarise the areas the statements within them cover. Several different versions of the factor analysis were attempted and after considering the relevant statistics (eigenvalues) a number

of solutions were compared and the most appropriate and useable solution selected, in this case the 7 factor solution. Factor loadings are included in Annex Section 4.

Factor 1 - Cooking enjoyment

- I enjoy cooking and preparing food
- I enjoy making new things to eat
- Cooking is like a hobby for me
- I enjoy reading articles about food in newspapers or magazines

Factor 2 - Food as a function

- I don't really think about what I eat
- My life is so busy that I just eat what I can when I am on the go
- For me, most of the time food should be as quick as possible to prepare
- For me food is just fuel to live
- Overall, in your opinion, would you say that what you usually eat is… (response categories Very healthy, Fairly healthy, Neither healthy nor unhealthy, Fairly unhealthy, Very unhealthy) (Negative factor loading)

Factor 3 - Health and food

- People worry too much about getting food poisoning
- I always avoid throwing food away
- It's just bad luck if you get food poisoning
- Good health is just a matter of luck

Factor 4 – Response to food messages

- The experts contradict each other over what foods are good or bad for you
- I am fed up with experts telling me what I should eat
- I get confused over what's supposed to be healthy and what isn't

Factor 5 - Food poisoning in the home

- You are more likely to get food poisoning abroad than in this country
- If you eat out a lot you are more likely to get food poisoning

- I am unlikely to get food poisoning from food prepared in my own home

Factor 6 - Concern about food safety

- I often worry about whether the food I have is safe to eat
- Restaurants and catering establishments should pay more attention to food safety and hygiene
- A little bit of dirt won't do you any harm (Negative factor loading)

Factor 7 - Price of food

- The price of food doesn't really matter as long as I know that the quality is good
- The price of food means I often don't buy the food I would like to (Negative factor loading)

2.1.2 Formulating Safety Indices

Eight safety indices were created from the 57 individual behaviours included in the questionnaire. As the items had different response scales, the initial stage was to label responses to each item as either a 'safe' or 'not safe' behaviour.

Eight separate behaviour areas, such as 'hand-washing and drying' or 'fridge temperature' which covered food safety were identified within the questionnaire. The individual behaviours were then allocated to one of the areas and respondents were scored on each according to their behavior ('safe' vs. 'not safe').

The reason for creating indices from these behavioural areas was twofold. Firstly it enabled the number of inputs to be more workable, so follows a similar principle as the factor analysis done on the attitudinal variables. Secondly, it means that each behaviour area had an equal 'weight' within the segmentation. If the behaviour items had been included separately in the analysis, 'cross-contamination' would have had several times more

importance within any model than 'fridge checking' purely because of the greater number of questions included within the survey on that topic. Because of this inconsistency in the number and format of questions included for different topics within food safety, a purely mathematical derivation of indices was not considered appropriate, and instead a decision was made to follow a theme-based approach to generate indices with an intuitive meaning.

Annex Section 3 shows the statements which fed into each of the behaviour areas and how 'safe' and 'not safe' were defined for each item. It is acknowledged that not all behavior questions had clear cut 'safe' or 'not safe' responses, but for the purposes of achieving consistent scales this was the most pragmatic approach.

The indices were:

Dates and storage

- whether use-by marks are checked when buying and cooking food (Safe: Yes/Sometimes; Unsafe: Never)
- whether storage instruction are followed (Safe: Yes/Sometimes/When buying for the first time; Unsafe: Never/Never noticed storage information)

Meat/Tins storage

- how and where raw and cooked meat are stored in the fridge (Safe: On the bottom (raw)/top (cooked) shelf, Kept separate, Don't buy/store; Unsafe: On the top (raw)/bottom (cooked) shelf, Anywhere there is room)
- whether open tins are stored in the fridge (Safe: Never/Not applicable; Unsafe: Sometimes/Most of the time/Always)

Cooking, reheating and leftovers

- cook food until it is steaming hot (Safe: Always/Not applicable; Unsafe: Never, Sometimes, Most of the time)
- eat chicken or turkey if the meat is pink (Safe: Never/Not applicable; Unsafe: Sometimes, Most of the time, Always)

- number of times would reheat food (Safe: Never/Once; Unsafe: More than once)
- how long after cooking would leftovers be eaten (Safe: Same day/Next day/Day after; Unsafe: Longer than this)

Fridge temperature

- whether the fridge temperature is checked (Safe: Yes/Someone else in household does/Don't need to as it has an alarm; Unsafe: No)

Hand washing and drying

- wash hands after handling raw meat (Safe: Always/Not applicable; Unsafe: Other answers)
- what is used to wash hands (Safe: Hot water, Soap; Unsafe: Cold water)
- what is used to dry hands (Safe: Hand towel, Kitchen roll/paper; Unsafe: Other answers)

Defrosting

- defrost food at room temperature (Safe: Never/Not applicable; Unsafe: Sometimes/Most of the time/Always)

Avoiding cross-contamination

- washing raw meat and fish (Safe: Never/Not applicable; Unsafe: Sometimes/Most of the time/Always)

Cleaning

- cleaning sink every day (Safe: Always/Not applicable; Unsafe: Never/Sometimes/Most of the time)
- washing hands before food preparation ((Safe: Always/Not applicable; Unsafe: Never/Sometimes/Most of the time)
- changing tea towels and dishcloths at least once a week (Safe: Always/Not applicable; Unsafe: Never/Sometimes/Most of the time)
- wiping surfaces after food preparation (Safe: Always/Not applicable; Unsafe: Never/Sometimes/Most of the time)

Full details of the index derivation and scoring are given in Annex section 4.

2.2 Creating the segments

After these attitudinal dimensions and safety behavioural indices had been identified cluster analysis was undertaken and the segments were constructed.

Cluster analysis, in contrast to factor analysis which groups together statements, is a technique that groups together respondents who have similar profiles on a series of chosen constructs, in this case those outlined above. Full details of the process and method are included in Annex Section 2.

A separate segment was constructed for those respondents who did not frequently cook (once or twice a week or less), either for themselves or others.

2.3 Choosing the segmentation solution

The segmentation was an iterative process in that several different models were produced and the 'best' solution was chosen by the statistician, the project team and the FSA on the basis that:

- it provided a reasonable number (seven) of segments to work with,
- each segment was of a good size and had good within-segment similarity and:
- the discrimination between the different segments was easy to understand.

Five and six cluster solutions were also examined in detail but were not found to be so well discriminated as the seven cluster solution that was chosen.

2.4 Naming the segments

There was much discussion around whether the segments should be given names. The final decision was to apply names which broadly describe the main characteristics of each, whilst avoiding stereotyping.

Thus our seven segments are:

1. **Convenience Hunters**

2. **Clean and Careful Cooks**

3. **Cooking's a Chore**

4. **Could do more**

5. **Confident but Confused Cooks**

6. **Laid Back in the Kitchen**

7. **Occasional Cooks / Someone Cooks for Me**

2.5 Replicating the segments

It was not an initial requirement of the specification to ensure that the segmentation would be able to be re-run or to produce 'golden questions'. Indeed, if that had been an objective or if the decision to go ahead with the segmentation had been made at the questionnaire design stage – then more success could have been guaranteed. Having said that, a retrospective attempt was made to pull out golden questions from the data, so that the segmentation could be replicated, which has been relatively successful.

While naturally the membership of segments can be accurately predicted, when all the factors and indices are incorporated, the practicalities of replicating this would mean that all the attitudes and behaviours would have to be included again to form factors and indices and replicate the segmentation. So the challenge lies in being able to classify respondents into segments using single attitudes or behaviours rather than factors or indices.

Stepwise Discriminant Analysis was used to assess the classification success rate of applying only a certain number of variables that fed into the factors and indices rather than all of them. They are included in order of the influence that they have. Using the top 25 (of 81 separate variables that were included in either the factors or indices) (see Tables A1, A2 and A3 in Section 5) gives a classification success rate of between 73% and 80% for the different segments and using the top 15 predicts the segment accurately for between 54% and 71%, and indeed all but one segment has a rate of 65% or more.

The variables which most accurately predict which segment a respondent belongs to are as follows and are a combination of reported behaviours (B) and attitudes (A). These are listed in order of importance:

1   Whether the fridge temperature checked (B)

2   Changing tea towels (B)

3   Eating leftovers (B)

4   Wiping surfaces after food preparation (B)

5   Cooking food until steaming hot throughout (B)

6   If you eat out a lot you are more likely to get food poisoning (A)

7   People worry too much about getting food poisoning (A)

8   Clean sink thoroughly every day (B)

9   The price of food doesn't matter as long as I know the quality is good (A)

10   I am unlikely to get food poisoning from food prepared in my own home (A)

11   Defrost frozen food at room temperature (B)

12   I often worry about whether the food I have is safe to eat (A)

13   Wash hands before start cooking/ preparing food (B)

14   It's just bad luck if you get food poisoning (A)

15   How often would reheat food (B)

16   Wash raw meat and poultry (B)

17   You are more likely to get food poisoning abroad than in this country (A)

18   Change dishcloths/ sponges at least once a week (B)

19   What used to wash hands (B)

20   For me, food is just fuel to live (A)

21   Restaurants and catering establishments should pay more attention to food safety (A)

22   I always avoid throwing food away (A)

23   Use tea towels to dry hands after washing (B)

24   The price of food means I often don't buy the food I would like to (A)

25   The experts contradict each other over what foods are good or bad for you (A)

In addition, the questions 'How often do you cook or prepare food for yourself?' and 'How often do you cook or prepare food for others?' are needed in order to allocate respondents to segment 7 (Occasional Cooks / Someone Cooks for Me).

Table 2 shows the classification success rates for allocating respondents to clusters using the top 25 and top 15 items (plus the two additional items on frequency of cooking/preparing food).

Table 2   Classification success rates using 'golden questions'

	Using 25 items (plus 2)	Using 15 items (plus 2)
	%	%
1. Convenience Hunters	74	68
2. Clean and Careful Cooks	77	67
3. Cooking's a Chore	80	71
4. Could do More	76	54
5. Confident but Confused Cooks	76	65
6. Laid Back in the Kitchen	73	69
7. Occasional Cooks/Someone Cooks for Me	100	100

3.   Results of the segmentation

As outlined already, a seven segment solution was chosen as the best segmentation of the survey population.

Segments 1 to 6 were those who were involved in food preparation, and segment 7 was those who did not cook regularly for themselves or others.

This final segment was made up of those who cooked for themselves or for others once or twice a week or less frequently– because they did not undertake food safety behaviour on a regular basis, they emerged as a separate segment at an early stage. These respondents frequently answered 'don't know' to the food safety behaviour questions.

As Chart 1 shows, all segments were relatively similar in size, ranging from 11% (segment 6) of the total up to 20% (segment 7).

Chart 1 – Breakdown of segments
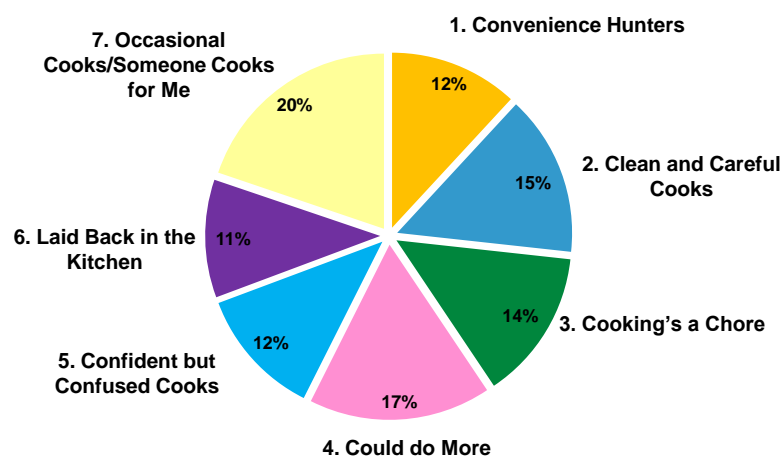
Before describing each of the segments in detail, Table 3 indicates how each of the six segments made up of respondents who were regularly involved in food preparation scored on the indices and factors, and thus what differentiates each of them as a segment. For the behaviour indices 'Dates and Storage' and 'Hand Washing and Drying' and the attitudinal factor 'Cooking Enjoyment' there was no substantial difference between all the segments which cook regularly, and so these are not shown in the Table.

Table 3   Breakdown of the six segments which cook regularly by indices and factors

Index/Factor	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6
Indices:						
Meat/Tins Storage	Low	Medium	Medium	Medium	Medium	Medium
Cooking, Reheating and Leftovers	Medium	Medium	Medium	Medium	Medium	Low
Fridge Temperature	Low	High	Low	Medium	Medium	Medium
Defrosting	High	Medium	Low	High	Low	Medium
Avoiding cross-contamination	High	Low	Medium	Medium	Low	High
Cleaning	Low	Medium	Medium	Medium	Medium	Medium
Factors:						
Food as a function	Medium	High	Medium	Medium	Medium	Medium
Health and food	Medium	High	High	Medium	Low	Low
Response to food messages	High	Medium	Low	Medium	Medium	High
Food poisoning in the home	Medium	Low	Medium	High	Medium	Medium
Concern about food safety	Medium	Medium	Medium	Medium	High	Low
Price of food	Medium	Medium	Low	Medium	Medium	Medium

Note: 'Low' indicates that this segment is below average for food engagement/food safety for the index/factor indicated; 'High' that the segment is above average for food engagement/food safety, and 'Medium' that the segment is about average for food engagement/food safety.

The demographic profiles of the segments are compared in Section 4. The seven segments are described in more detail in the sections that follow.

Tables A1 and A2 in Section 5 show the breakdown of all the segments by the attitudinal and behavioural items that make up the factors and indices. In the tables, the percentage of respondents who are positive towards food engagement and follow good food safety practice is shown for each item, so that comparisons can more easily be made between the different segments.

Segment 1 – 'Convenience hunters'

12% of all respondents

Table 4 Segment 1 on the factors and indices in the segmentation

Index/Factor	Segment 1 Convenience Hunters
Indices:	
Meat/Tins Storage	Low
Cooking, Reheating and Leftovers	Medium
Fridge Temperature	Low
Defrosting	High
Avoiding cross-contamination	High
Cleaning	Low
Factors:	
Food as a function	Medium
Health and food	Medium
Response to food messages	High
Food poisoning in the home	Medium
Concern about food safety	Medium
Price of food	Medium

Note: 'Low' indicates that this segment is below average for food engagement/food safety for the index/factor indicated; 'High' that the segment is above average for food engagement/food safety, and 'Medium' that the segment is about average for food engagement/food safety.

What defines this segment?

This segment could be a key target for communication around food safety behaviour. It is identified by low levels of safe behaviour on three of the eight food safety indices, but has attitudes which are broadly in line with the total, although they are less negative than other segments when it comes to food safety messages.

This segment's food safety behaviour is generally more risky than the other segments in respect of storage, fridge temperatures and cleaning. Focusing on the elements which are most discriminatory in the segmentation overall, they are the least likely to always:

- **Change tea towels every week**
  - 35% do so – while the next lowest segment to do so is the infrequent cooks (7) – of which 63% do.

- **Wipe surfaces after food preparation**
  - 50% always do this, compared with 69% of the infrequent cooks (7) and more than 90% of all the other segments.

- **Clean sink thoroughly every day**
  - 15% of 'Convenience Hunters' always do this, while more than half those in all the other segments do (between 53% and 86% for other segments).

- **Wash hands before starting to cook or prepare food**
  - Just over half of this segment (53%) always do this, while 73% of infrequent cooks and at least 89% of the other five segments always wash their hands.

- **Change dishcloths / sponges at least once a week**
  - 'Convenience Hunters' are least likely to change their sponges on a weekly basis:- 16% do so, while between 53% and 85% of those in the other six segments do so.

- **Use tea towels to dry their hands after washing them**
  - 42% of 'Convenience Hunters' use a tea towel to dry their hands, more than any of the other segments (between 14% and 34%).

'Convenience Hunters' tend not to check their fridge temperatures (or have someone else in the household doing it), 25% do so making them the second least likely segment after segment 3 (6%). Whereas in the other five segments, more than half of those in all of them checked these temperatures.

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On the other hand, this segment is high for food safety in two areas:

- o **Washing raw meat and poultry** - They are the least likely
  segment to always wash raw meat and poultry (23% do so) – so
  in this respect are most likely to be following FSA advice,
  however in view of the other behaviours this is possibly due to
  convenience rather than a deliberate attempt to be safe in the
  kitchen.
- o **Defrosting -** They are among the lowest segments for
  defrosting frozen food at room temperature – 16% always do
  this, compared with 24% overall. They are above average for
  defrosting frozen food in a microwave – 60% of this segment do
  this at all, compared with 47% overall.

What are they like?

In terms of their attitudes to food, convenience is an important consideration:

- Half of them agreed that 'For me, most of the time food should be as
  quick as possible to prepare' (50%), along with the 'Confident but
  Confused Cooks' (segment 5) the highest level of agreement with this
  statement – lowest on this were the 'Clean and Careful Cooks'
  (segment 2) at 22%.
- A higher proportion of respondents in this segment than all others
  (42%) reported that they eat microwave meals once a week or more
  (42% for segment 1, compared with 20% for the 'Clean and Careful
  Cooks' (segment 2) and between 27% and 37% for the other
  segments).
- Respondents in this segment were less likely than segments 2, 4, 5
  and 6 to agree with the statements 'I enjoy reading articles about food
  in newspapers and magazines' (39% segment 1, compared with 53%-
  64% for segments 2, 4, 5 and 6) and 'I enjoy cooking and preparing
  food' (63% segment 1, compared with 77%-83% for segments 2, 4, 5
  and 6).

This segment came out high in response to food messages – they are the most likely to disagree that 'The experts contradict each other over what foods are good or bad for you' (18%, compared with 12% overall), and, along with segment 6, most likely to disagree that 'I am fed up with experts telling me what I should eat' (both 38%, compared with 31% overall).

Given their lack of interest in food and their risky behaviour, it is perhaps unsurprising that this was the segment with the highest reported incidence of food poisoning. 45% reported that they had personally had food poisoning, which was the highest percentage on this measure; lowest were segments 5 (Confident but Confused Cooks) and 7 (Occasional Cooks) at 35%.

Segment 2 - 'Clean and careful cooks'

15% of all respondents

Table 5 Segment 2 on the factors and indices in the segmentation

Index/Factor	Segment 2 Clean and Careful Cooks
Indices:	
Meat/Tins Storage	Medium
Cooking, Reheating and Leftovers	Medium
Fridge Temperature	High
Defrosting	Medium
Avoiding cross-contamination	Low
Cleaning	Medium
Factors:	
Food as a function	High
Health and food	High
Response to food messages	Medium
Food poisoning in the home	Low
Concern about food safety	Medium
Price of Food	Medium

Note: 'Low' indicates that this segment is below average for food engagement/food safety for the index/factor indicated; 'High' that the segment is above average for food engagement/food safety, and 'Medium' that the segment is about average for food engagement/food safety.

What defines this segment?

Members of this segment are essentially undertaking very little in the way of risky behaviour. They do not believe themselves to be at risk of food poisoning in their own home and are confident in the cleanliness of their own homes. The segment is identified by a high levels of safe behaviour on the checking fridge temperature index and confidence in their own abilities and knowledge about food generally; however they are low on avoiding cross-contamination.

This segment's food safety behaviour overall is among the highest of the segments. Focusing on the elements which are most discriminatory in the segmentation overall, they are likely to always:

- **Check fridge temperatures**
  - 91% of 'Clean and Careful Cooks' do this, higher than any other segment

- **Change tea towels every week**
  - 92% do so, the second highest segment (93% of segment 5 do as well, as do between 87% and 91% of segments 3, 4 and 6.)

- **Wipe surfaces after food preparation**
  - 97% of the segment always do this, the same proportion as segment 5, higher than segments 4 and 6 (92% and 91% respectively).

- **Clean sink thoroughly every day**
  - More than eight out of ten 'Clean and Careful Cooks' do this (82%) making them along with segment 5 (of which 86% do) more likely than other groups.

- **Wash hands before starting to cook or prepare food**
  - 96% of 'Clean and Careful Cooks' always wash their hands, making them (along with segment 5) more likely than other groups (although segments 3, 4 and 6 are also high on this measure, between 89% and 90%).

- **Cook food until steaming hot throughout**
  - Almost all (93%) 'Clean and Careful Cooks' always cook food in this way, the highest of the segments on this measure – segments 3, 4 and 5 are also high on this measure (between 90% and 92%).

- **Change dishcloths/ sponges at least once a week**
  - More than eight out of ten 'Clean and Careful Cooks' (83%) always do this, which is a similar proportion to segment 5 (85%) and higher than segments 1,4,6 and 7.

- **Use tea towels to dry their hands after washing them**
  - 14% of 'Clean and Careful Cook's use a tea towel to dry their hands, which is a lower proportion than in the other segments.

- **Wash raw meat and poultry**
  - It is interesting that while 'Clean and Careful Cooks' are generally very safe in their behaviour, following FSA advice, they are the second most likely segment to wash raw meat and poultry (64% of them always do so, second only to segment 5 at 69%) which implies they are doing so in the belief that it is the correct thing to do. This reinforces the findings from the qualitative development work, where this misconception was explored[3].

In terms of their attitudes, 'Clean and Careful Cooks' have views which are quite different from other segments. So they are more likely than the other segments to agree that:

- 'I am unlikely to get food poisoning from food prepared in my own home' - 87% agree, against 72% of the total
- 'Restaurants and catering establishments should pay more attention to food safety' - 91% of 'Clean and Careful Cooks' agree, compared with 82% of the total

And they are least likely to agree that:

- 'people worry too much about getting food poisoning' – where 21% agree, compared with 41% of the total
- 'It's just bad luck if you get food poisoning' 16% agree against 28% of the total.

What are they like?

'Clean and Careful Cooks' generally enjoy cooking and preparing food (81% agree, which is the second highest segment after segment 5 with 83%). They reported following many of the FSA's recommended food preparation practices, as 94% followed storage advice and 97% followed 'use by' date marks when cooking, compared with 85% and 92% overall respectively.

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[3] Qualitative work was carried out to inform the questionnaire design for the survey, further details are available in the full report: http://www.foodbase.org.uk/results.php?f_report_id=641

This segment are the most likely to cook for others – 54% do so at least once a day, compared with 37% overall. They are also above average for cooking for themselves – 74% do so at least once a day, compared with 57% overall.

Nearly all respondents in this segment (94%) reported that overall what they usually eat was healthy (compared with 82% overall) and two thirds (66%) agreed with the statement 'The price of food doesn't really matter as long as I know that the quality is good' (compared with 51% overall).

Segment 3 – 'Cooking's a Chore'

14% of all respondents

Table 6 Segment 3 on the factors and indices in the segmentation

Index/Factor	Segment 3 Cooking's a Chore
Indices:	
Meat/Tins Storage	Medium
Cooking, Reheating and Leftovers	Medium
Fridge Temperature	Low
Defrosting	Low
Avoiding cross-contamination	Medium
Cleaning	Medium
Factors:	
Food as a function	Medium
Health and food	High
Response to food messages	Low
Food poisoning in the home	Medium
Concern about food safety	Medium
Price of food	Low

Note: 'Low' indicates that this segment is below average for food engagement/food safety for the index/factor indicated; 'High' that the segment is above average for food engagement/food safety, and 'Medium' that the segment is about average for food engagement/food safety.

What defines this segment?

People in this segment tend to display average levels of risky behaviour on food safety, with the exception of checking fridge temperatures and defrosting. Their attitudes differentiate them from other segments, particularly those relating to the cost of food.

- **Check fridge temperatures**
  - o A small minority of those in the 'Cooking's a Chore' segment (6%) check their fridge temperatures, which compares with 51% of the total. They were also least likely to know what the fridge temperature should be (53% answered 'Don't know' when

asked what temperature it should be and a further 12% gave an incorrect temperature).

- **Defrost frozen food at room temperature**
    - Almost a third (31%) of this segment always do this, making them the second highest segment to do so (49% of segment 5 and 24% on average).
- **Reheating food**
    - Only 1% of this segment reheat leftovers more than once, which along with segment 2 is the lowest.

In terms of their attitudes, those in 'Cooking's a Chore' have differing views from other segments, particularly around the price of food. So they are more likely than the other segments to agree that:

- 'The price of food means I often don't buy the food I would like to'- 59% agree, against 38% of the total.
- 'The experts contradict each other over what foods are good or bad for you' - 83% of 'Cooking's a Chore' agree, compared with 73% of the total.

And they are least likely of all segments to agree that:
- 'The price of food doesn't matter as long as I know the quality is good' – where 38% agree, compared with 60% of the total
- 'I always avoid throwing food away ' where 32% agree against 48% of the total.
- 'I often worry about whether food is safe to eat' 16% compared to an average of 24%.

This segment scored high on the Health and Food factor – they have above average levels of disagreement that 'People worry too much about food poisoning' (46% disagree, compared with 37% overall), and 'I always avoid throwing food away' (56% disagree, compared with 40% overall).

What are they like?

Respondents in this segment do the most cooking of all the segments, along with segments 2 and 5 - 76% of segment 3 cook for themselves, and 51% for others every day, compared with between 76% and 49% for segment 5, and 74% and 54% for segment 2; among the other segments (apart from segment 7), between 66% and 69% cook for themselves every day, and between 26% and 50% for others.

This segment have a lower level of enjoyment than all the other segments apart from Convenience Hunters (63%) and Occasional Cooks (40%), with a relatively low two thirds (65%) agreeing that they 'enjoy cooking or preparing food.'

Segment 4 – 'Could do More'

17% of all respondents

Table 7 Segment 3 on the factors and indices in the segmentation

Index/Factor	Segment 5 Could do More
Indices:	
Meat/Tins Storage	Medium
Cooking, Reheating and Leftovers	Medium
Fridge Temperature	Medium
Defrosting	High
Avoiding cross-contamination	Medium
Cleaning	Medium
Factors:	
Food as a function	Medium
Health and food	Medium
Response to food messages	Medium
Food poisoning in the home	High
Concern about food safety	Medium
Price of food	Medium

Note: 'Low' indicates that this segment is below average for food engagement/food safety for the index/factor indicated; 'High' that the segment is above average for food engagement/food safety, and 'Medium' that the segment is about average for food engagement/food safety.

What defines this segment?

People in this segment tend to display average levels of risky behaviour on food safety, with the exception of defrosting where they score highly for food safety as they do not tend to defrost food at room temperature. They have some attitudes which differentiate them from other segments, particularly those on the subject of food poisoning in the home, where they are more concerned than other groups. They are also the second most likely to have experienced food poisoning.

- **Defrost frozen food at room temperature**
    - o This segment is least likely to always defrost food at room temperature. One in ten (11%) do so, compared with 24% of the total.

- **Washing raw meat and poultry**
  - This segment is less likely than average to wash meat and poultry (28% always do compared with 41% overall), which makes this segment, along with segment 1 (23%) and 6 (27%) less likely than the other groups to do this.

In terms of their attitudes, those in the 'Could do More' segment have differing views from other segments, particularly around food poisoning as they are less concerned about food safety out of the home, and more concerned in the home than other segments. They are least likely of all segments to agree that:

- 'If you eat out a lot you are more likely to get food poisoning' –14% agree, compared with 42% of the total
- 'I am unlikely to get food poisoning from food prepared in my own home' - 49% agree against 72% of the total.
- 'You are more likely to get food poisoning abroad than in this country' 26% agree, while 50% of the total do.
- 'Restaurants and catering establishments should pay more attention to food safety' – 70% agree, compared with 82% of the total.

What are they like?

Food is important to this segment – 17% agreed that 'For me, food is just fuel to live', which is lower than for the other segments apart from the 'Clean and Careful Cooks' (12%) – on average, 24% said this. They are also the most likely to say that they enjoy making new things to eat – 78% agreed with this, compared with 65% overall (segments 6 (76%), 2 (75%), and 5 (73%) were also above average on this measure).

The majority of respondents in segment 4 described what they usually eat as healthy (84%), compared with 82% overall (segments 2 (94%), 6 (91%) and 5 (89%) were also above average on this measure).

Segment 5 – 'Confident but Confused cooks'

12% of all respondents

Table 8 Segment 5 on the factors and indices in the segmentation

Index/Factor	Segment 5 Confident but Confused Cooks
Indices:	
Meat/Tins Storage	Medium
Cooking, Reheating and Leftovers	Medium
Fridge Temperature	Medium
Defrosting	Low
Avoiding cross-contamination	Low
Cleaning	Medium
Factors:	
Food as a function	Medium
Health and food	Low
Response to food messages	Medium
Food poisoning in the home	Medium
Concern about food safety	High
Price of food	Medium

Note: 'Low' indicates that this segment is below average for food engagement/food safety for the index/factor indicated; 'High' that the segment is above average for food engagement/food safety, and 'Medium' that the segment is about average for food engagement/food safety.

What defines this segment?

This segment displays average levels of food safety behavior for most elements, apart from defrosting and cross-contamination, where they score below average.

On their behaviour, segment 5 are more likely to:

- **Change tea towels every week**
  - 93% always do so, making them the most likely segment to, similar to segment 2 (92%) and 4 (91%); segment 1 was lowest on this measure at 35%.

- **Wipe surfaces after food preparation**
    - 97% of the segment always do this, which is the same (highest) proportion as the 'Clean and Careful Cooks'; segment 1 was again lowest at 50%.
- **Clean sink thoroughly every day**
    - 86% always do this, making them more likely than any of the other segments; next highest was segment 2 at 82%; segment 1 was again lowest at 15%.
- **Wash hands before starting to cook or prepare food**
    - 96% of those who are 'Confident but Confused Cooks' always wash their hands, making them (along with 'Clean and Careful Cooks') more likely than other groups; segment 1 was again lowest at 53%.
- **Cook food until steaming hot throughout**
    - Almost all (92%) 'Confident but Confused' always cook food in this way – a similar level to the 'Clean and Careful Cooks' (93%), closely followed by segments 3 and 4 (both 90%), but higher than the other five segments.
- **Change dishcloths/ sponges at least once a week**
    - 85% of the 'Confident but Confused' always change their dishcloths or sponges on a weekly basis, a similar level to segment 2 (83%) and higher than for the other segments (between 16% and 76%).
- **Use tea towels to dry their hands after washing them**
    - 19% of 'Confident but Confused Cooks' use a tea towel to dry their hands, which is a lower proportion than the other segments, apart from the 'Clean and Careful Cooks' (14%); highest on this was segment 1 at 42%.
- **Eating leftovers, more than two days later**
    - 2% of this segment would eat leftovers more than two days after a meal was made, which is lower than all other segments – highest was segment 6 at 53%.

However there are two food safety behaviours, where this segment are not following the course of action recommended by the FSA:

- **Wash raw meat and poultry**
    - o It is interesting that while 'Confident but Confused Cooks' are generally very safe in their behaviour, following FSA advice, they are the most likely segment to wash raw meat and poultry (69% of them always do so, along with segment 2 at 64%), again suggesting that they believe it to be the safe course of action.

- **Defrost frozen food at room temperature**
    - o This segment is most likely to always defrost food at room temperature. Almost half (49%) do so, compared with 24% of the total. They were least likely to ever defrost food in a microwave – 62% said they never did this, compared with 47% overall.

In terms of their attitudes, those in the 'Confident but Confused Cooks' segment have many differing views from other segments.
They are more likely than other segments to agree that:

- 'If you eat out a lot you are more likely to get food poisoning' – where 61% agree (the highest proportion of all segments)
- 'People worry too much about getting food poisoning' – with 71% agreeing (again the highest proportion of all segments)
- 'I often worry about whether the food I have is safe to eat' - 58% agree (a higher proportion than all other segments)
- 'It's just bad luck if you get food poisoning' – 57% agree, which is significantly higher than all other segments (the next highest is segment 6 with 33%)
- 'You are more likely to get food poisoning abroad than in this country' – almost two thirds (65%) of 'Confident but Confused Cooks' agree with this statement, which is higher than any of the others.

- 'Restaurants and catering establishments should pay more attention to food safety' –95% agree, which is again higher than any other segment.
- 'I always avoid throwing food away' – a higher proportion of this segment agrees (72%) than of any other segment.
- However they are less likely (53%) than segments 6 (70%), 1 (59%), 4 (59%) and 3 (58%) to agree that 'a little bit of dirt won't do any harm'.

What are they like?

The majority of respondents in segment 5 agreed with the statement 'I enjoy cooking and preparing food' (83%). However, almost half of this segment agrees with the statement 'For me food is just fuel to live' (49%), which is higher than all other segments.

Segment 6 – 'Laid back in the Kitchen'

11% of all respondents

Table 9 Segment 6 on the factors and indices in the segmentation

Index/Factor	Segment 6 Laid Back in the Kitchen
Indices:	
Meat/Tins Storage	Medium
Cooking, Reheating and Leftovers	Low
Fridge Temperature	Medium
Defrosting	Medium
Avoiding cross-contamination	High
Cleaning	Medium
Factors:	
Food as a function	Medium
Laid back about health and food	Low
Response to food messages	High
Food poisoning not an issue in the home	Medium
Concern about food safety	Low
Price of Food	Medium

Note: 'Low' indicates that this segment is below average for food engagement/food safety for the index/factor indicated; 'High' that the segment is above average for food engagement/food safety, and 'Medium' that the segment is about average for food engagement/food safety.

What defines this segment?

This segment does engage in some risky behaviour in the kitchen, particularly around cooking, and re-heating and eating leftovers. They also display some attitudes which are quite different from others in that they are more laid back about food and food safety.

So on their behaviour, they are more likely to:

- **Eat leftovers, more than two days later**
  - More than half of this segment would eat leftovers more than two days after a meal was made (53%), which is higher than all other segments (next highest is Convenience Hunters with 22%).

- **Cook food until steaming hot throughout**
  - Again around half (51%) always do this, meaning that a similar proportion do not always make sure food is cooked properly. This is lower than all the other segments – on average 80% did this.
- **Reheating leftovers more than once**
  - This segment is much more likely than any others to reheat leftovers more than once, against FSA advice. A fifth (21%) would reheat twice or more, compared with 7% overall and 11% of the next highest segment (segment 7).

On most other food safety behaviours, this segment is in line with the average but they are above average for avoiding cross-contamination, being one of the least likely segments to wash raw meat and poultry (second lowest proportion at 27%).

Respondents in this segment were more likely than all the other segments to eat chicken, turkey or pork when the meat is pink or has pink or red juices (19% do so at least sometimes, compared with 6% overall).

This group is also least concerned about food or food poisoning:
- They tend to agree that 'I am unlikely to get food poisoning from food prepared in my home' 85% agree with this statement, second only to segment 2, the 'Clean and Careful Cooks' (87%)
- 'I often worry about whether the food I have is safe to eat' - 12% agree (a lower proportion than all other segments)
- 'I always avoid throwing food away' – they were more likely to agree with this than (66%) than the other segments, except for segment 5 (72%).
- Along with 'Convenience Hunters' (segment 1) they are the least likely to agree that 'the experts contradict each other over what foods are good for you' – 62% of these two agree with this statement, compared with 73% of the total.

What are they like?

The price of food seemed to be less of an issue for respondents in this segment than those in other segments, as six out of ten (59%) disagreed with the statement 'The price of food means I often don't buy the food I would like to', compared with 51% overall. Seven out of ten (70%) in this segment agreed with 'A little bit of dirt won't do you any harm', compared with 54% overall.

This segment score highly on response to food messages – they are the group most likely to disagree with 'I get confused over what is supposed to be healthy' (72% disagree, compared with 60% overall), and, along with segment 1, most likely to disagree with 'I am fed up with experts telling me what I should eat' (both 38%, compared with 31% overall).

Segment 7 – 'Occasional cooks' / 'Someone cooks for me'

20% of all respondents

The final segment consists of those people who cook rarely, if at all. Those who cook for themselves or others less frequently than 3-4 times per week were included in this segment. This in itself was the definition of the segment, so the other information about them is descriptive of their behaviour, rather than defining why they are a segment.

Their behaviour on food safety was generally in line with the average, but there are several behaviours where they are not being as safe as most other segments, namely:

- **Wiping surfaces after food preparation**
  - After 'Convenience Hunters' (segment 1) they are the second least likely group to always do this (69%, compared with 84% overall).
- **Cooking food until steaming hot throughout**
  - After 'Laid Back in the Kitchen' (segment 6) they are the least likely to do this (67% always do, compared with 80% overall).
- **Clean sink thoroughly every day**
  - They are less likely to always do this than other segments (53% do so), apart from 'Convenience Hunters' (15%), compared with 63% overall.
- **Wash hands before start cooking/ food preparation**
  - Along with 'Convenience Hunters', this is the only segment where this behaviour is not always undertaken by nine out of ten (73% do so, although higher than the 53% of 'Convenience Hunters') .

What are they like?

The attitudes are broadly in line with the total, however as their frequency of cooking suggests, they are the least likely to enjoy cooking (40%, compared

with 68% overall). Seven in ten respondents in segment 7 disagreed with the statement that 'Cooking is like a hobby for me' (70%).

4. Demographic comparison of segments

There are some clear differences in the demographic profile of the segments, which are illustrated in the following charts.

As Chart 1 shows, 'Convenience Hunters' and 'Occasional Cooks' are predominantly male, while 'Clean and Careful Cooks,' 'Could do More' and 'Confident but Confused Cooks' tended to be female.

Chart 1

Gender

Segment	Men	Women
Total	49	51
Convenience Hunters	60	40
Clean and Careful Cooks	34	66
Cooking's a Chore	42	58
Could do More	35	65
Confident but Confused Cooks	36	64
Laid Back in the Kitchen	46	54
Occasional cooks/Someone cooks for me	78	22

■ Men ■ Women
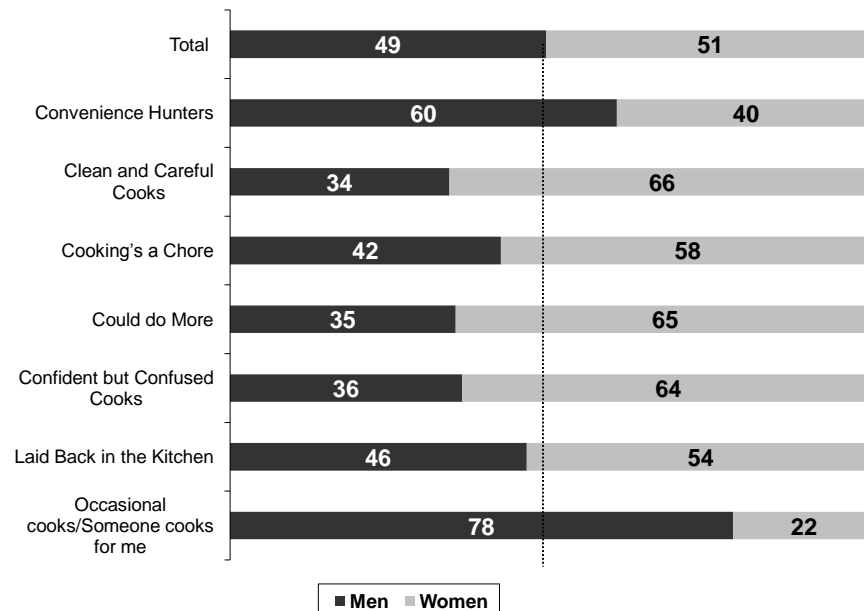
When it comes to the presence of children in the household, as Chart 2 shows 'Convenience Hunters' are less likely to have them, while those classified as 'Could do More' are more likely than the other segments to have children at home.

Chart 2

Children in Household
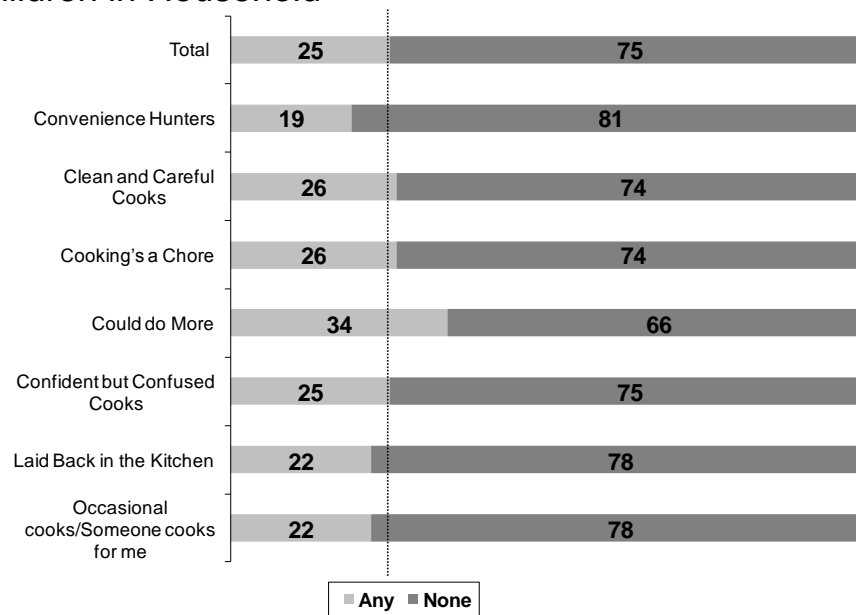
'Could do More' are the segment which are most likely to be working, while the 'Clean and Careful Cooks and the 'Confident but Confused Cooks' are most likely to be retired – see Chart 3.

Chart 3

Working status
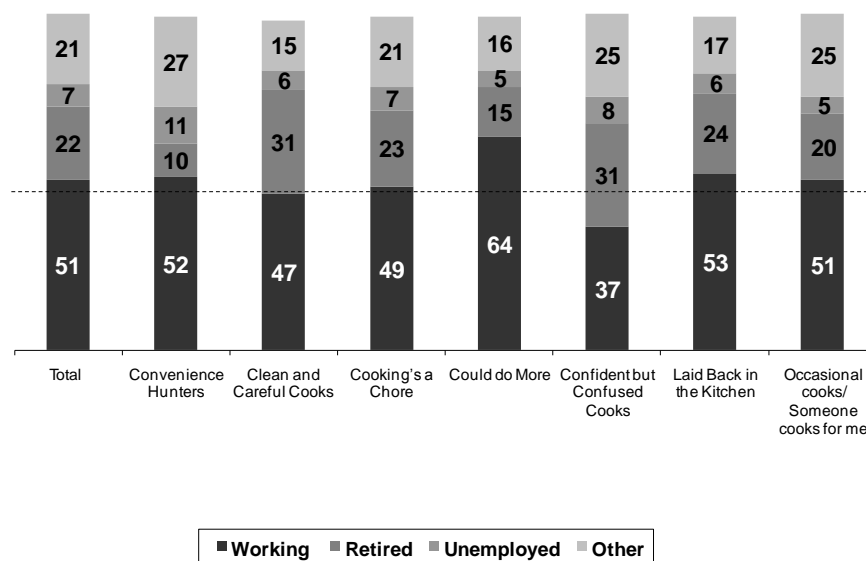
For all segments apart from 'Convenience Hunters', the majority of respondents are either married or living as married, with the 'Clean and Careful Cooks' the least likely to be single, widowed or divorced. See Chart 4.

Chart 4

Relationship/ Living status
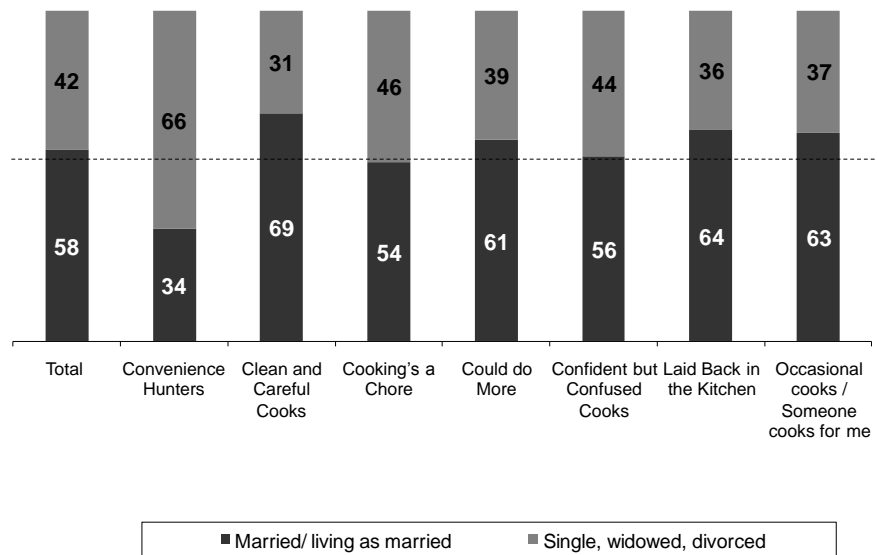
As Chart 5 shows, 'Convenience Hunters' tend to be aged 34 or less, while the highest proportions of those aged 65 plus are found in the 'Clean and Careful Cooks' and 'Confident but Confused cooks' segments.

Chart 5

Age

	16-34	35-64	65+
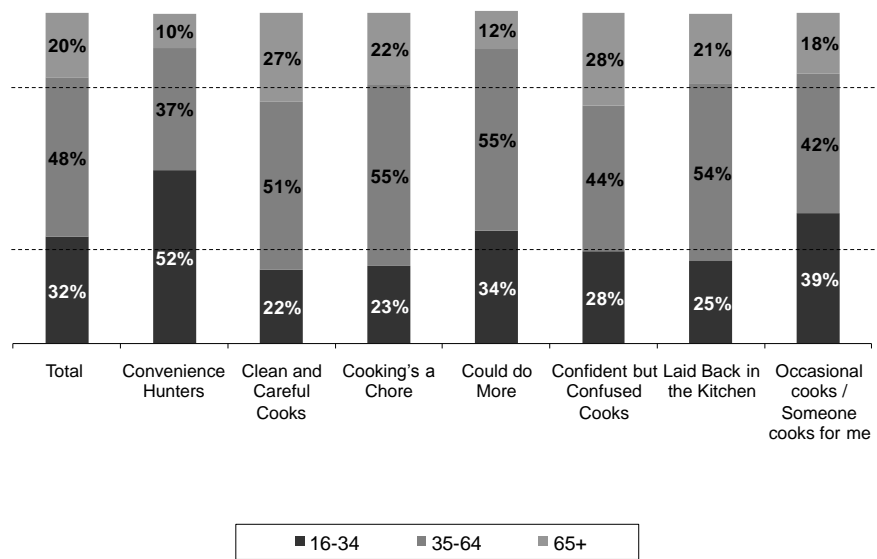
Chart 6 shows the breakdown of household income. Those in the 'Could do More' and 'Laid Back in the Kitchen' are mostly likely to have a high income (above £52,000) while those in 'Confident but Confused Cooks' and 'Cooking's a Chore' tend to have lower incomes. A relatively high proportion of 'Convenience Hunters' are in the lowest household income bracket, however they are more likely to be living alone.

Chart 6

Income
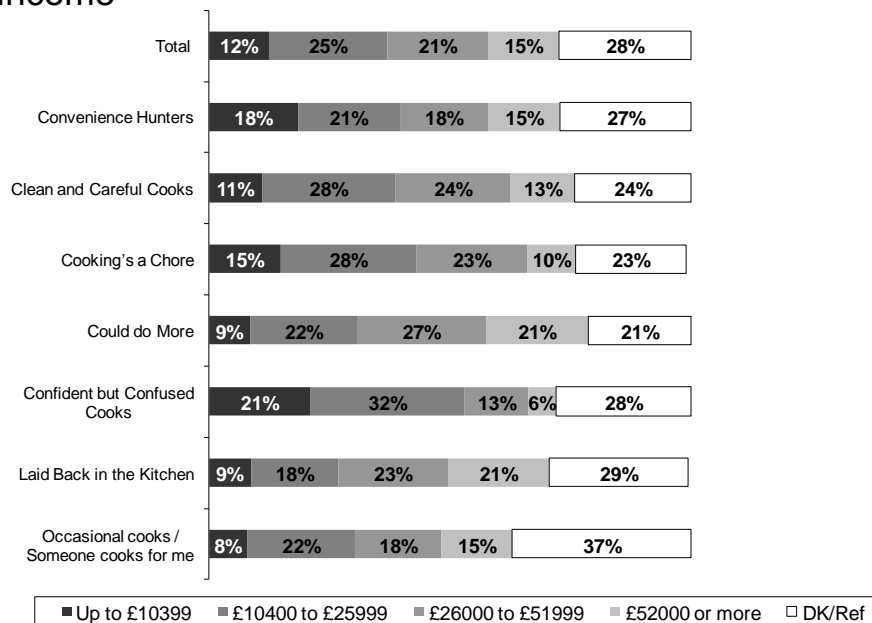
As Chart 7 shows, a third of those in 'Convenience Hunters' and 'Laid Back in the Kitchen' are educated to degree level or above. Those in 'Cooking's a Chore' and 'Confident but Confused Cooks' are least likely to have a degree and most commonly have no or other qualifications.

Chart 7

Highest Educational qualification
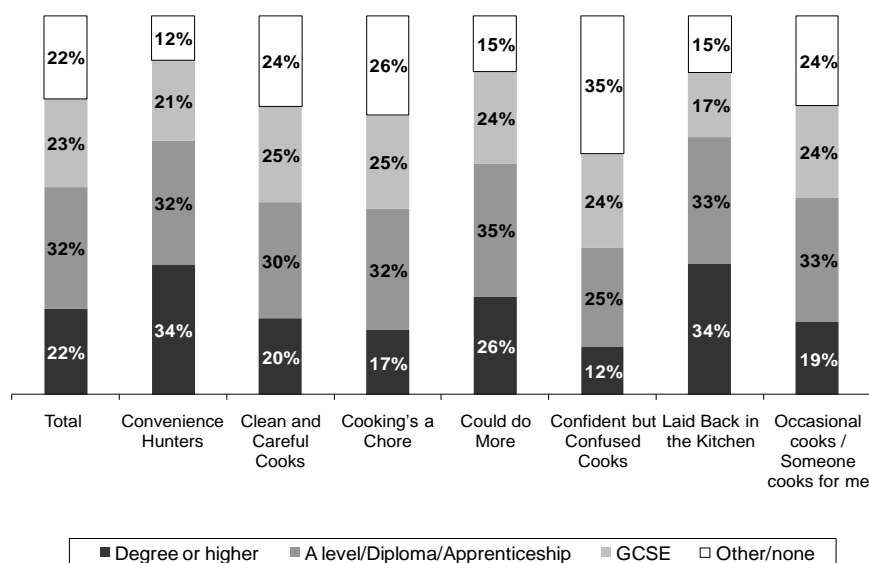
Overall 12% of the sample was classified as non-white ethnicity. There is some difference by segments as seen in Chart 8. The proportion of non-white respondents was higher than average in the 'Confident but Confused' and 'Occasional Cooks/ Someone Cooks for Me' groups, while those in the 'Could do More' and 'Cooking's a Chore' segments were more likely to be white.

Chart 8

Ethnicity

Segment	White	Non white
Total	88%	12%
Convenience Hunters	85%	15%
Clean and Careful Cooks	89%	11%
Cooking's a Chore	94%	6%
Could do More	97%	3%
Confident but Confused Cooks	80%	20%
Laid Back in the Kitchen	89%	11%
Occasional cooks / Someone cooks for me	81%	19%

■ White   ■ Non white
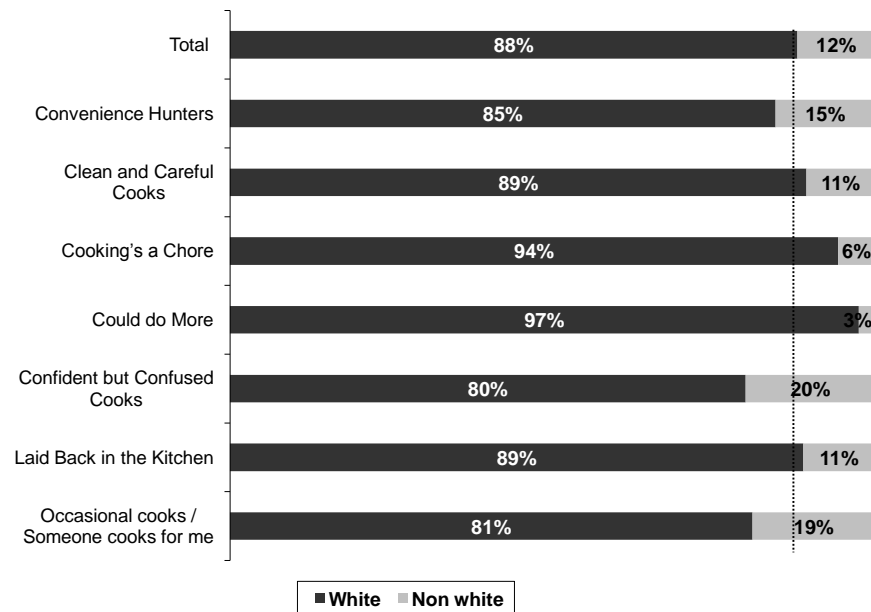
5. Data tables

Table A1 Breakdown of attitudinal statements by segment (showing the answers which are positive towards food engagement and food safety)

	Segment							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Total**
Unweighted base	356	528	516	531	413	341	468	3163
	%	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Factor 1 – Cooking Enjoyment								
I enjoy cooking and preparing food (% agree)	63	81	65	77	83	79	40	68
I enjoy making new things to eat (% agree)	61	75	63	78	73	76	40	65
Cooking is like a hobby for me (% agree)	37	51	36	39	60	50	19	40
I enjoy reading articles about food (% agree)	39	61	40	53	64	55	32	48
Factor 2 – Food as a function								
I don't really think about what I eat (% disagree)	71	87	61	80	65	81	60	72
My life is so busy that I just eat what I can on the go (% disagree)	57	85	68	65	61	76	61	68
Food should be as quick as possible to prepare (% disagree)	30	63	46	49	33	58	43	46
Food is just fuel to live (% disagree)	60	83	62	74	41	72	58	65
What you usually eat is … (% healthy)	71	94	77	84	89	91	72	82
Factor 3 –Health and food								
People worry too much about getting food poisoning (% disagree)	33	62	46	31	12	33	34	37
I always avoid throwing food away (% disagree)	30	53	56	44	22	19	44	40
It's just bad luck if you get food poisoning (% disagree)	53	73	65	65	27	49	59	57
Good health is just a matter of good luck (% disagree)	72	85	76	86	55	78	78	76
Factor 4 – Response to food messages								
Experts contradict each other (% disagree)	18	9	7	12	7	17	13	12
I am fed up with experts telling me what I should eat (% disagree)	38	33	24	29	24	38	33	31
I get confused over what is supposed to be healthy (% disagree)	62	69	55	67	42	72	54	60
Factor 5 – Food poisoning in the home								
You are more likely to get food poisoning abroad than in this country (% disagree)	23	21	27	50	16	19	25	27
If you eat out a lot you are more likely to get food poisoning (% disagree)	27	22	34	69	20	33	37	36

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	Segment							Total
	1	**2**	**3**	**4**	**5**	**6**	**7**	
Unweighted base	356	528	516	531	413	341	468	3163
	%	%	%	%	%	%	%	%
I am unlikely to get food poisoning from food prepared in my own home (% disagree)	18	8	20	39	15	7	21	19
Factor 6 – Concern about food safety								
I often worry whether the food I have is safe to eat (% agree)	20	23	16	18	58	12	26	24
Restaurants should pay more attention to food safety (% agree)	78	91	85	70	95	75	82	82
A little bit of dirt won't do you any harm (% disagree)	26	46	29	30	37	17	43	34
Factor 7 – Price of food								
The price of food doesn't matter as long as the quality is good (% agree)	50	66	38	65	77	61	62	60
The price of food often means I don't buy the food I would like to (% disagree)	42	66	31	60	44	59	51	51

Table A2 Significance of differences - attitudinal statements by segment

	Segment						
	1	**2**	**3**	**4**	**5**	**6**	**7**
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Unweighted base	356	528	516	531	413	341	468
Factor 1 – Cooking Enjoyment							
I enjoy cooking and preparing food (% agree)	G	A C G	G	A C G	A C G	A C G	
I enjoy making new things to eat (% agree)	G	A C G	G	A C G	A C G	A C G	
Cooking is like a hobby for me (% agree)	G	A C D G	G	G	A C D G	A C D G	
I enjoy reading articles about food (% agree)		A C G		A C G	A C D G	A C G	
Factor 2 – Food as a function							
I don't really think about what I eat (% disagree)	G	A C D E G		A C E G		A C E G	
My life is so busy that I just eat what I can on the go (% disagree)		A C D E F G	A			A D E G	
Food should be as quick as possible to prepare (% disagree)		A C D E G	A E	A E		A C E G	A E
Food is just fuel to live (% disagree)	E	A C D E F G	E	A C E G		A E G	E
What you usually eat is … (% healthy)		A C D G		A G	A C G	A C G	
Factor 3 –Health and food							
People worry too much about getting food poisoning (% disagree)	E	A C D E F G	A D E F G	E		E	E
I always avoid throwing food away (% disagree)	F	A E F	A D E F G	A E F			A E F
It's just bad luck if you get food poisoning (% disagree)	E	A E F G	A E F	A E F		E	E
Good health is just a matter of good luck (% disagree)	E	A C E	E	A C E G		E	E
Factor 4 – Response to food messages							
Experts contradict each other (% disagree)	B C E					B C E	E
I am fed up with experts telling me what I should eat (% disagree)	C E					C E	
I get confused over what is supposed to be healthy (% disagree)	E	C E G	E	C E G		C E G	E
Factor 5 – Food poisoning in the home							
You are more likely to get food poisoning abroad than in this country (% disagree)			E	A B C E F G			E
If you eat out a lot you are more likely to get food poisoning (% disagree)			B E	A B C E F G		B E	A B E
I am unlikely to get food poisoning from food prepared in my own home (% disagree)	B F		B F	A B C E F G	B F		B F
Factor 6 – Concern about food safety							
I often worry whether the food I have is safe to eat (% agree)		F			A B C D F G		C D F
Restaurants should pay more attention to food safety (% agree)		A D F G	D F		A C D F G		D

	Segment						
	1	**2**	**3**	**4**	**5**	**6**	**7**
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Unweighted base	356	528	516	531	413	341	468
A little bit of dirt won't do you any harm (% disagree)		A C D F	F	F	A F		A C D F
Factor 7 – Price of food							
The price of food doesn't matter as long as the quality is good (% agree)	C	A C		A C	A B C D F G	C	A C
The price of food often means I don't buy the food I would like to (% disagree)	C	A C E G		A C E G	C	A C E	C

Note: Results are based on two-sided tests with significance level 0.05. For each significant pair, the key of the category with the smaller column proportion appears under the category with the larger column proportion.

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Table A3 Breakdown of index behavioural items by segment (showing the answers which are positive towards food and food safety)

	Segment							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Total**
Unweighted base	356	528	516	531	413	341	468	3163
	%	%	%	%	%	%	%	%
Dates and storage								
Checking use-by dates when buying food (% Yes/Sometimes)	92	98	94	97	98	95	93	95
Checking use-by dates when cooking food (% Yes/Sometimes)	89	97	88	95	92	91	91	92
Whether storage instructions are followed (% Yes/Sometimes/When buying for the first time)	78	94	78	89	89	89	80	85
Meat/Tins storage								
Raw meat stored on the bottom shelf of the fridge	44	77	75	72	54	59	51	62
Cooked meat stored at the top of the fridge	24	39	44	33	34	29	28	33
Whether open tins are stored in the fridge								
- Never	49	88	84	77	70	65	60	71
- Not applicable	1	2	1	2	2	0	9	3
Cooking, reheating and leftovers								
Cook food until it is steaming hot								
- Always	71	93	90	90	92	51	67	80
- Not applicable	1	1	3	1	0	0	12	3
Eat chicken or turkey if the meat is pink								
- Never	83	90	95	93	89	77	87	88
- Not applicable	2	7	4	4	6	3	7	5
Number of times would reheat food								
- Never have leftovers	5	8	7	7	7	1	8	7
- Never	5	16	13	10	14	7	9	10
- Once	81	75	79	82	74	71	72	76
How long after cooking would leftovers be eaten								
- Never have leftovers	5	8	7	7	7	1	8	7
- Same day	6	4	3	3	6	2	4	4
- Next day	28	50	49	38	62	16	44	42
- Day after	39	31	37	44	23	27	31	33
Fridge temperature								
Whether fridge temperature is checked								
- Yes	18	81	6	49	50	47	30	40
- Someone else does	6	6	1	7	6	7	19	8

	Segment							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Total**
Unweighted base	356	528	516	531	413	341	468	3163
	%	%	%	%	%	%	%	%
- Has an alarm	1	4	0	4	2	4	2	2
Hand washing and drying								
Wash hands after handling raw meat								
- Always	66	94	92	92	89	86	72	84
- Not applicable	5	5	4	3	7	3	19	7
What is used to wash hands								
- Hot water	51	64	81	48	61	71	61	62
- Soap	52	59	63	53	61	69	65	60
What is used to dry hands								
- Hand towel	46	70	70	55	69	68	69	64
- Kitchen roll/paper	8	18	15	13	17	14	8	13
Defrosting								
Defrost food at room temperature								
- Never	18	17	12	19	8	9	11	13
- Not applicable	2	2	2	3	2	2	12	4
Avoiding cross-contamination								
Washing raw meat								
- Never	46	13	30	34	12	35	18	26
- Not applicable	6	7	7	7	10	7	26	11
Washing raw fish								
- Never	34	12	25	25	10	20	14	20
- Not applicable	19	17	20	17	21	12	35	21
Cleaning								
Cleaning sink every day								
- Always	15	82	67	67	86	67	53	63
- Not applicable	2	1	2	3	2	1	15	4
Washing hands before food preparation								
- Always	53	96	90	89	96	89	73	84
- Not applicable	0	1	1	1	0	1	10	2
Changing tea towels at least once a week								
- Always	35	92	89	91	93	87	63	79
- Not applicable	5	3	5	5	5	5	15	7
Changing dishcloths at least once a week								
- Always	16	83	76	71	85	67	53	65
- Not applicable	5	3	3	5	4	3	17	6

	Segment							Total
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Total**
Unweighted base	356	528	516	531	413	341	468	3163
	%	%	%	%	%	%	%	%
Wiping surfaces after food preparation								
- Always	50	97	94	92	97	91	69	84
- Not applicable	0	1	1	1	0	0	10	2

Table A4 Significance of differences - behavioural items by segment

	Segment						
	1	**2**	**3**	**4**	**5**	**6**	**7**
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Unweighted base	356	528	516	531	413	341	468
Dates and storage							
Checking use-by dates when buying food (% Yes/Sometimes)		A G		A	A G		
Checking use-by dates when cooking food (% Yes/Sometimes)		A C F G		A C			
Whether storage instructions are followed (% Yes/Sometimes/When buying for the first time)		A C D E G		A C G	A C G	A C G	
Meat/Tins storage							
Raw meat stored on the bottom shelf of the fridge		A E F G	A E F G	A E F G		A	
Cooked meat stored at the top of the fridge		A G	A D F G				
Whether open tins are stored in the fridge							
- Never		A D E F G	A E F G	A F G	A G	A	A
- Not applicable							A B C D E F
Cooking, reheating and leftovers							
Cook food until it is steaming hot							
- Always	F	A F G	A F G	A F G	A F G		F
- Not applicable							A B C D E F
Eat chicken or turkey if the meat is pink							
- Never		F	A F G	A F G	F		F
- Not applicable		A					
Number of times would reheat food							
- Never have leftovers		F	F	F	F		F
- Never		A F G	A		A F		
- Once	F G			F G			
How long after cooking would leftovers be eaten							
- Never have leftovers		F	F	F	F		F
- Same day							
- Next day	F	A D F	A D F	A F	A B C D F G		A F
- Day after	E F		E	B E F G			
Fridge temperature							
Whether fridge temperature is checked							
- Yes	C	A C D E F G		A C G	A C G	A C G	A C
- Someone else does	C	C		C	C	C	A B C D E F
- Has an alarm		A				A	
Hand washing and drying							
Wash hands after handling raw meat							
- Always		A F G	A G	A G	A G	A G	
- Not applicable							A B C D E F

	Segment						
	1	**2**	**3**	**4**	**5**	**6**	**7**
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Unweighted base	356	528	516	531	413	341	468
What is used to wash hands							
- Hot water		A D	A B D E F G		D	A D G	A D
- Soap			A			A D	A D
What is used to dry hands							
- Hand towel		A D	A D		A D	A D	A D
- Kitchen roll/paper		A G	G		A G	G	
Defrosting							
Defrost food at room temperature							
- Never	E F	E F		E F G			
- Not applicable							A B C D E F
Avoiding cross-contamination							
Washing raw meat							
- Never	B C D E G		B E G	B E G		B E G	
- Not applicable							A B C D E F
Washing raw fish							
- Never	B D E F G		B E G	B E G		B E	
- Not applicable			F		F		A B C D E F
Cleaning							
Cleaning sink every day							
- Always		A C D F G	A G	A G	A C D F G	A G	A
- Not applicable							A B C D E F
Washing hands before food preparation							
- Always		A C D F G	A G	A G	A C D F G	A G	A
- Not applicable							B C D E F
Changing tea towels at least once a week							
- Always		A G	A G	A G	A G	A G	A
- Not applicable							A B C D E F
Changing dishcloths at least once a week							
- Always		A D F G	A G	A G	A C D F G	A G	A
- Not applicable							A B C D E F
Wiping surfaces after food preparation							
- Always		A D F G	A G	A G	A F G	A G	A
- Not applicable							B C D E F

Note: Results are based on two-sided tests with significance level 0.05. For each significant pair, the key of the category with the smaller column proportion appears under the category with the larger column proportion.

Table A5 'Golden Questions' (Top 25) by segment

A = attitude B = behaviour	Segment							Total
	1	2	3	4	5	6	7	
Unweighted base	356	528	516	531	413	341	468	3163
	%	%	%	%	%	%	%	%
Checking fridge temperature (Yes/Someone else does) (B)	25	91	6	60	58	58	51	51
Changing tea towels every week (Always) (B)	35	92	89	91	93	87	63	79
Eating leftovers (Within 3 days) (B)	22	7	4	8	2	53	13	14
Wiping surfaces after food preparation (Always) (B)	50	97	94	92	97	91	69	84
Cooking food until steaming hot throughout (Always) (B)	71	93	90	90	92	51	67	80
If you eat out a lot you are more likely to get food poisoning (Agree) (A)	39	57	43	14	61	43	45	42
People worry too much about getting food poisoning (Agree) (A)	38	21	32	41	71	43	44	41
Clean sink thoroughly every day (Always) (B)	15	82	67	67	86	67	53	63
The price of food doesn't matter as long as I know the quality is good (Agree) (A)	50	66	38	65	77	61	62	60
I am unlikely to get food poisoning from food prepared in my own home (Agree) (A)	64	87	74	49	81	85	69	72
Defrost frozen food at room temperature (Always) (B)	16	23	31	11	49	17	25	24
I often worry about whether the food I have is safe to eat (Agree) (A)	20	23	16	18	58	12	26	24
Wash hands before start cooking/ preparing food (Always) (B)	53	96	90	89	96	89	73	84
It's just bad luck if you get food poisoning (Agree) (A)	26	16	23	21	57	33	25	28
How often would reheat food (More than once) (B)	10	1	1	2	5	21	11	7
Wash raw meat and poultry (Always) (B)	23	64	40	28	69	27	38	41
You are more likely to get food poisoning abroad than in this country (Agree) (A)	47	59	54	26	65	55	52	50
Change dishcloths/ sponges at least once a week (Always) (B)	16	83	76	71	85	67	53	65
What used to wash hands (Soap) (B)	52	59	63	53	61	69	65	60
For me, food is just fuel to live (Agree) (A)	28	12	29	17	49	21	35	27
Restaurants and catering establishments should pay more attention to food safety (Agree) (A)	78	91	85	70	95	75	82	82
I always avoid throwing food away (Agree) (A)	52	40	32	43	72	66	41	48
What used to dry hands after washing (Tea towel) (B)	42	14	21	34	19	24	23	25
The price of food means I often don't buy the food I would like to (Agree) (A)	40	27	59	30	47	32	37	38

	Segment							
A = attitude B = behaviour	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Total**
Unweighted base	356	528	516	531	413	341	468	3163
	%	%	%	%	%	%	%	%
The experts contradict each other over what foods are good or bad for you (Agree) (A)	62	79	83	71	81	62	70	73

6. Summary and conclusions

1 Convenience Hunters

- This group displays higher risk behaviour in respect of storage, fridge temperatures and cleaning.
- They are among the lowest for defrosting food at room temperature – instead, they are highest for defrosting food in a microwave.
- Along with segment 5, this group was most likely to agree that 'For me, most of the time food should be as quick as possible to prepare'.
- This segment is predominantly male. The majority of them are single, and they have the youngest age profile of all the segments.

2 Clean and Careful Cooks

- This segment are the group most likely to cook regularly for others; they are also high for cooking for themselves.
- They generally follow good food safety practice, especially in relation to checking fridge temperatures.
- However this segment is the second most likely to wash raw meat and poultry.
- This group enjoy cooking and preparing food.
- They are more likely than other segments to believe that they are unlikely to get food poisoning from food prepared in their own home, and also more likely to agree that restaurants and catering establishments should pay more attention to food safety.
- The majority of this segment is female, and they tend to be married/living as married. This segment has one of the highest proportions of respondents aged 65+

3 Cooking's a Chore

- This segment generally displays average levels of food safety behavior, except in respect of checking fridge temperatures and defrosting where their food safety practice is below average.
- This group is more likely than other segments to say that they often don't buy the food they would like to because of price.
- They are also most likely to agree that the experts contradict each other over what foods are good or bad for you.
- This segment is among the highest for cooking regularly for themselves and others.
- However they have among the lowest levels of enjoyment of cooking.
- The majority of respondents in this segment are aged 35-64.
- This group is among the lower segments for average household income, and among the least likely to be educated to degree level.

4 Could do More

- This segment is generally average for food safety, except for defrosting where they score highly as they do not tend to defrost food at room temperature.

- They are less concerned about food poisoning out of the home, and more concerned about food poisoning in the home, than other segments.
- The majority of this segment are female.
- This is the segment most likely to have children in the household.
- They are also the segment most likely to be working.
- This segment has the second lowest proportion of members aged 65+ - the majority of the segment are aged 35-64.
- The average household income of this segment is higher than for most other segments.

5   Confident but Confused Cooks

- This segment have average levels of food safety behavior, except in respect of defrosting and avoiding cross-contamination where they are low – they are the most likely segment to defrost at room temperature, and the most likely to wash raw meat.
- This segment has above average levels of concern about food safety – they are the most likely to agree that they often worry about whether food is safe to eat. But they are also most likely to agree that it is just bad luck if you get food poisoning.
- This segment is predominantly female.
- They are among the most likely segments to be retired, and correspondingly have among the highest proportion aged 65+.
- This segment is least likely to be educated to degree level or higher.

6   Laid Back in the Kitchen

- This segment engages in some risky behavior around cooking, reheating and use of leftovers. They are the most likely group to say that they would eat leftovers after more than two days, and least likely to say that they always cook food until it is steaming hot.
- However they follow good practice in respect of cross-contamination, being one of the least likely segments to wash raw meat.
- This group is among the least concerned about food poisoning.
- This is the segment most likely to disagree that 'I get confused over what is supposed to be healthy', and among the most likely to disagree that 'I am fed up with experts telling me what I should eat'.
- This segment has an above average proportion of respondents aged 35-64.
- They are more likely than average to have a high household income.
- They are among the most likely groups to be educated to degree level or higher.

7   Occasional Cooks / Someone Cooks for Me

- This segment was generally average in respect of food safety, although they gave a high proportion of 'not applicable' responses to the food safety questions.
- This segment is least likely to enjoy cooking.
- The great majority of respondents in this segment were male.
- In other respects their demographic profile was about average.

Annex

1. Factor analysis - method

Factor analysis is a mathematical technique that groups together statements into factors on the basis that statements within a factor are highly correlated i.e. answered in a similar way. The factors make it possible to understand the structure amongst a larger group of statements and to simplify further analysis and interpretation.

Mathematically the starting point is using Principal Component Analysis to simplify the data into a series of independent components which explain as much of the variation of the data as possible by linear combinations of the statements put in. The number of "real" factors within the data is determined by looking at the magnitudes of a mathematical parameter known as Eigenvalues which are associated with these successive principal components. Then a further mathematical technique is applied known as factor rotation (in this case Varimax) to these principal components. This rotation maintains the level of variance explained whilst ensuring the factors are independent.

Any 'Don't Know' scores were forced to missing. Then missing data was filled using mean score imputation, however this was not commonly done as there was less than 1% missing for each statement

Where necessary, scores were reversed so that 5 always became the most positive response and 1 became the least positive.

Factor analysis was run and after considering the relevant statistics (eigenvalues) a number of solutions were compared and the most appropriate and useable solution selected, in this case the 7 factor solution. See Annex 4 for factor loadings and variance explained.

2. Cluster analysis – method

In this instance the cluster analysis was run in three stages using K-means cluster analysis to produce well defined clusters that are not unhelpfully small or influenced by outliers.

The first stage of the process identifies a number of potential "seed" points for the initial centres of the clusters; the second stage excludes outliers and clusters all remaining respondents into groups. The third stage assigns the outliers to the groups achieved in the second run. In this way the outliers will be in the cluster to which they have most in common but they will not have been allowed to influence or bias the creation of the cluster.

This process is repeated for a number of different cluster "solutions" and through monitoring of statistics such as the r-squared value to ensure that the clusters explain a good proportion of the variation within the data. The final choice of number of clusters is determined by in depth profiling and interpretation of the clusters created against the constructs used in the analysis and against other data from the survey.

3. Definition of Food Safety Indices

Index 1   Dates and storage

Values	Variable name		Behaviour type		Scoring
			Safe	**Not safe**	
		Check sell by date			
1=yes/sometimes (netted)	P4_21N	buying – yes/sometimes	safe		score of 100 if all 3 safe behaviours exhibited to 0 if none of the 3
	P4_22N	cooking – yes/sometimes	safe		
		Follow storage instructions			
1=yes/sometimes /when first bought (netted)	P4_23N	yes/sometimes/ when first bought	safe		

Index 2   Meat storage

Values	Variable name		Behaviour type		Scoring
		Store raw meat in fridge			
1=yes	_N414C1	container	safe		
	_N414C10	bottom	safe		
	_N414C11	freezer	safe		
	_N414C12	separate	safe		
	_N414C13	separate fridge	safe		
	_N414C14	don't store	safe		
	_N414C15	don't buy	safe		create a safe/not safe value for the 3 elements, storing raw, storing cooked and storing tins, then score 100 if do all 3 safe behaviours down to 0 for none of the 3
	_N414C2	anywhere		not safe	
	_N414C3	top		not safe	
	_N414C6	middle		not safe	
	_N414C7	where ever		not safe	
	_N414C8	other		not safe	
	_N414C9	DK		not safe	
		Store cooked meat in fridge			
1=yes	_N416C11	container	safe		
	_N416C3	top	safe		
	_N416C4	away from	safe		
	_N416C5	separate compartment	safe		
	_N416C6	middle	safe		
	_N416C8	freezer	safe		
	_N416C9	separate	safe		
	_N416C10	separate fridge	safe		
	_N416C12	don't store	safe		
	_N416C13	don't buy	safe		
	_N416C1	anywhere		not safe	
	_N416C2	bottom		not safe	
	_N416C7	where ever		not safe	
	_N416C14	other		not safe	
	_N416C15	DK		not safe	
1=never 2=sometimes 3=most of the time 4=always 5=na	p4_1c	store open tins in the fridge	Never/ Na	all others	

Index 3   Reheating and leftovers

Values	Variable name		Behaviour type		Scoring
		Cooking			combine the levels to score 100 if display all safe behaviours to 0 for none
1=never 2=sometimes 3=most of the time 4=always 5=na	p4_1p	Cook food until hot	Always /Na	all others	
	p4_1q	Eat white meat pink	Never/ Na	all others	
	P4_24v1	**Leftovers**			
1=same day,next day, day after (netted)		within 3 days	safe		
		after 3 days		not safe	
	P4_25v1	**Reheating**			
1=not at all or once (netted)		never or once	safe		
		more than once		not safe	

Index 4   Fridge temperature

Values	Variable name		Behaviour type		Scoring
	NP4_9_rec ode	**Check fridge temperature**			score 100 if check, 0 if don't check
1=yes, someone else in the household does it, don't need to as alarmed (netted)		Yes	safe		
		No		not safe	

Index 5   Hand washing and drying

Values	Variable name		Behaviour type		Scoring
1=never 2=sometimes 3=most of the time 4=always 5=na	p4_1o	Wash hands after raw meat	Always /Na	all others	create 4 behaviours, washing after raw, hot water, soap and drying, if display all 4 score 100 down to display none score 0
		Wash hands with			
1=yes	_NP4_62	hot water	safe		
	_NP4_63,_NP4_64,_NP4_65,_NP4_66,_NP4_67,	soap – bar, liquid, washing up liq, gel, wipes	safe		
	_NP4_61	cold water		not safe	
		Dry hands			
1=yes	_NP47C3	hand towel	safe		
	_NP47C6	kitchen roll/paper	safe		
	_NP47C1	drip/shake		not safe	
	_NP47C2	air/natural		not safe	
	_NP47C4	tea towel		not safe	
	_NP47C5	clothes/apron		not safe	

Index 6   Defrosting

Values	Variable name		Behaviour type		Scoring
1=never 2=sometimes 3=most of the time 4=always 5=na	p4_1d	Defrost at room temperature	Never/ Na/	all others	score 100 for safe 0 for unsafe

Index 7   Avoiding cross-contamination

Values	Variable name		Behaviour type		Scoring
1=never 2=sometimes 3=most of the time 4=always 5=na	p4_1g	Wash raw meat	Never/ Na	all others	if both safety behaviours then score 100, if one behaviour safe score 50, if none score 0
	p4_1h	Wash raw fish	Never/ Na	all others	

Index 8   Cleaning

Values	Variable name		Behaviour type		Scoring
1=never 2=sometimes 3=most of the time 4=always 5=na	p4_1i	Wipe surfaces after food preparation	Always /Na	all others	if all 5 behaviours safe score 100, if none safe score 0
	p4_1j	Change dishcloths weekly	Always /Na	all others	
	p4_1k	Wash hands before food preparation	Always /Na	all others	
	p4_1m	Change tea towels weekly	Always /Na	all others	
	p4_1n	Clean sink every day	Always /Na	all others	

4. Factor loadings and variance explained by each factor

Factor 1 – Cooking enjoyment

Statements in this factor	Factor loadings						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
I enjoy cooking and preparing food	0.869	-0.103	-0.023	-0.012	0.001	-0.011	0.015
I enjoy making new things to eat	0.841	-0.053	-0.038	-0.04	-0.085	0.024	-0.032
Cooking is like a hobby for me	0.834	-0.044	0.032	-0.062	0.066	0.043	0.027
I enjoy reading articles about food in newspapers or magazines	0.577	-0.211	0.061	-0.034	-0.023	0.161	0.026

Factor 2 – Food as a function

Statements in this factor	Factor loadings						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
I don't really think about what I eat	-0.138	0.671	0.044	0.164	0.106	-0.072	-0.003
My life is so busy that I just eat what I can while I'm on the go	-0.03	0.663	0.051	-0.079	-0.193	0.113	-0.049
For me, most of the time food should be as quick as possible to prepare	-0.39	0.446	0.179	0	-0.043	0.155	-0.049
For me, food is just fuel to live	-0.384	0.414	0.242	0.042	0.039	0.279	0.017
Overall, in your opinion, would you say that what you usually eat is...healthy/unhealthy	0.122	-0.657	0.179	0.005	0.045	0.112	0.158

Factor 3 – Health and Food

Statements in this factor	Factor loadings						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
People worry too much about getting food poisoning	0.045	0.065	0.612	0.16	-0.106	-0.048	0.041
I always avoid throwing food away	0.063	-0.173	0.604	-0.163	0.119	0.027	-0.083
It's just bad luck if you get food poisoning	-0.1	0.117	0.599	0.087	0.173	-0.028	0.053
Good health is just a matter of good luck	-0.097	0.3	0.363	0.26	0.234	0.047	0.06

Factor 4 – Response to food messages

Statements in this factor	Factor loadings						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
The experts contradict each other over what foods are good or bad for you	-0.027	-0.043	-0.024	0.776	0.062	0.007	0.024
I am fed up with experts telling me what I should eat	-0.051	0.016	0.113	0.767	-0.026	-0.032	-0.014
I get confused over what's supposed to be healthy and what isn't	-0.068	0.275	0.159	0.462	0.006	0.225	-0.184

Factor 5 – Food poisoning in the home

Statements in this factor	Factor loadings						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
You are more likely to get food poisoning abroad than in this country	-0.038	0.081	0.108	0.027	0.659	-0.038	-0.006
If you eat out a lot you are more likely to get food poisoning	-0.016	-0.063	0.076	-0.003	0.635	0.333	-0.034
I am unlikely to get food poisoning from food prepared in my own home	0.03	-0.128	0.018	0.01	0.622	-0.115	0.05

Factor 6 – Concern about food safety

Statements in this factor	Factor loadings						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
I often worry about whether the food I have is safe to eat	0.07	0.05	0.115	-0.02	-0.124	0.722	-0.112
Restaurants and catering establishments should pay more attention to food safety and hygiene	0.059	-0.036	-0.17	0.19	0.236	0.549	0.012
A little bit of dirt won't do you any harm	-0.031	-0.041	0.43	0.104	0.032	-0.489	-0.124

Factor 7 – Price of food

Statements in this factor	Factor loadings						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
The price of food doesn't really matter as long as I know that the quality is good	0.083	-0.008	0.065	0.02	0.028	0.128	0.848
The price of food, means I often don't buy the food I would like to	0.059	0.196	0.061	0.09	0.002	0.213	-0.769

Variance explained by each factor

Variance explained by each factor						
Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
2.88	2.04	1.66	1.63	1.48	1.47	1.43