

# FSA Rare Burgers Risk Communication Messaging

TNS BMRB Research

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# 1. Executive summary

One priority for the FSA is the case study of less than thoroughly cooked burgers. To inform decisions in this area, TNS BMRB conducted qualitative and quantitative research in 2015 exploring how individuals perceive and make decisions about these risky foods. This research was designed to follow on from the 2015 research to understand if, and the extent to which, exposure to an advisory message regarding the risks of consuming beef burgers cooked rare or medium.

Just over half of rare burger Acceptors and Advocates who do not prefer burgers served rare or medium said they would eat a rare or medium burger if served one. Women were more likely than men to express concerns about eating burgers served rare or medium, and men were more likely to report they would eat a rare or medium burger.

Overall, rare burger Advocates and Acceptors (those who either prefer or would be happy to eat a burger served rare or medium) were evenly split with regards to their burger cooking preferences. Similar proportions reported a preference for rare or medium burgers as for those who prefer a well-done burger.

More than a third of Acceptors and Advocates reported eating rare burgers more than once a month; younger Advocates and Acceptors were more likely to report eating rare burgers this frequently. Regardless of their preferences and reported behaviours around medium and rare burger consumption, participants were highly likely to view themselves as well-informed on issues of food safety.

This research experimentally tested the impact of exposure to one of three advisory messages: one which emphasised that you cannot 'see, smell or taste' the bacteria that can cause food poisoning; one that named E.coli and Salmonella as potential bacteria that could be carried within medium or rare burgers; and one that explained why the risk associated with minced beef is different compared with whole cuts of beef (because bacteria is mixed up inside the burger). These messages were developed following insight from qualitative research conducted by the FSA in 2015.<sup>1</sup>

All three advisory messages had measureable impact on respondents' perceptions of risks and levels of concern, reducing their reported likelihood of ordering or eating a rare or medium burger. In addition, exposure to the messages removes the gender gap highlighted above: men exposed to the messages were less likely say they would eat a burger served rare or medium than men not exposed to a message, bringing their preferences in line with women.

However, although exposure to the advisory messages did appear to make respondents less likely to order a rare or medium burger, it did not discourage respondents from reporting they would order a burger the next time they eat out.

Similarly, the impact of the messages was not seen across all areas. In particular, a substantial minority of respondents exposed to an advisory statement agreed the chance of getting seriously ill after eating undercooked burgers is very small and that they were not worried.

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<sup>1</sup> Consumer understanding of food risk: rare burgers for the Food Standards Agency (2015), <http://www.food.gov.uk/sites/default/files/fsa-risk-rare-burgers.pdf>

All three messages were consistently highly rated on being informative, easy to understand, important for the public, and proportionate to the risk presented by medium or rare burger consumption. However, Message 1 – “Minced beef risks” - was seen as both the easiest to understand and the most informative.

## 2. Background and objectives

### 2.1. Background

The Food Standards Agency (FSA) has a statutory obligation to protect citizens' health and other interests in relation to food. Part of the FSA's strategic remit is to empower citizens to make informed choices around food safety, and to ensure they have the information they need to manage risk effectively where they wish to and where they can. The FSA is committed to providing citizens with clear advice and information about the nature and magnitude of various food-related risks.

As part of this overarching remit, the FSA is developing a new framework for the control of risky foods: foods that pose, or are perceived to pose, risks that are greater than those posed by the majority of foods and that are not subject to specific controls. In doing so, it must balance considerations around how to provide information in a way which supports effective public health management whilst minimising costs to food businesses. This kind of framework represents a new approach for the FSA; it seeks to ensure that food business operators and citizens are able to take on increased responsibility in managing food risks.

As part of this overarching objective, the FSA wishes to **develop new tools and approaches for more effective risk communication**. These communications are likely to include a combination of:

- general citizen advice via the FSA website or other channels;
- product labelling<sup>2</sup> or other information provided at point of sale;
- information provided on menus or other locations in food service outlets; and
- information provided at point of sale by partners using open data.

Achieving effective risk communication is a challenging task, as habitual food choice behaviours tend to result in citizens being resistant to changing their views or behaviour.<sup>3</sup> From previous research conducted by TNS BMRB and others in this area,<sup>4</sup> we know that **successful risk messaging requires a careful balance between educating and persuading through communication and engagement** – not just providing information but also sensitively challenging existing beliefs and behaviours in an emotionally resonant way. We also know that risk information can often fall flat without careful framing – for example, with statistical information often being disputed, or through direct challenge which often results in entrenchment of views via the 'backfire effect'.<sup>5</sup> The FSA must also maintain credibility with citizens, providing

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<sup>2</sup> E.g., the labels required to be displayed on raw drinking milk in Wales since 2006.

<sup>3</sup> Risk and Responsibility: TNS BMRB 'Citizens' Forum' research for the Food Standards Agency (2014), <https://www.food.gov.uk/sites/default/files/risk-responsibility-report.pdf>

<sup>4</sup> Consumer Insight for Communications: TNS BMRB 'Citizens' Forum' research for the Food Standards Agency (2014); Risk and Responsibility: TNS BMRB 'Citizens' Forum' research for the Food Standards Agency (2014); S. Copea, et al. 'Consumer perceptions of best practice in food risk communication and management: Implications for risk analysis policy'. *Food Policy*, Volume 35, Issue 4, August 2010

<sup>5</sup> E.G., Gollust, Sarah E., Paula M. Lantz, and Peter A. Ubel (2009). "The Polarizing Effect of News Media Messages About the Social Determinants of Health." *American Journal of Public Health* 99(12): 2160-

risk information that is perceived as significant enough to warrant attention and yet avoiding perceived overstatement or causing undue alarm.

Previous TNS BMRB research for the FSA has found that people respond best to messages that provide a clear frame of reference by comparing risks to familiar, known dangers.<sup>6</sup> Furthermore, messages that challenge assumptions and provide new information are perceived as informative, rather than simply raising anxiety about a risk that was not fully understood.<sup>7</sup>

One priority for the FSA in this area is the case study of less than thoroughly cooked burgers. To inform these decisions, TNS BMRB conducted qualitative and quantitative research in 2015 exploring how individuals perceive and make decisions about these risky foods.<sup>8</sup> The following typology was created as part of this research based on respondents' preferences around rare burgers, their behaviour, and how frequently they were eaten:

- **Rejecters:** Rejecters prefer burgers cooked well done, and would reject a burger served rare or still pink; they formed the majority (64%) of burger eaters interviewed in the survey.
- **Accepters:** Accepters do not have strong preferences about how their burger is cooked, but tend to accept a burger however it is served; they comprised 24% of burger eaters in the survey.
- **Advocates:** Often prepare rare burgers at home as well as ordering them in restaurants. Twelve per cent of burger eaters in the survey had a preference for burgers served rare.

Research found that Advocates were less likely to change behaviour in response to messaging around rare burger risk, but that well-framed messages could prompt some to more conscious reflection and decision making. By contrast, Accepters were more receptive to risk messaging overall. Research recommended that messaging should:

- focus on explaining the **nature of the risk** posed by rare burgers, **challenging the misconception** that steak and mince carry similar levels of risk;
- include information about **the potential for real harm** (perceived as key to informed decision making); but ideally not expressed as a percentage, as risk tended to be dismissed or discounted when presented in this format; and
- ensure the **consequences are proportional to the level of risk**, as the presentation of very severe consequences alongside very low likelihood tended to be viewed as incongruous and inappropriate.

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2167; Nyhan, Brendan and Jason Reifler. 2010. When Corrections Fail: The persistence of political misperceptions. (prepublication version) Political Behavior 32(2): 303-330.

<sup>6</sup> Consumer Insight Research: Messaging for Food Safety Communications, TNS BMRB research for the FSA (2016), <https://www.food.gov.uk/sites/default/files/food-safety-message.pdf>.

<sup>7</sup> Risk and Responsibility: TNS BMRB 'Citizens' Forum' research for the Food Standards Agency (2014), <https://www.food.gov.uk/sites/default/files/risk-responsibility-report.pdf>

<sup>8</sup> Consumer understanding of food risk: rare burgers for the Food Standards Agency (2015), <http://www.food.gov.uk/sites/default/files/fsa-risk-rare-burgers.pdf>

## 2.2. Objectives

Overall, this research was designed to understand if, and the extent to which, exposure to an advisory message regarding the risks of consuming beef burgers cooked rare or medium has an impact on:

- attitudes towards consuming rare or medium burgers;
- perceptions of risk when consuming rare or medium burgers; and
- reported likelihood of ordering a burger served this way.

The research also sought to explore whether particular messages had greater impact, depending on the information presented. In addition, the research aimed to understand which of the three messages was seen to provide the information most clearly and appropriately.

### 3. Methodology

To explore the potential impact of advisory statements, TNS BMRB designed an experimental approach to explore any differential impact between messages.

TNS BMRB conducted the experiment via an online survey with 2000 'Accepters' and 'Advocates' of rare beef burgers (9% and 18% of the general public<sup>9</sup> respectively), with the sample drawn from the FSA Consumer Panel<sup>10</sup> and defined as:

- Accepters – those who **do not prefer burgers served rare or medium** but would eat one if served (whether happily or with reservations) and eat rare burgers once a year or less frequently;
- Advocates – those who report **preferring burgers served rare or medium** and eat rare burgers at least once every three months.

Reflecting their relative proportions in the general population, a majority of the sample (67%) were identified as Accepters of rare burgers, while the remaining third (33%) were classified as Advocates.

Rejecters (those who would refuse to eat a burger served rare or medium) were not included within the sample as they would not be a target for the advisory statements.

Data was weighted to ensure that the results are representative of rare burger advocates and accepters by age, gender, social grade and region.

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<sup>9</sup> These refer to the proportion of the general population (including people who do not eat burgers).

<sup>10</sup> The FSA Consumer Panel is a sub-panel comprised of individuals from the online research panel of Lightspeed GMI (a TNS sister company) who have been profiled against the FSA's consumer segmentation. For more information on the FSA Consumer Panel please contact [Tori.Harris@tns-bmrb.co.uk](mailto:Tori.Harris@tns-bmrb.co.uk).



The sample was then split into four randomly assigned treatment groups. Three of the groups were shown a separate advisory message, and the fourth control group was not shown a message:

#### **Group 1 (n=500) – “Minced beef risks”**

**Message:** Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems.

Unlike steak, beef for burgers gets minced together, which means bacteria on the outside get mixed inside.

To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.

#### **Group 2 (n=500) – “See, smell, taste”**

**Message:** Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems.

You can’t see, smell or taste the bacteria that can cause food poisoning in burgers.

But you can reduce your chances of getting ill by ordering a ‘well-done’ burger.

#### **Group 3 (n=500) – “E.Coli and salmonella”**

**Message:** Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems.

Bacteria like E.Coli and salmonella in burgers can cause serious illness unless they are killed during cooking.

To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.

#### **Group 4 (n=500) – “Control group”**

**No message shown**

These messages were included based on the findings from the qualitative research, as outlined above, which highlighted that messages which provide **a clear frame of reference, challenge previous assumptions, and raise a proportionate level of**

**concern** are most likely to be support informed choice. These advisory statements are refined versions of messages tested as part of the qualitative stage.

Following exposure (or non-exposure for the control group) to the message, respondents were asked a variety of questions exploring how likely they were to order or eat a burger served rare or medium, and their understanding of the associated risks.

In addition to this experimental approach, respondents across all treatment groups were also asked directly for their reactions to each individual advisory statement.

Data were weighted to ensure the findings are representative of rare burger Advocates and Acceptors by age, gender, social grade and region.

### **3.1. How to read this report**

Throughout this report, the following terms are used interchangeably:

- Where there are no further subgroup definitions, the terms 'respondents' and 'Advocators and Acceptors' are used interchangeably to describe the overall sample.
- The terms 'messages' and 'advisory statements' are both used to refer to all three of the statements tested as part of this research.

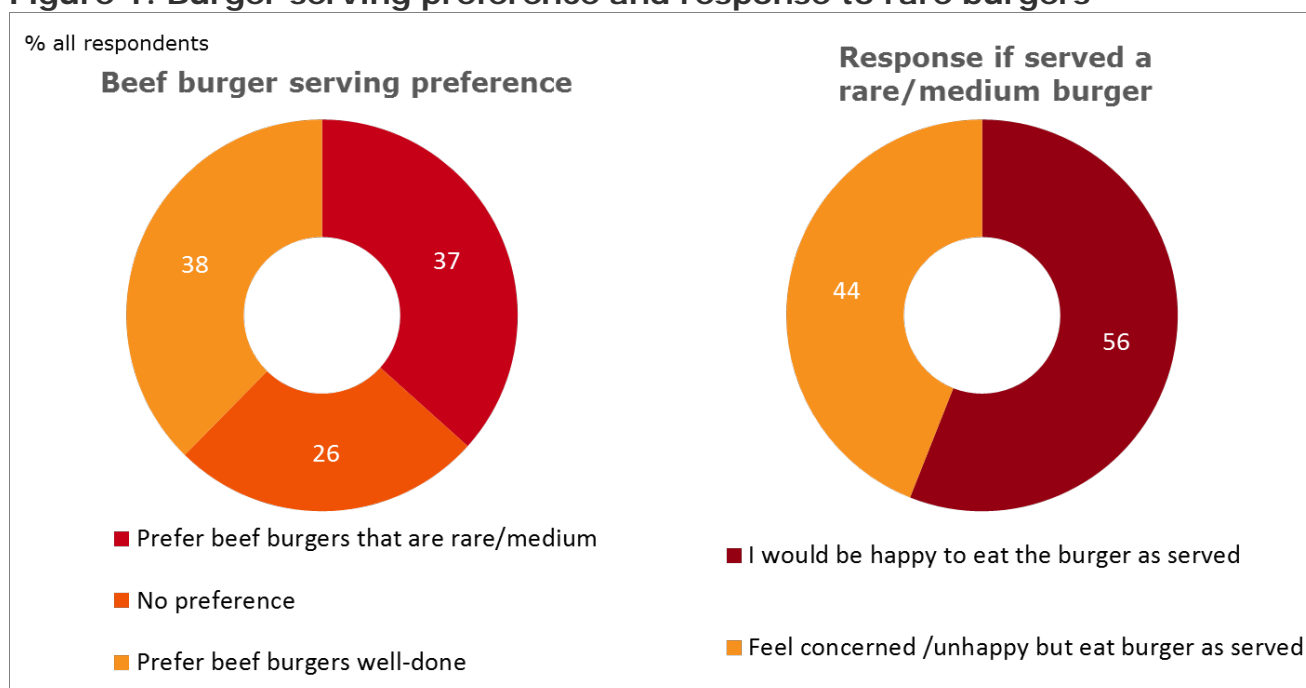
In addition, throughout the report only statistically significant differences between subgroups at the 95% confidence interval are reported.

## 4. Behaviours and attitudes pre-exposure

Over a third (37%) of rare burger Acceptors and Advocates reported preferring burgers to be served rare or medium, with a similar proportion (38%) reporting a preference for well-done burgers.

Although this audience of Acceptors and Advocates all report willingness to eat rare or medium burgers, there were pre-existing concerns among a substantial minority of respondents. Of those Acceptors and Advocates who do not prefer beef burgers served rare or medium, 44% report that if served a burger cooked rare or medium they would eat the burger, but would feel a bit concerned or unhappy.

**Figure 1: Burger serving preference and response to rare burgers**



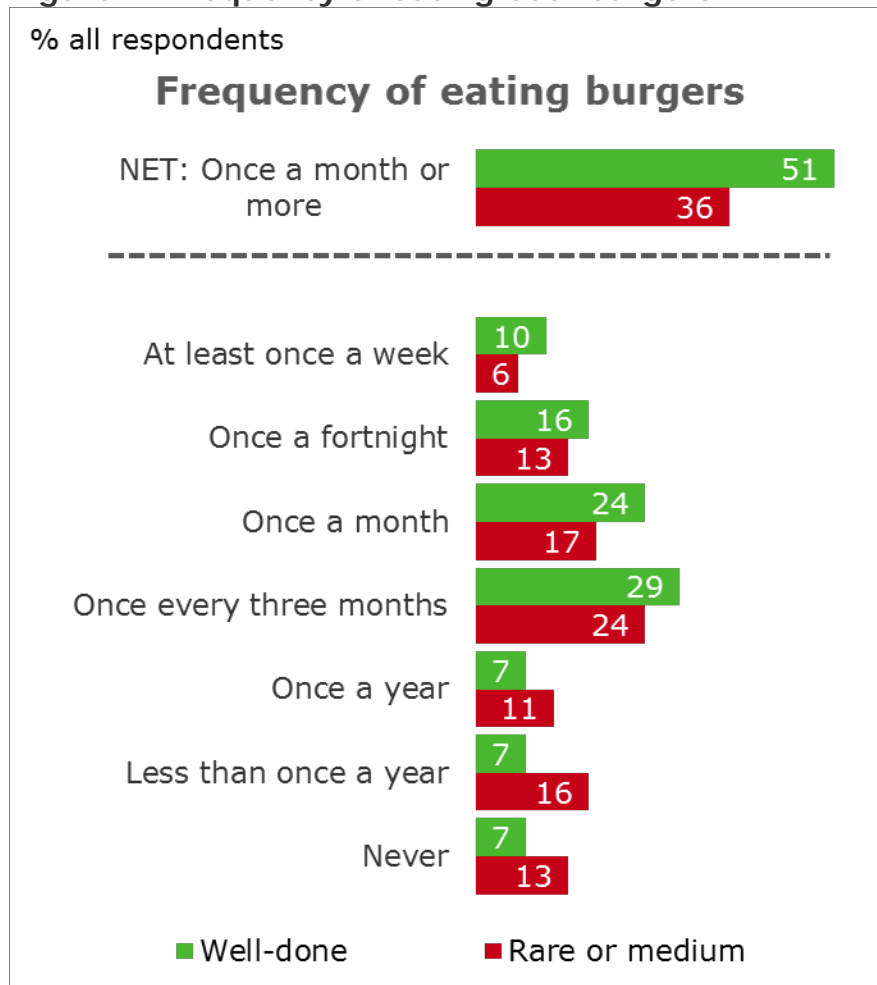
SOURCE: Q002 Do you ever eat beef burgers? If so, how do you prefer them to be served? Base: All respondents (2000)

SOURCE : Q003 If a beef burger was served to you with that was rare or medium i.e. with pink meat in middle how would you be most likely to respond? Base: All respondents who do not prefer rare burgers (1,298)

Across both measures, women were less likely than men to be positive about burgers cooked rare or medium. Four in ten women (41%) expressed a preference for well-done burgers (vs. 35% of men), and nearly half of women (49%) who do not prefer rare or medium burgers said that if served a burger cooked this way they would feel a bit concerned or unhappy but eat the burger as served (vs. 40% of men). In contrast, men were more likely to report being happy to eat the rare or medium burger as served (60% vs. 51% of women).

Consumption of rare or medium beef burgers is a relatively frequent choice for many of this group. Across all Acceptors and Advocates, a third (36%) reported eating rare or medium burgers at least once a month. In addition to these more frequent rare burger consumers, a further quarter (24%) Advocates and Acceptors reported eating a rare or medium beef burger around once every three months.

**Figure 2: Frequency of eating beef burgers**



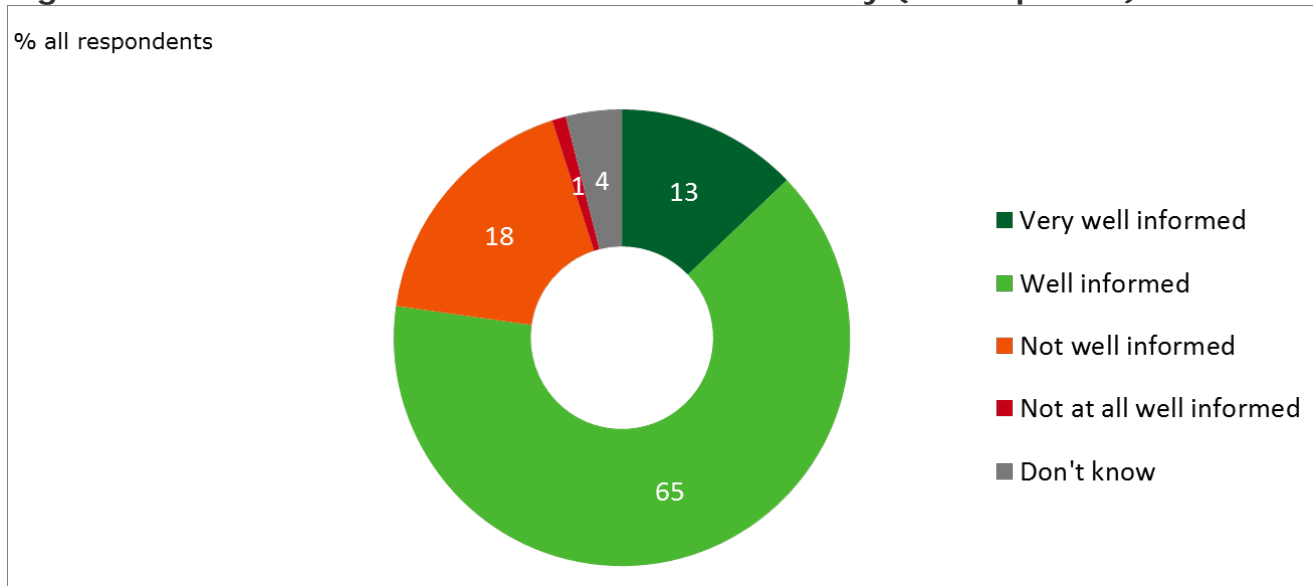
SOURCE: Q004 And around how often do you eat beef burgers which are... Base: All respondents (2000)

Younger Acceptors and Advocates reported more frequent consumption of burgers served rare or medium than their older counterparts. More than four in ten respondents aged 16-24 (46%) and 25-34 (43%) reported eating a rare or medium burger at least once a month, compared to just a quarter (25%) of those aged 45-54.

Although all respondents were willing to eat beef burgers served rare or medium, it is important to note that the majority (78%) of Advocates and Acceptors considered themselves informed about food safety, with more than one in ten (13%) reporting that they were *very well* informed. This confidence was consistent across all demographic subgroups, including those who prefer to eat rare or medium burgers. However, it is important to note that reported confidence on issues of food safety does not necessarily mean high levels of understanding or consistent good practice as previous research has identified gaps between reported and actual food safety behaviour.<sup>11</sup>

<sup>11</sup> Consumer Insight Research: Messaging for Food Safety Communications, TNS BMRB research for the FSA (2016), <https://www.food.gov.uk/sites/default/files/food-safety-message.pdf>.

**Figure 3: Extent to which informed about food safety (self-reported)**



SOURCE: Q005. How informed or uninformed do you consider yourself to be about food safety?

Base: All respondents (2000)

Previous TNS-BMRB research for the FSA has suggested that people are often strongly wedded to their current attitudes and practices.<sup>12</sup> This confidence among Acceptors and Advocates regarding their understanding of food safety issues will therefore likely play a key part in their reactions to the advisory statements. As the qualitative element of this research highlighted, this holds true for burger consumption, and perceptions of risk are not driven solely by rational thought processes. A wide range of subconscious biases, assumptions and habits all play a critical role in influencing eating patterns and risk evaluation.

<sup>12</sup> Consumer Acceptability of Campylobacter in Chicken, TNS BMRB research for the FSA (2016)

## 5. Response to experimental questions

### 5.1. Messages tested

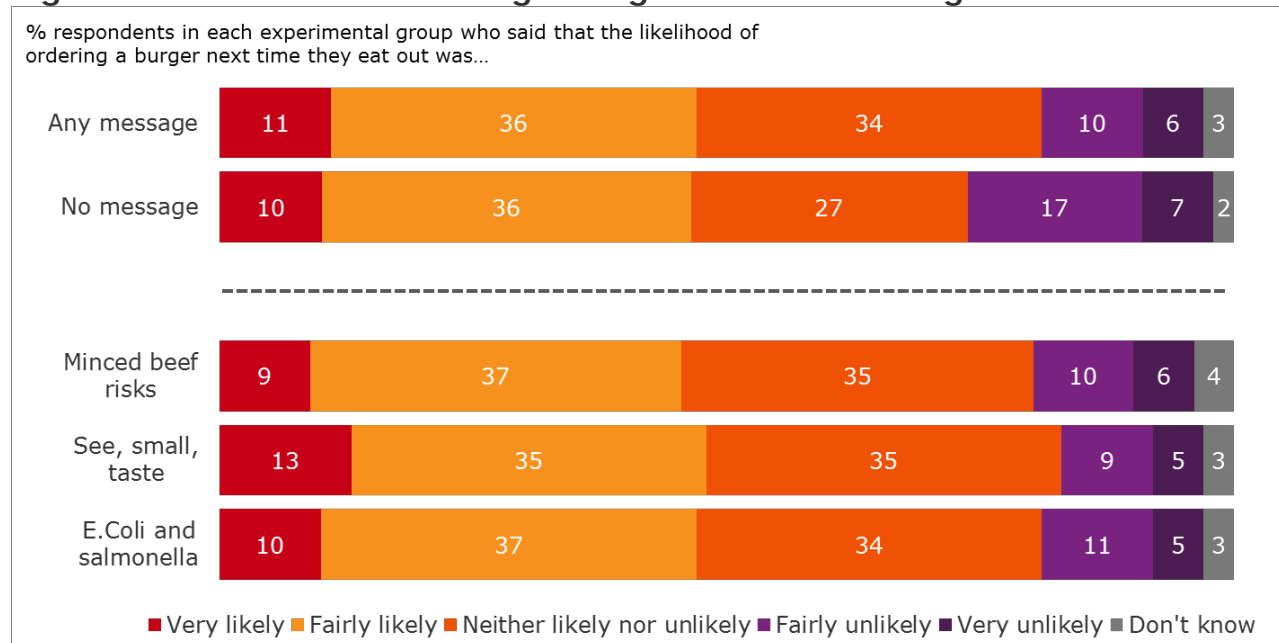
As outlined in the methodology section above, respondents were randomly assigned to four experimental treatment groups, three of which were shown an advisory statement, one not:

Message	Description	Message text
1	Minced beef risks	Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Unlike steak, beef for burgers gets minced together, which means bacteria on the outside get mixed inside. To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.
2	See, smell, taste	Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. You can’t see, smell or taste the bacteria that can cause food poisoning in burgers. But you can reduce your chances of getting ill by ordering a ‘well-done’ burger.
3	E.coli and Salmonella	Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Bacteria like E.coli and Salmonella in burgers can cause serious illness unless they are killed during cooking. To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.
4	Control group	<i>No message</i>

## 5.2. Impact of messages on reported future ordering behaviour

Acceptors and Advocates exposed to one of the advisory statements were not discouraged from potentially ordering a burger as a result of the messages. More than four in ten respondents across all groups reported being likely to order a burger the next time they eat out.

**Figure 4: Likelihood of ordering a burger next time eating out**

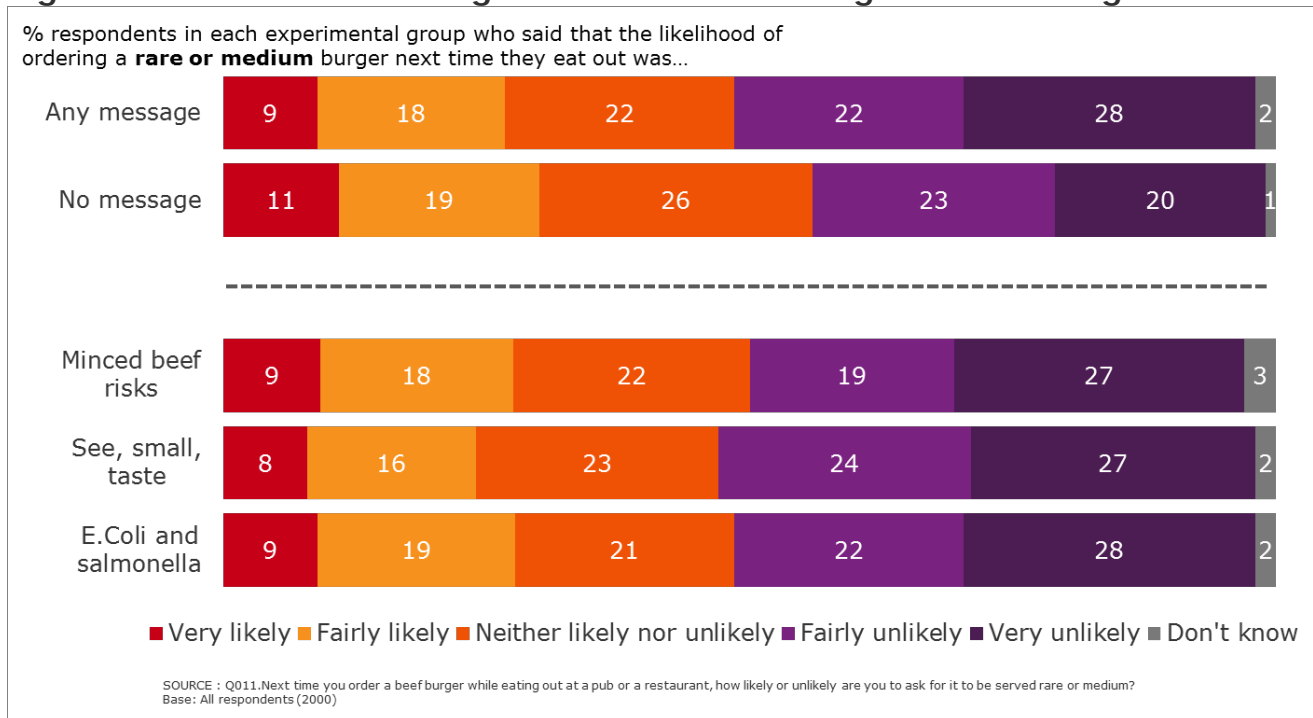


SOURCE: Q010. Next time you are eating out at a pub or restaurant that serves beef burgers, how likely or unlikely do you think it is that you will order a beef burger?

Base: All respondents (2000)

However, exposure to a message about the risks of eating rare burgers did appear to have an impact on likelihood to order a rare or medium burger. A greater proportion of those exposed to one of the messages said they were *very unlikely* to order a rare or medium burger the next time they eat out compared to those not shown a message (28% vs. 20%). This impact was consistent across all three messages tested.

**Figure 5: Likelihood of eating a rare or medium burger when eating out**



SOURCE: Q011.Next time you order a beef burger while eating out at a pub or a restaurant, how likely or unlikely are you to ask for it to be served rare or medium?

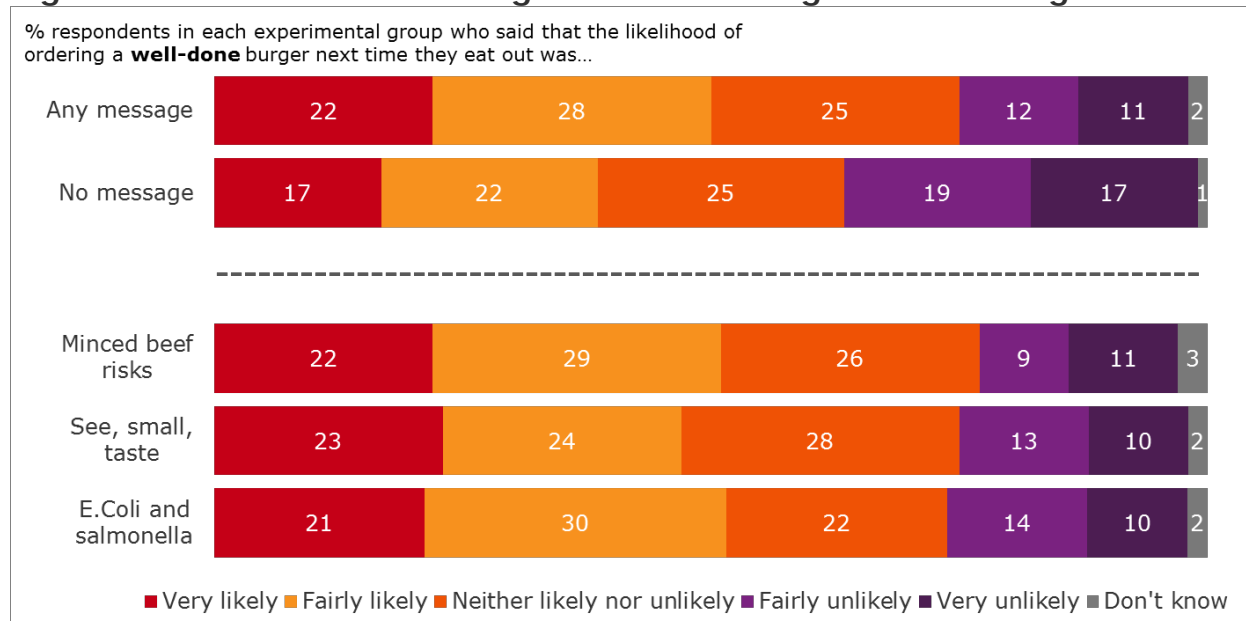
Base: All respondents (2000)

This move to being *very unlikely* to order a rare burger appears to be driven in part by respondents who prefer well-done burgers becoming increasingly unlikely to order a rare or medium burger. The overall levels of those who prefer well-done burgers saying they would be unlikely (very or fairly) to order a rare or medium burger remain consistent across those who were and were not exposed to a message (71% vs. 71% respectively). However, half (51%) of those who prefer well-done burgers exposed to a message said they would be *very unlikely* to order a rare burger, compared to four in ten (39%) who did not see a message.



Those who were shown one of the advisory statements were more likely to say they would be likely to order a well-done burger (50% vs. 38% respectively).

**Figure 6: Likelihood of ordering a well-done burger when eating out**

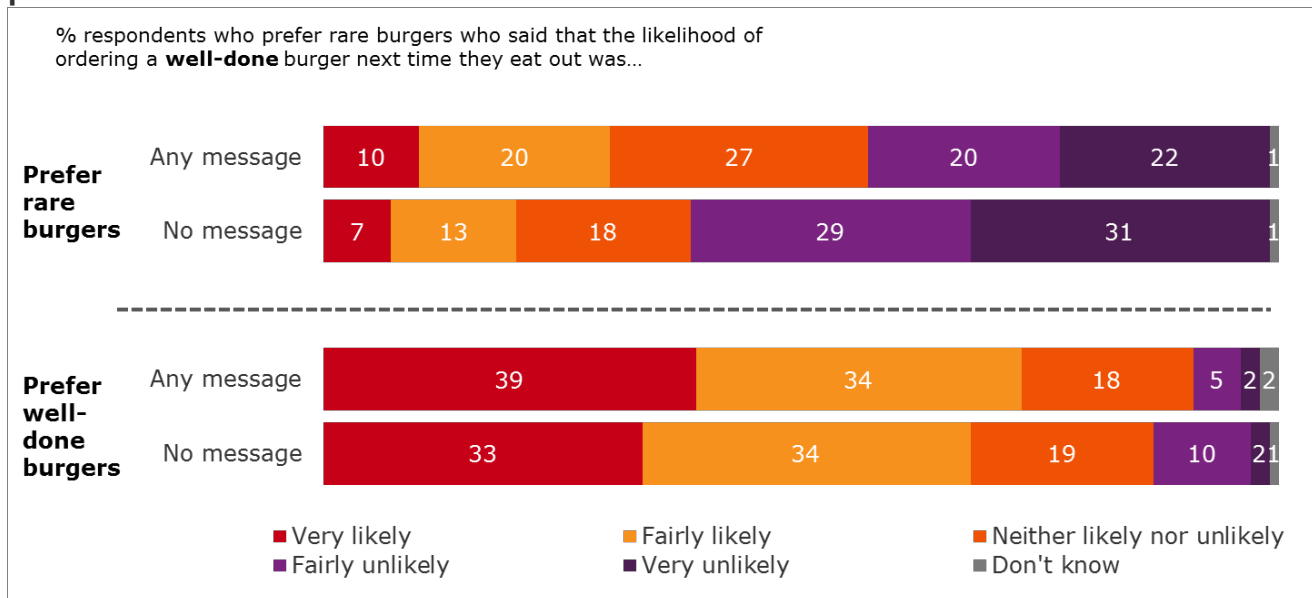


SOURCE: Q012. Next time you order a beef burger while eating out at a pub or a restaurant, how likely or unlikely are you to ask for it to be served well-done?

Base: All respondents (2000)

This impact is seen particularly among those who prefer rare or medium burgers. Three in ten (30%) respondents who preferred rare or medium burgers and were exposed to a message reported being likely to order a well-done burger next time they eat out. In contrast, just one in five (20%) of those who preferred rare or medium burgers but were not exposed to a message said the same.

**Figure 7: Likelihood of ordering a well-done burger when eating out by burger preference**



SOURCE: Q012. Next time you order a beef burger while eating out at a pub or a restaurant, how likely or unlikely are you to ask for it to be served well-done?

Base: Respondents who prefer rare burgers (531); respondents who prefer well-done burgers (597).

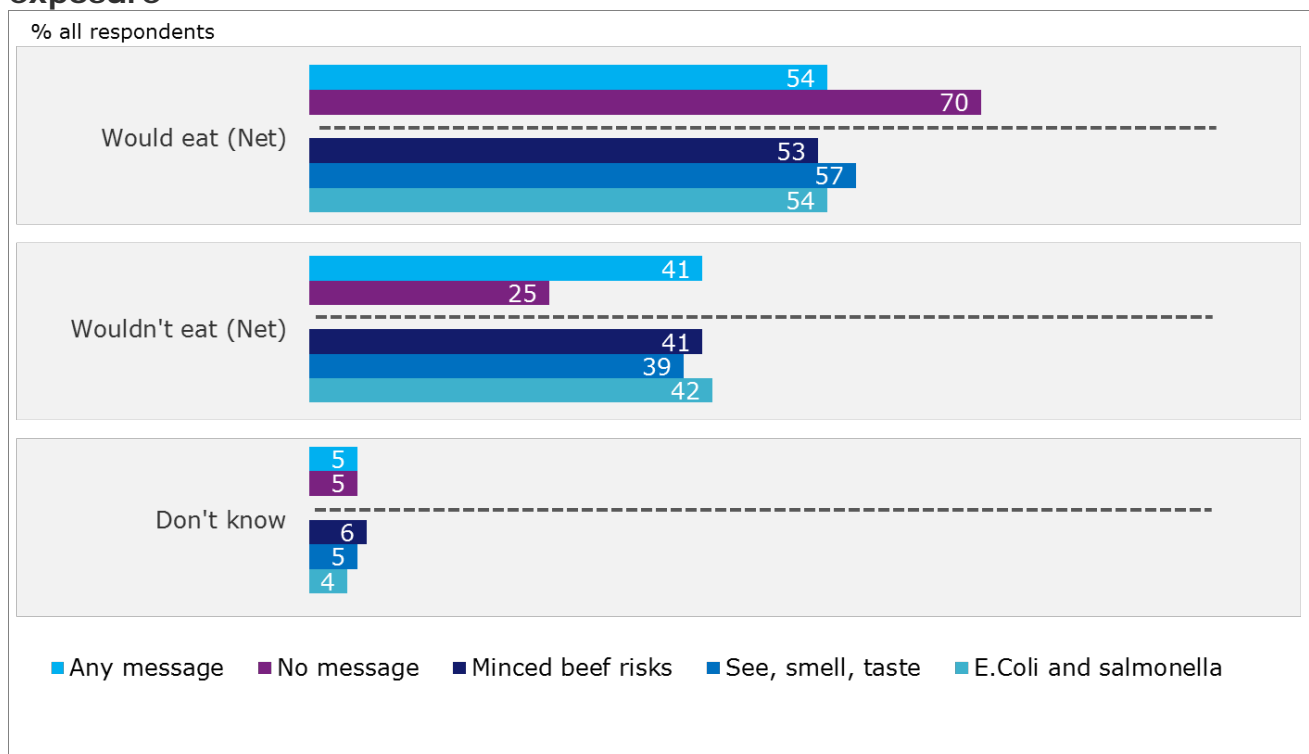
### 5.3. Impact of messages on reported future response to being served a rare burger

Acceptors and Advocates exposed to one of the advisory messages were less likely to say that they would eat a rare or medium burger if they were served one while eating out in the future. Just over half (54%) of those exposed to a message said they would eat a rare or medium burger if served one, compared to seven in ten (70%) of those not exposed to a message. This was broadly consistent across all three messages, with no statistically significant differences between reported likely response between treatment groups. This difference was also reflected in the proportions saying they would not eat the rare or medium burger, as the chart below illustrates.

As outlined in the methodology section above, all respondents in the study initially reported willingness to eat a rare burger. However, at this point in the survey a quarter of those not shown an advisory statement reported that they would not eat a burger served undercooked. This is likely due to the time spent considering the issue of rare burgers during the course of the survey, particularly as these questions followed the question about how well informed respondents considered themselves to be on food safety issues. Even without exposure to a message, this combination was

likely enough to cause some respondents to reconsider their earlier reported choice regarding rare or medium burgers.

**Figure 8: Reported future response to being served a rare burger post-exposure**



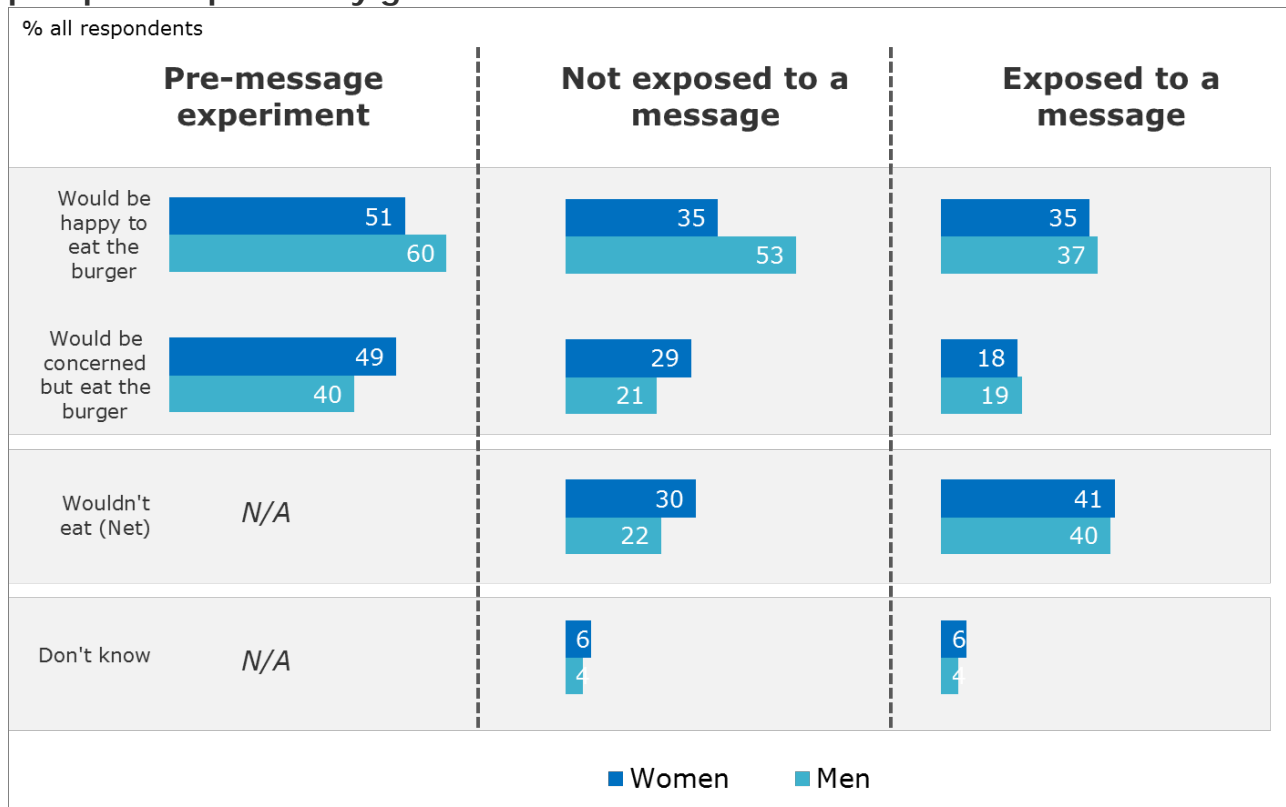
SOURCE: Q013. Imagine that you are eating out and you are served a beef burger that is undercooked i.e. pink in the middle, how would you be most likely to respond now?

Base: All respondents (2000)

In addition, exposure to one of the advisory statements appears to eliminate the gender difference seen prior to exposure. As noted in Section 3, before seeing the messages men were more likely than women to say they would be happy to eat a rare or medium burger if served. This pattern remains consistent among those not shown a message, with half (53%) of men saying they would be happy to eat the burger as served compared to a third (35%) of women.

However, among those exposed to a message, there were no statistically significant differences between men and women. In particular, a smaller proportion of men said they would be happy to eat the rare or medium burger as served (37%) bringing them in line with women (35%).

**Figure 9: Reported response to being served an undercooked burger pre/post-exposure by gender**



SOURCE: Q013. Imagine that you are eating out and you are served a beef burger that is undercooked i.e. pink in the middle, how would you be most likely to respond now?

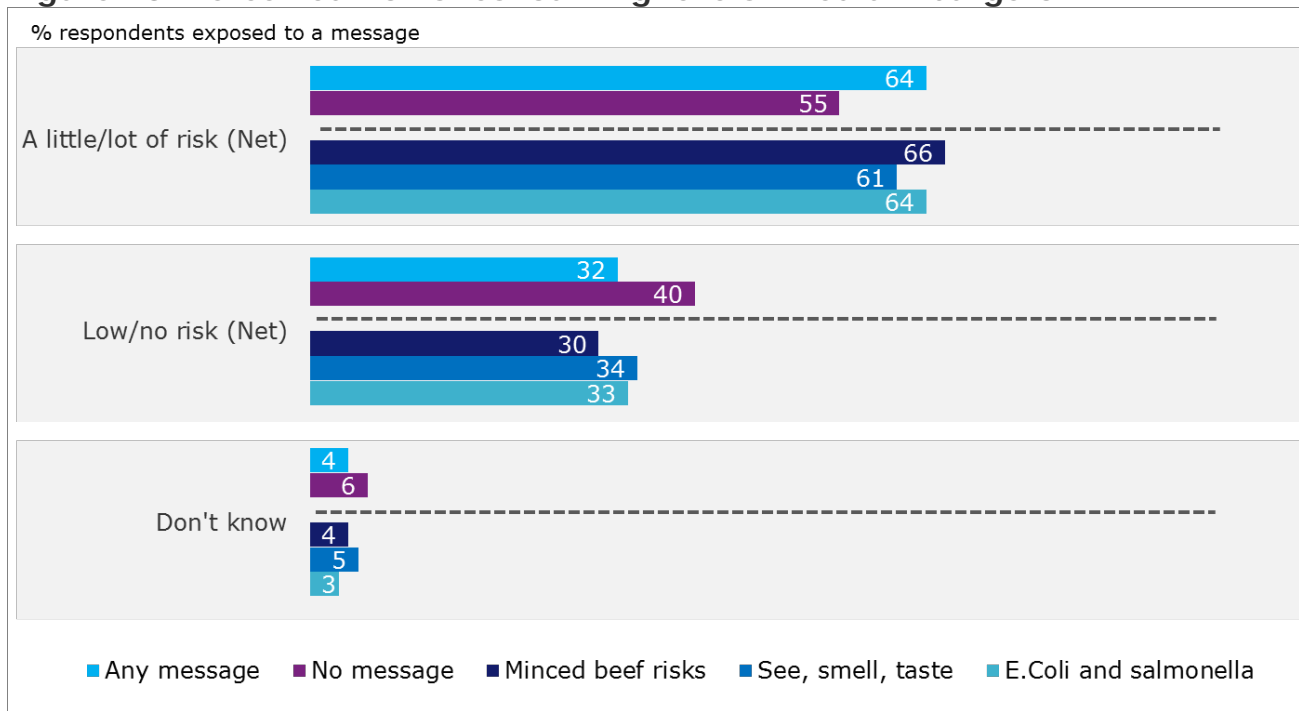
Base: All respondents (2000); respondents exposed to a message (1500); respondents not exposed to a message (500)

## 5.4. Impact of messages on perceptions of risk and concern

Those exposed to a message as part of the research were more likely to view eating undercooked burgers as posing a risk to their health. Nearly two thirds (64%) of those exposed to a message report eating undercooked burgers posed a little or a lot of risk to their health, compared to just over half (55%) of those in the control group. Reflecting this difference, those not exposed to a message were also more likely to see consuming undercooked burgers as posing a low, or no, risk to their health compared to those who saw one of the advisory statements (40% vs. 32%).

As with the impact on response to being served a rare burger, this difference for those exposed to a message is consistent across all three messages.

**Figure 10: Perceived risk of consuming rare or medium burgers**



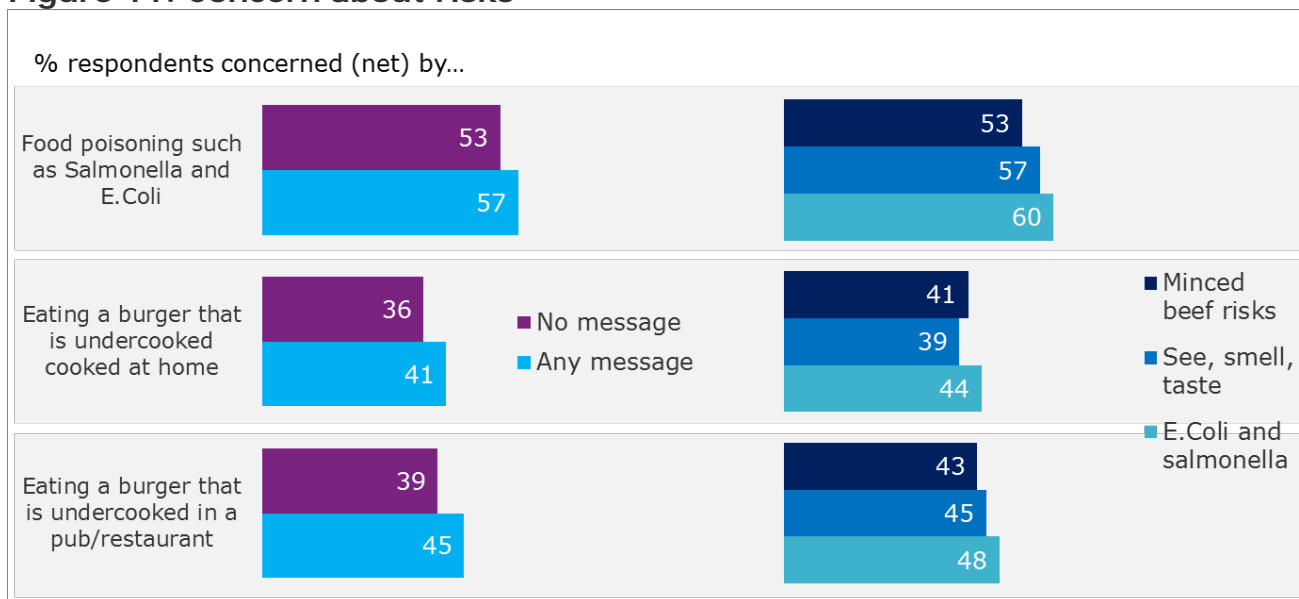
SOURCE: Q014 How much risk, if any, do you think eating a beef burger that is undercooked i.e. pink in the middle poses to your health?

Base: Respondents exposed to a message (1500); respondents not exposed to a message (5000)

Although there were no gender differences among those not exposed to one of the messages, men who viewed a message were more likely than women in those treatment groups to associate eating an undercooked burger with some risk (66% vs. 60%).

Advocates and Acceptors shown one of the messages were slightly more likely than those not exposed to an advisory statement to be concerned about each of the issues tested, as highlighted by the chart below. Levels of concern about eating undercooked burgers at home were in line with concern about undercooked burgers served in restaurants across all groups. This suggests that the messages were seen as applying to all burger consumption, and not solely consumption in pubs and restaurants.

**Figure 11: Concern about risks**

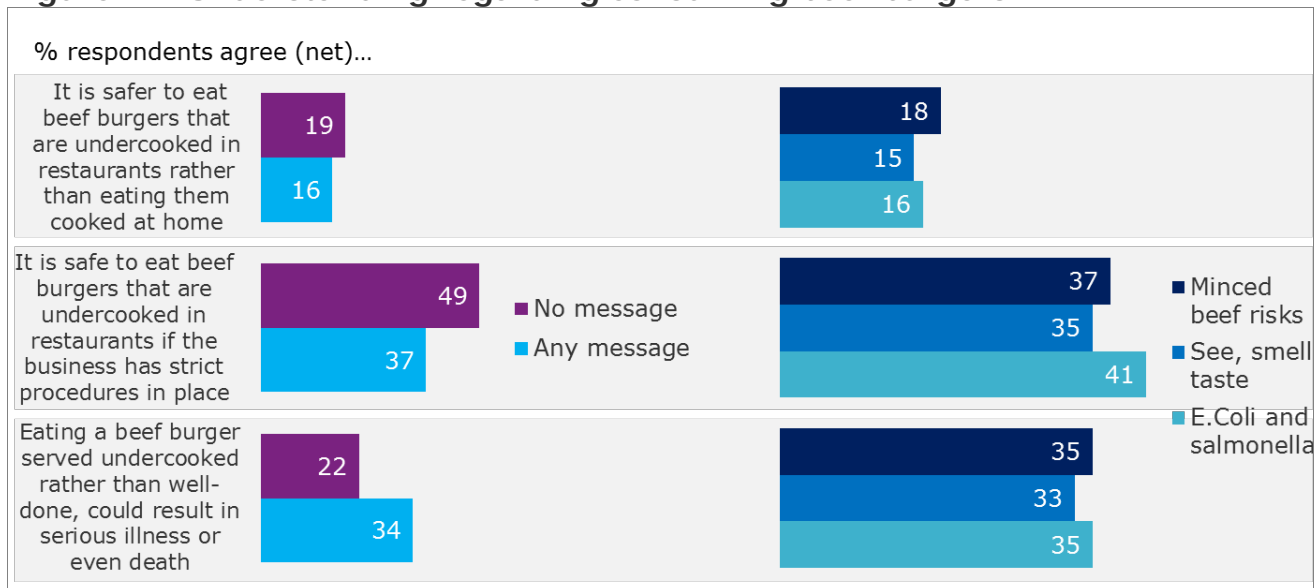


SOURCE: Q016. To what extent are you concerned or unconcerned by each of the following statements?  
 Base: Respondents exposed to a message (1500); respondents not exposed to a message (500)

## 5.5. Impact of messages on risk perceptions

Audience perception of the risks associated with eating a rare burger appears to be higher among those exposed to an advisory statement. Respondents exposed to one of the three statements were more likely to agree that eating an undercooked beef burger could result in serious illness or death (34% exposed to any message vs. 22% control group). In addition, they were also less likely to agree it is safe to eat undercooked burgers in restaurants (37% exposed to any message vs. 49% control group).

**Figure 12: Understanding regarding consuming beef burgers**

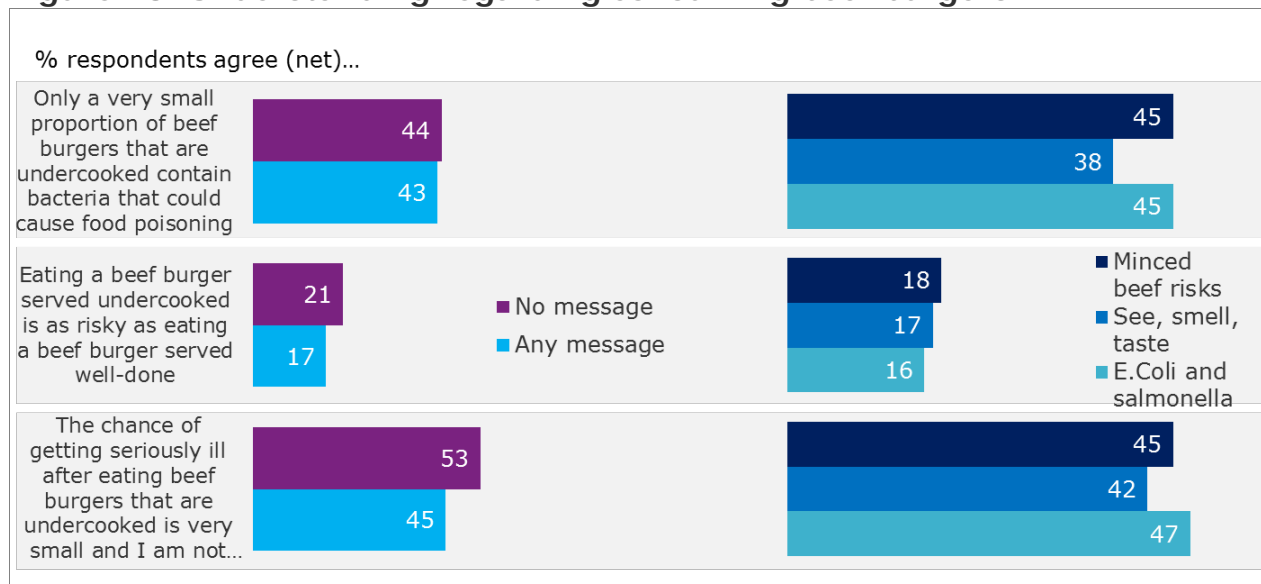


SOURCE: Q016. To what extent do you agree or disagree with the following statements?

Base: Respondents exposed to a message (1500); respondents not exposed to a message (500)

Only around one in five respondents agreed that undercooked burgers are as risky as well-done beef burgers. However, it is important to note that, despite this, around four in ten of those exposed to a message agreed the chance of presence of bacteria in rare burgers or the risk illness from burgers is low. Only Message 2 – See, smell, taste - appeared to slightly reduce agreement with these statements.

**Figure 13: Understanding regarding consuming beef burgers**



SOURCE: Q016. To what extent do you agree or disagree with the following statements?

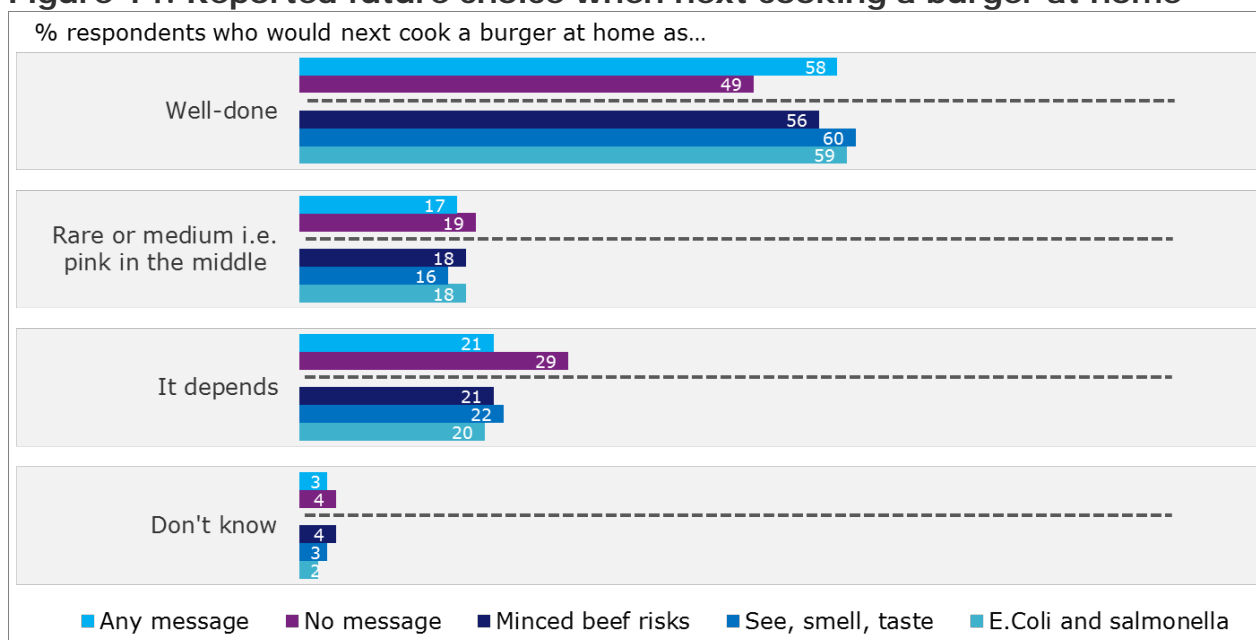
Base: Respondents exposed to a message (1500); respondents not exposed to a message (500)

## 5.6. Impact of messages on cooking behaviour

In addition to the impacts outlined above, findings suggest that advisory messages could potentially have an impact on people's behaviours when cooking burgers at home. Advocates and Acceptors who had seen one of the messages were more likely to say they would next cook a burger well-done than those who did not see a message (58% vs 49%).

However, even among those who were exposed to one of the messages, one in six (17%) reported they would cook their next burger rare or medium, with a further one in five (21%) saying it would depend on the circumstances.

**Figure 14: Reported future choice when next cooking a burger at home**



SOURCE: Q017. Next time you cook a beef burger at home, how will you cook it?

Base: Respondents exposed to a message (1500); respondents not exposed to a message (500)

Even among respondents who like burgers served rare or medium, those who were exposed to a message were slightly more likely than those in the same subgroup who have not been exposed to a message to say they will cook their next burger well done (25% vs. 16%).

However, it is important to note that pre-existing preferences regarding the way burgers are served appear to still play an important role in determining how people intend to cook their next burger. Among those who prefer their burgers rare or medium, four in ten say they will cook their next burger rare or medium. This is consistent across both those who were exposed to a message and those who were not (41% and 42% respectively).



## 6. Views on advisory messages

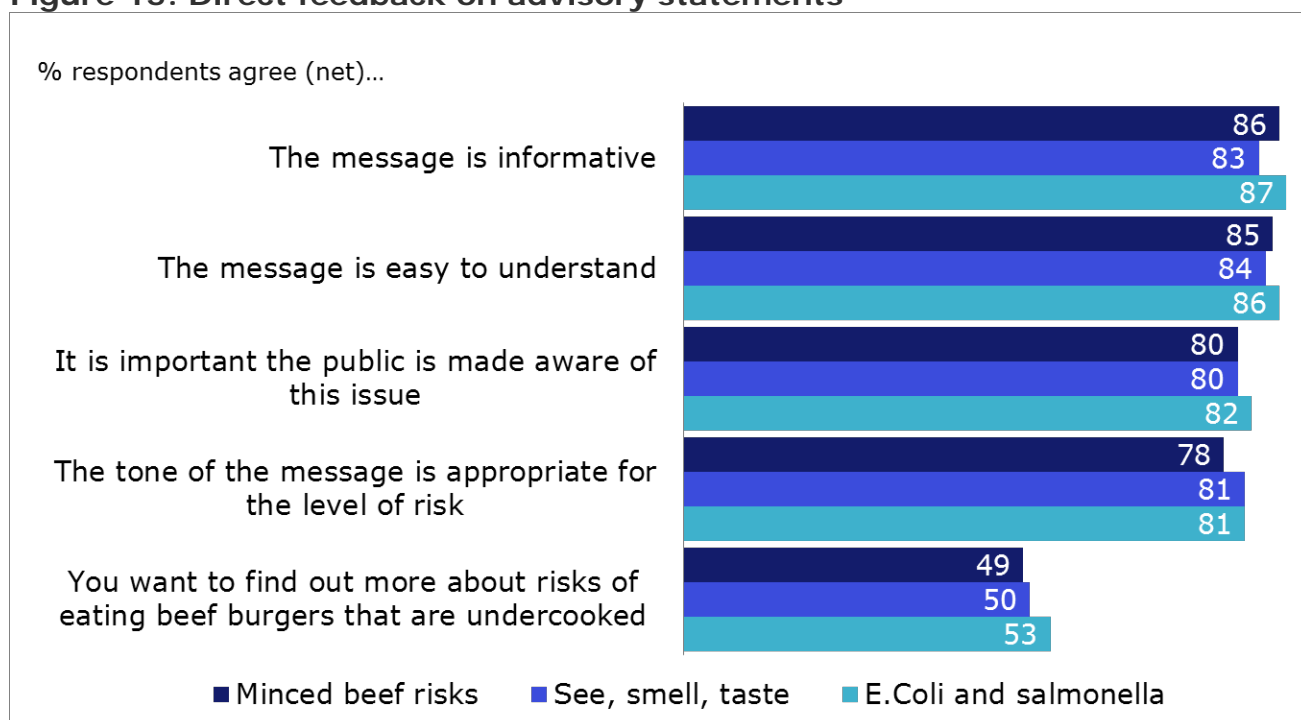
After reporting on likely behaviour around rare burger consumption, respondents were also asked for feedback on each message across five key metrics:

- Whether the message was informative;
- Whether the message was easy to understand;
- Whether it is important for the public to be made aware of the issue;
- Whether the time of the message was appropriate for the level of risk;
- Whether they want to find out more about the risks of eating an undercooked burger.

Across four of the five metrics, each message was consistently highly rated by respondents. Between eight and nine in ten respondents rated each message as informative, easy to understand, important for the public to be aware of, and appropriate for the level of risk.

Only on one metric – whether the message made respondents want to seek further information about eating undercooked beef burgers – do the ratings for each of the three messages fall to around half.

**Figure 15: Direct feedback on advisory statements**



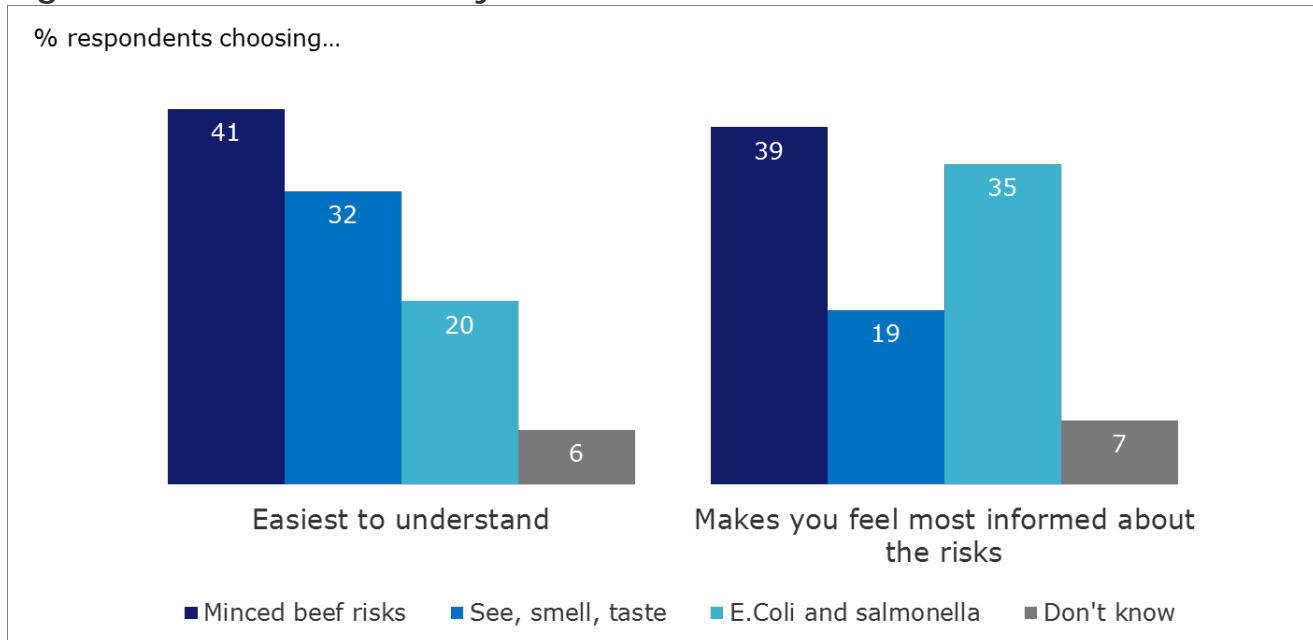
SOURCE: Q020. How far do you agree or disagree that...

Base: All respondents (2000)

Although across these metrics respondents were highly consistent in their views of the messages, when asked to choose the one message which is both easiest to understand and is informative, Message 1 (regarding the risk of mixing of mince compared to cooking steak) was mostly highly rated across both characteristics (41% and 39%).

Message 3 (referring to E.coli and salmonella) was seen as the most informative by a similar proportion of respondents as Message 1 (35%). However, Message 3 was far less likely than Message 1 to be seen as the easiest to understand (20%). These findings are consistent across key demographic groups including age, gender, and burger preference.

**Figure 16: Preferred advisory statement**



SOURCE: Q016. Please read all three messages and answer the following questions. Which message makes you feel most informed about the risks of burgers which are undercooked i.e. pink in the middle? is the easiest to understand?

Base: All respondents (2000)

## 7. Appendix - Questionnaire

Q001 - Intro: All adults 18+

Text

### Not back

We would like to ask you some questions about your attitudes to eating different types of food.


Q002 - ScreenerQ1: All adults 18+

Multi coded

### Not back

Do you ever eat beef burgers? If so, how do you prefer them to be served?

### Flipped

- 1 ☐ Yes, prefer beef burgers that are rare or medium i.e. pink in the middle
  - 2 ☐ Yes, prefer beef burgers well-done
  - 3 ☐ Yes, no preference *\*Exclusive*
  - 4 ☐ No, I never eat beef burgers
-  **GO TO SCREEN OUT**

Ask only if Q002 - ScreenerQ1,2,3




Q003 - ScreenerQ2: All adults 18+

Single coded

### Not back

If a beef burger was served to you with that was rare or medium i.e. with pink meat in middle how would you be most likely to respond?

### Random

- 1 ☐ I would be happy to eat the burger as served
- 2 ☐ I would feel a bit concerned or unhappy but eat the burger as served
- 3 ☐ I would request that the burger was cooked until well-done
-  **GO TO SCREEN OUT**
- 4 ☐ I wouldn't eat it
-  **GO TO SCREEN OUT**
- 99 ☐ Don't know *\*Position fixed \*Exclusive*
-  **GO TO SCREEN OUT**

Ask only if **Q003 - ScreenerQ2,1,2,99** or **Q002 - ScreenerQ1,1**

**Q004 - ScreenerQ3: All adults 18+**

**Matrix**

**Not back | Number of statements: 2 | Number of Scales: 7**

And around how often do you eat beef burgers which are...

**Normal**

	At least once a week	Once a fortnight	Once a month	Once every three months	Once a year	Less than once a year	Never
rare or medium i.e. pink in the middle?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
cooked well-done?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Researcher notes:** This question along with Q2 & Q3 will be used to classify respondents into the following two categories for analytical purposes:

Rare burger advocates (Q2=1 and Q4 statement 1 =1,2,3,4)

Rare burger accepters (Q3=1,2 OR Q2=1 and Q4 statement 1 =5,6,7)

Ask only if **Q002 - ScreenerQ1,1** or **Q003 - ScreenerQ2,1,2**

**B001: Advocates and Accepters (respondents screened in)**

**Begin block**

**Q005 - FoodSafety: All rare burger advocates and accepters**

**Single coded**

**Not back**

How informed or uninformed do you consider yourself to be about food safety?

**Normal**

- 1 ☐ Very well informed
- 2 ☐ Well informed
- 3 ☐ Not well informed
- 4 ☐ Not at all well informed
- 5 ☐ Don't know

**B002: Experiment block**

**Begin block**





**Q006 - RandomAllocation: All rare burger advocates and accepters**

Single coded

**Not back | Dummy**

SCRIPTER - dummy question, respondents should randomly be allocated to one of these groups

**Normal**

- 1 ☐ Random 1/4 of sample  
 **GO TO Q007 - Message1**
- 2 ☐ Random 1/4 of sample  
 **GO TO Q008 - Message2**
- 3 ☐ Random 1/4 of sample  
 **GO TO Q009 - Message3**
- 4 ☐ Random 1/4 of sample  
 **GO TO Q010 - EatingOut**

**Q007 - Message1: Random 1/4 of rare burger advocates and accepters**

Text

**Not back**

Please read the following message by the Food Standard Agency about eating burgers that are undercooked i.e. pink in the middle.

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Unlike steak, beef for burgers gets minced together, which means bacteria on the outside get mixed inside. To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.*

**Q008 - Message2: Random 1/4 of rare burger advocates and accepters**

Text

**Not back**

Please read the following message by the Food Standard Agency about eating burgers that are undercooked i.e. pink in the middle.

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. You can’t see, smell or taste the bacteria that can cause food poisoning in burgers. But you can reduce your chances of getting ill by ordering a ‘well-done’ burger.*

**Q009 - Message3: Random 1/4 of rare burger advocates and accepters**

Text

**Not back**

Please read the following message by the Food Standard Agency about eating burgers that are undercooked i.e. pink in the middle.

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Bacteria like E.coli and salmonella in burgers can cause serious illness unless they are killed during cooking. To help kill the bacteria and reduce your chances of getting ill, order a 'well-done' burger.*

**Q010 - EatingOut: All rare burger advocates and accepters**

Single coded

**Not back**

Next time you are eating out at a pub or restaurant that serves beef burgers, how likely or unlikely do you think it is that you will order a beef burger?

**Normal**

- 1 ☐ Very likely
- 2 ☐ Fairly likely
- 3 ☐ Neither likely nor unlikely
- 4 ☐ Fairly unlikely
- 5 ☐ Very unlikely
- 99 ☐ Don't know \*Position fixed \*Exclusive

**Q011 - EatingOutRare: All rare burger advocates and accepters**

Single coded

**Not back**

Next time you order a beef burger while eating out at a pub or a restaurant, how likely or unlikely are you to ask for it to be served **rare or medium**?

**Flipped**

- 1 ☐ Very likely
- 2 ☐ Fairly likely
- 3 ☐ Neither likely nor unlikely
- 4 ☐ Fairly unlikely
- 5 ☐ Very unlikely
- 6 ☐ Don't know \*Position fixed

**Q012 - EatingOutWD: All rare burger advocates and accepters****Single coded****Not back**

Next time you order a beef burger while eating out at a pub or a restaurant, how likely or unlikely are you to ask for it to be served **well-done**?

**Flipped**

- 1 ☐ Very likely
- 2 ☐ Fairly likely
- 3 ☐ Neither likely nor unlikely
- 4 ☐ Fairly unlikely
- 5 ☐ Very unlikely
- 6 ☐ Don't know *\*Position fixed*

**Q013 - EatOutAccept: All rare burger advocates and accepters****Single coded****Not back**

Imagine that you are eating out and you are served a beef burger that is undercooked i.e. pink in the middle, how would you be most likely to respond now?

**Random**

- 1 ☐ I would be happy to eat the burger as served
- 2 ☐ I would feel a bit concerned or unhappy but eat the burger as served
- 3 ☐ I would request that the burger was cooked until well-done
- 4 ☐ I wouldn't eat it
- 6 ☐ Don't know *\*Position fixed*

**Q014 - Risk: All rare burger advocates and accepters****Single coded****Not back**

How much risk, if any, do you think eating a beef burger that is undercooked i.e. pink in the middle poses to your health?

**Flipped**

- 1 ☐ No risk at all
- 2 ☐ Not much risk
- 3 ☐ A little risk
- 4 ☐ A lot of risk
- 99 ☐ Don't know *\*Position fixed \*Exclusive*

**Not back | Number of statements: 3 | Number of Scales: 6**

To what extent are you concerned or unconcerned by each of the following statements?

**Random**

	Very concerned	Fairly concerned	Neither concerned nor unconcerned	Not very concerned	Not at all concerned	Don't know
Eating a burger that is undercooked i.e. pink in the middle in a pub/restaurant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating a burger that is undercooked i.e. pink in the middle cooked at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food poisoning such as Salmonella and E.Coli	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Scripter notes:** FLIP ANSWER SCALE



**Not back | Number of statements: 6 | Number of Scales: 6**

To what extent do you agree or disagree with the following statements?

**Random**

	Definitely agree	Tend to agree	Neither agree nor disagree	Tend to disagree	Definitely disagree	Don't know
Eating a beef burger served undercooked i.e. pink in the middle, rather than well-done, could result in serious illness or even death	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is safe to eat beef burgers that are undercooked i.e. pink in the middle in restaurants if the business has strict procedures in place to make sure they are safe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The chance of getting seriously ill after eating beef burgers that are undercooked i.e. pink in the middle is very small and I am not worried	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eating a beef burger served undercooked i.e. pink in the middle is as risky as eating a beef burger served well-done	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Only a very small proportion of beef burgers that are undercooked i.e. pink in the middle contain bacteria that could cause food poisoning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is safer to eat beef burgers that are undercooked i.e. pink in the middle in restaurants rather than eating them cooked at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Not back**

Next time you cook a beef burger at home, how will you cook it?

**Random**

- 1 ☐ Rare or medium i.e. pink in the middle
- 2 ☐ Well-done
- 3 ☐ It depends
- 4 ☐ Don't know *\*Position fixed*

**B002: Experiment block****End block****Q018 - AllMessages: All rare burger advocates and accepters****Matrix****Not back | Number of statements: 2 | Number of Scales: 4**

The Food Standards Agency has developed the following messages to educate the general public about the risk of eating burgers that are undercooked i.e. pink in the middle. Please read all three messages and answer the following questions.

**MESSAGE 1**

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Unlike steak, beef for burgers gets minced together, which means bacteria on the outside get mixed inside. To help kill the bacteria and reduce your chances of getting ill, order a 'well-done' burger.*

**MESSAGE 2**

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. You can't see, smell or taste the bacteria that can cause food poisoning in burgers. But you can reduce your chances of getting ill by ordering a 'well-done' burger.*

**MESSAGE 3**

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Bacteria like E.coli and salmonella in burgers can cause serious illness unless they are killed during cooking. To help kill the bacteria and reduce your chances of getting ill, order a 'well\*done' burger.*

Which message...

**Normal**

	Message 1	Message 2	Message 3	Don't know
is the easiest to understand?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
makes you feel most informed about the risks of burgers which are undercooked i.e. pink in the middle?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**B003: Message1****Begin block**

**Scripter notes:** RANDOMISE ORDER OF BLOCK FOR MESSAGE1, MESSAGE2 AND BLOCK FOR MESSAGE3

**Not back**

We would like to get your feedback on the message below:

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Unlike steak, beef for burgers gets minced together, which means bacteria on the outside get mixed inside. To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.*

*Are there any parts of the message that you find unclear or that you would like more information about? What are they?*

**Not back | Number of statements: 5 | Number of Scales: 6**

Still thinking of the message below:

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Unlike steak, beef for burgers gets minced together, which means bacteria on the outside get mixed inside. To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.*

How far do you agree or disagree that...

Please select one answer per row

**Random**

	Agree Strongly	Agree slightly	Neither agree nor disagree	Disagree slightly	Disagree strongly	Don't know
the message is easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the message is informative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
you want to find out more about risks of eating beef burgers that are undercooked i.e. pink in the middle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it is important the public is made aware of this issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the tone of the message is appropriate for the level of risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**B003: Message1****End block****B004: Message2****Begin block****Scripter notes:** RANDOMISE ORDER OF BLOCK FOR MESSAGE1 AND BLOCK FOR MESSAGE2

**Not back**

We would like to get your feedback on the message below:

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. You can't see, smell or taste the bacteria that can cause food poisoning in burgers. But you can reduce your chances of getting ill by ordering a 'well-done' burger.*

*Are there any parts of the message that you find unclear or that you would like more information about? What are they?*

**Not back | Number of statements: 5 | Number of Scales: 6**

Still thinking of the message below:

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. You can't see, smell or taste the bacteria that can cause food poisoning in burgers. But you can reduce your chances of getting ill by ordering a 'well-done' burger.*

*How far do you agree or disagree that...*

Please select one answer per row

**Random**

	Agree Strongly	Agree slightly	Neither agree nor disagree	Disagree slightly	Disagree strongly	Don't know
the message is easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the message is informative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
you want to find out more about risks of eating beef burgers that are undercooked i.e. pink in the middle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it is important the public is made aware of this issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the tone of the message is appropriate for the level of risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

B004: Message2

End block

B005: Message 3

Begin block

**Not back**

We would like to get your feedback on the message below:

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Bacteria like E.coli and salmonella in burgers can cause serious illness unless they are killed during cooking. To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.*

*Are there any parts of the message that you find unclear or that you would like more information about? What are they?*



**Not back | Number of statements: 5 | Number of Scales: 6**

Still thinking of the message below:

*Burgers served rare or medium carry more risk of food poisoning – particularly for vulnerable people such as children, pregnant women, the elderly and those with weakened immune systems. Bacteria like E.coli and salmonella in burgers can cause serious illness unless they are killed during cooking. To help kill the bacteria and reduce your chances of getting ill, order a ‘well-done’ burger.*

*How far do you agree or disagree that...*

Please select one answer per row

**Random**

	Agree Strongly	Agree slightly	Neither agree nor disagree	Disagree slightly	Disagree strongly	Don't know
the message is easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the message is informative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
you want to find out more about risks of eating beef burgers that are undercooked i.e. pink in the middle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it is important the public is made aware of this issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the tone of the message is appropriate for the level of risk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**B005: Message 3**

**End block**

**B001: Advocates and Accepters (respondents screened in)**

**End block**