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Study on the Impact of Food Information on Consumers' Decision Making

TNS European Behaviour Studies Consortium

FINAL REPORT

REPORTING CONVENTIONS

This is the final report of the "study on the impact of food information on consumers' decision making". It was launched under the framework contract (No EAHC/2011/CP/01) on behavioural studies by The Consumer, Health and Food Executive Agency (CHAFEA) acting under its mandate from the European Commission. The Directorate General Health and Consumers commissioned the TNS European Behaviour Studies Consortium with this research in December 2012.

This report presents main findings from the primary research conducted in September 2013 and in July 2014. The research was designed to meet the following two key objectives:

- Explore whether and how consumers currently access, understand and use specific food information
- Provide empirical evidence on the effectiveness of alternative treatments

Detailed survey documentation will be available in a separate appendix document.

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ABBREVIATIONS AND GLOSSARY OF TERMS

Alcopop

A colloquial term describing a ready-mixed drink that contains alcohol – also called flavoured alcoholic beverages, including:

- malt beverages to which various fruit juices or other flavourings have been added
- beverages containing wine to which ingredients such as fruit juice or other flavourings have been added (wine coolers)
- beverages containing distilled alcohol and added ingredients such as fruit juices or other flavourings

BMI – Body Mass Index

A measure for human body shape based on an individual's mass and height

FHO – Fully hydrogenated oil

Full hydrogenation of unsaturated fats produces virtually only saturated fats and no trans fats.

Food Information

This is all types of information concerning a food that is made available to the final consumer by means of a label, other accompanying material, or any other means including modern technology tools or verbal communication.

PHO – Partially hydrogenated oil

In the process of partial hydrogenation, both trans fats and saturated fats are generated in varying proportions depending on the process conditions.

PAW – Precautionary allergen warning

A food allergen precautionary statement (e.g. may contain nuts) is a declaration on the label of a pre-packaged food of the possible inadvertent presence of an allergen in the food.

Saturates or saturated fat

Contain no double bonds between the carbon atoms, so it is saturated with hydrogen

TFA – Trans fatty acids

'Trans fat' means fatty acids with at least one non-conjugated (namely interrupted by at least one methylene group) carbon-carbon double bond in the trans configuration (Regulation (EU) 1169/2011); trans fat can occur naturally in milk and meat products from certain animals (ruminants, like cows or sheep) or artificially as a result of food processing; the main source of artificial or industrially produced trans fat is PHO; high intakes of trans fat has been

consistently found to be associated with increased risk of coronary heart disease (CHD) and trans fat intakes "*should be as low as is possible within the context of a nutritionally adequate diet*"[1] .

[1] EFSA Journal. 2010;8(3):1461

1 EXECUTIVE SUMMARY

1.1 Background and objectives

Never before has so much information on food and healthy diets been provided to consumers. The wealth of health claims, quality labels, nutrition facts, apps and advice, together with sometimes misleading or contradictory marketing information, is overwhelming for many citizens. Moreover, it represents a contextual choice architecture that may contribute to consumer confusion across all education levels.

Consumers develop different strategies to cope with this overload of information. These can range from ignoring any information or delegating responsibility for decisions to family members or brands (i.e. always buying the same products), or spending too much time and thought on the right choice. Between these extremes, there are several 'behavioural segments' of consumers who do not ignore but drastically simplify information intake based on heuristic shortcuts.

On the one hand most stakeholders agree that there is a need for more clarity and understanding regarding food information. On the other hand there seems to be little consensus on solutions, despite the publication of numerous studies testing different formats and content of food information with varying outcomes.

Therefore, this study aimed to learn from existing evidence and establish a robust methodology that takes into account all issues relating to the following key outcome objectives:

a) Status quo description of consumer attitudes when it comes to food information, i.e. explaining the capacity to access, interpret and use existing food product information specifically on allergens, trans fats, origin of primary ingredients, date labels, health warnings and labelling of alcoholic beverages as well as further quality label information and thereby:
   - Consider individual consumer features and identify relevant biases and constraints such as cognitive abilities, time resources, repetitive purchases, etc.;
   - Understand external determinants and different framings of the choice situation contributing to "bad consumer choices" by fostering misunderstandings, information overload or ignorance;

b) Identifying the optimal aspects of presentation of food information for the consumer to make better (informed) decisions and thereby:
   - Consider a holistic approach, i.e. assess the interactive effect of one particular label on one particular kind of product in the context of increasing complexity of labelling in the marketplace;
   - Look for the best compromise between exhaustiveness and clarity of the label, exploring the possible use of symbols or other means instead of words.

1.2 Research methodology

The objectives outlined above are best addressed by applying behavioural experiments that are complemented by classical survey design.

Figure 1 Research design overview

The preparatory stage comprised a review of existing evidence - via desk research, combined with a series of meetings of key stakeholders at the European Commission - to scope out the hypotheses to be tested in the experiments and decide on the overall survey design.

Online 'Laboratory' ('lab') experiments were conducted in eight member states (United Kingdom, France, Germany, Italy, Spain, Finland, Poland, and Romania) in September 2013. A questionnaire with online panellists included the simulation of various shopping and consumption scenarios, to collect relevant choice observations on the following policy areas: trans fats, precautionary allergen warning, health warnings and calorific information on alcoholic drinks. Further information without experiments was collected on two topics: origin of primary ingredients and food waste.

Offline 'Field & Lab' or store experiments were conducted in super markets in one member state (Germany) in July 2014. With the consent of a large retailer chain, customers were observed when shopping for specific food categories (yoghurt, frozen pizza and biscuits) and subsequently screened for immediate participation in a 'lab' experiment at a stand with mock-up products of the category they just shopped. The focus of this experiment was on testing the reaction to different levels of transparency of trans fat information.

1.3 Findings and implications – Trans Fats

What were the key drivers of healthier choices when selecting products containing TFA?

The evidence from the online and offline experiments confirms that being able to identify the healthier alternative is largely driven by initially accessing the relevant information on the food label and the familiarity with the choice architecture.

Checking the nutrition label encouraged healthier choices in the experiments. Accessing the nutrition label had a stronger positive effect in driving healthier choices than the

ingredients list, possibly because the more structured design of the nutrition label is better suited to show relevant food information (amounts in particular).

However **irrelevant information** (the country of origin, in this case) tended to have a negative effect in these tasks. They presented a strong barrier as they either highlighted other consumer preferences (such as sustainability) or distracted consumers from the relevant information about fat types.

Familiarity with at least some of the choice architecture was the second most important driver of healthy choices. The less familiar the task and the terminology employed in the experiment, the less likely people were to choose the healthier option.

Previous **knowledge about saturates and TFA being unhealthy** also had a positive effect as did consumers with an interest in looking for healthier options (e.g. people on a diet). These were likely to both look at the relevant information and also make the right choice in the task.

Would the display of TFA amounts on the nutrition label lead to more healthy choices or would people misunderstand and over-react (in other words, not choose a product containing TFA even if it is the healthier option)?

The empirical evidence in this study suggests that showing the amount of TFA in the nutrition information enables more healthy choices in a simple choice context and, in particular, in a scenario where the healthier option is the product with less TFA. However, this was not observed in a more complex realistic context, where display of TFA can cause some overreactions in a scenario where the healthier choice had slightly more TFA but a significantly less healthy composition of other nutrients (salt, sugar, saturates).

The transparency of TFA amounts had a clearly positive impact in the choices where the healthier option is simply the product with less TFA (according to both experiments) However, in the online experiments for the second task, where TFA needed to be balanced against saturated fats, and the TFA containing product was still the overall healthier choice considering the high amounts of saturated fats, the presence of TFA on the label misled some participants in their choice.

In the field experiment, this overreaction was observed at an even lower scale. A possible explanation is the more complex choice architecture as well as the offline field environment in this experiment. When making complex choices in a busy supermarket, people were less likely to be influenced by information that they are unfamiliar with (such as TFA).

The empirical evidence from the store experiments is more useful to predict real consumer behaviour in the initial implementation phase. However, the more familiar consumers become with the term TFA or PHO (through communication campaigns), the more consumers will over-react to the presence of TFA, with respect to what was observed in the online survey.

It is worth stressing that the experimental choice context was overly simplified. In real life, the choice context would be significantly more complex, as all elements in the nutritional declaration are expected to differ among any two products. It might be expected that

consumers would be less likely to make the healthier choice in more complex choice contexts although this assumption is beyond the scope of this particular piece of research.

How can accessing food information and the clarity of the choice architecture be improved in order to encourage more healthy choices? Does education help consumers to identify the healthier product?

The education intervention did not help consumers changing the negative overreaction on TFA transparency into a positive impact in the laboratory experiment.

In the store experiments – however, the reading of the nutrition guidelines was not as effective. Consumers who read the information quickly made worse decisions, while consumers who read the information thoroughly did not perform differently from the control group who had no information.

A simple educational intervention alone (without TFA amounts on the nutrition label) was not effective at all in influencing healthy consumer choices. The nutrition guideline explaining the healthiness of different fat types only had an impact if the terminology used (e.g. TFA) is also found on the nutrition label.

As expected the education treatment in combination with TFA transparency was a strong driver in healthy choices in task 1, where the healthier product was the one with less TFA (according to both online and offline experiments).

The second choice scenario was designed to test any potential overreactions as the overall healthier product was the one with slightly more TFA. In this task it was important for consumers to check also other nutrition elements, such as saturates, sugar and salt. From an expert point of view, one could say this was the more complex task. Interestingly, this task consistently generated more healthy choices than the first task, which already indicates that consumers are more able to make healthy choices, if they are more familiar with the terminology.

However, for the impact of the education intervention, this second task generated different results in the offline store experiments than in the online lab situation. While education did not help consumers in the online experiment to avoid overreactions compared to the control group without treatments, the education treatment in the field experiment actually had a negative impact. In particular those who only briefly read the nutrition guideline tended to make worse choices, while those who spent more time reading the leaflet were equally likely to make healthy choices compared to the control group who were given no information.

What conclusions can be drawn from the evidence collected in the online study and the store experiments?

4 **The introduction of TFA amounts on food labels did not consistently enable consumers to identify the healthier choice. Providing information was not effective in preventing consumers' overreactions. ,**

The empirical evidence in the store experiments supports the results of the online study, though the experiments are not exactly comparable.

Making healthy food choices is predominantly driven by accessing the relevant food information. In a supermarket field experiment less than a quarter of shoppers actually took time to read information on the package. Of these, only a fraction of consumers read relevant food information that informs about the healthiness of the product.

When asked directly, consumers said they would prefer to receive more education on this topic and more transparency, i.e. the TFA amounts should be stated on the nutrition tables. However, these two measures are only effectively driving good choices, if the products with less TFA are overall the healthier option.

Consumers are regularly overconfident that with more transparency they will be able to make better choices, but the task to determine which combination of nutritional elements is the healthier option is often more difficult than expected. Therefore, many consumers simplify their food decisions by using heuristics, such as the availability bias, habits, mental shortcuts, etc.

The choice scenarios presented to participants showed that most consumers simply did not recognise the less familiar TFA/PHO information. Only after the educational nudge, this information was noticed with the outcome of an overreaction among those who only read the leaflet superficially. This scenario was also seen in the online survey where a slightly stronger overreaction was measured in a more controlled environment.

Overall, the objective of making healthier food choices easier for consumers is as important as it is difficult to implement. It requires a high level of expertise, time and commitment to correctly evaluate the presented information. The additional information about trans fats only adds another variable to an already complex choice context.

This report focuses only on consumer reactions to TFA transparency.

1.4 Findings– Precautionary Allergen Warnings (PAWs)

? **Do consumers take a cautious approach when they see a PAW? What are the main individual biases and barriers restricting consumer choice?**

1 **Cautious consumer choice (i.e. avoiding products with a PAW) is largely driven by a high issue salience (accessing relevant allergen information) as well as by the belief that a product <u>without</u> a PAW is a safer choice.**

Around 40% of allergy affected consumers in the tested Member States made cautious choices (in other words, they avoided products which had a PAW). The key driver of a cautious choice was **accessing the ingredients list** whether or not the product contained a PAW – i.e. accessing the relevant information needed to make the right choice.

Checking the nutrition label made people less likely to make cautious choices as it distracted attention from the PAW label where it was present. As in the other food experiment the nutrition label was accessed much more frequently than the ingredients list despite the task of shopping for someone who is allergic to a specific ingredient.

Checking the country of origin also tended to distract consumers when the choice was between a local product with a PAW and an imported product without a PAW. In this context consumers with a strong preference for local products were less likely to make a cautious choice.

What level of risk is associated by consumers with different types of PAW wordings as well as with the absence of a PAW?

The lack of any advisory allergen information was seen to represent less risk than most PAWs by the average allergy-affected consumer. Only the wording 'Made in a facility' was rated at a similar lower risk level as if no information is given.

To identify the individual risk levels that consumers assigned to various versions of allergen information, a cognitive risk assessment exercise was conducted after the experiments.

Around two thirds of the allergy affected consumers considered each of the presented PAWs as definitely or probably unsafe. The risk level was substantially higher for this affected segment, compared to consumers without personal experience of food allergies or intolerances.

Respondents clearly rated all PAW options as less risky than the label 'contains nuts' and also as more risky than 'no information'.

What is the impact of the tested PAW labels on making cautious choices?

Overall, the impact of the PAW wording was only small.

Only '*May contain*' was effective in driving more cautious choices among allergy affected consumers.

'*Cannot guarantee*' was more effective at driving less cautious choices.

To identify the most effective PAW in driving cautious choices (avoiding product labelled with a PAW), the analysis looked at the impact of each tested wording across all choice tasks.

The ranking of the PAW options based on the cognitive risk assessment only partly matched the ranking based on the actual observed impact of these options on actual behaviour:

The key difference was the divergent positioning of the label 'Cannot guarantee', which contributed to less cautious choices in the experiment with isolated treatments, but was rated high risk in the cognitive assessment in a simultaneous evaluation framing.

When controlling for this interaction effect of the 'Cannot guarantee' treatment, then its negative impact on cautious choices increases significantly. Hence, this label represents the PAW option that is most efficient in driving less cautious choices, while the label 'May contain' is most efficient in driving more cautious choices.

How can the choices be made easier for allergy affected consumers?

Making allergen information clearer in terms of the risk level the product represents will help to avoid misunderstandings by consumers.

The main policy goal is to identify whether allergy affected consumers have restricted choice due to misunderstanding the risk represented by Paws. Dealing with this issue requires an understanding of the process of individual risk assessment and the level of trust in food information which the study shows can vary depending on the framing that is presented to consumers.

Cautious choices are more likely to be made by consumers who consider a product without a PAW as safer compared to a product with a PAW. This is a significant contributor to a restricted product choice.

If there was more clarity that there was no real difference in risk between a product with or without a PAW, then fewer consumers would restrict their choices. Alternatively, if there were common rules when to apply a PAW, in terms of the risk they represent together with a standardised wording and format to be used by all manufacturers then this also may help consumers make better informed choices.

1.5 Findings and implications – Alcohol Consumption

What drives or hinders drinking intention?

1 **The evidence from this study confirms that the motivation to drink less depends on the individual relevance of 'healthy drinking' as well as the drinking habits and attitudes of peers.**

The key motivation to reduce the drinking volume were healthy preferences and habits, such as the preference for choosing drinks with lower alcoholic content and following a weight loss programme.

The key hurdle to intending to drink less was the social acceptance and relevance of alcohol among peers. As most drinking occasions are social (i.e. with friends or family), one's own drinking intentions are highly correlated to the drinking habits of the peer group.

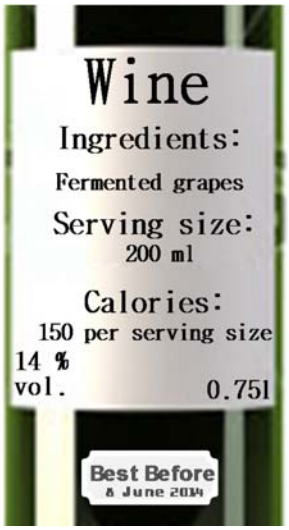
Consumers who drank alcohol more frequently were also less likely to reduce their drinking volume. Overall, frequency of consuming alcohol had more impact than the amount normally consumed. The psychological and social barriers were higher for those who frequently drank than for those who drank only occasionally high volumes.

? **How does the additional information and education about the CALORIFIC CONTENT of an alcoholic drink encourage consumers to drink less?**

2 **Education and information about CALORIES affected consumers motivated by health goals – in particular those who check for low alcoholic content and fewer calories.**

When looking at the sample split with the calorific treatment only, it was possible to identify the drivers of the attitude change based on this new type of food information, which **nudged 16% of consumers** to plan to reduce their alcohol consumption on the specified occasion. The calorific treatment was more effective:

- Among women
- Among consumers in France
- Among wine drinkers
- If presented with a negative framing, e.g. 'Wine has more calories than chocolate'



The calorific treatment was less effective among consumers:

- Who were not interested in any health issues
- Whose peers commonly drank alcohol
- Who had a generally positive view of alcohol

How does the additional information and education about the RECOMMENDED LIMITS of alcohol consumption encourage consumers to drink less?

3 **Education and information about 'KNOW YOUR LIMITS' influenced consumers with a more general preference for low alcoholic content, and seemed to reach a slightly wider audience than the calorific treatment.**

When looking at the sample split with the 'Know your limits' treatment only, it was possible to identify the drivers of the attitude change based on this type of food information, which **nudged 19% of consumers** into reducing their planned alcohol consumption on the specified occasion.

The limits treatment was more effective among consumers with a lower level of full-time education. This indicates that the ultimate message of 'Know your limits' is easily understood and motivating.

At the same time the limits treatment was less effective among consumers:

- That were self-determined in their choices and not interested in health issues
- Whose peers commonly drank alcohol
- Who were familiar with the drinking scenario presented in the experiment
- In UK and Germany[2]
- In households with children

What conclusions can be drawn on the effectiveness of each treatment in motivating consumers to drink less alcohol at the specific occasion?

4 **While the 'Know your limits' treatment was slightly more effective than the calorific treatment, the combination of a negative framing of calories for wine achieved the highest impact. Further empirical evidence is required to identify the optimal treatment and context combination.**

[2] The low impact in these two countries might be due to the fact that this campaign has already been launched there and therefore may lack the novelty factor. However, this cannot be verified, since the questionnaire did not include any awareness parameters of this campaign.

Both treatments together had a minimal impact on motivation. Even with the forced exposure in this experimental design, the immediate impact of these information-based measures was still small.

Having said this, the alcohol warning 'Know your limits' was slightly more effective than the calories treatment because addressing low alcohol content targeted more consumers' intuitive preferences than calories as pre-treatment questions showed that few participants take calories into account, a fact likely to be influenced by the fact that currently consumers are not usually presented with calorific information but only alcoholic content on alcoholic beverages.

Whether the impact of calorific information would increase if this information were to become more widely available on alcoholic drinks might be indicated by looking at a similar post-treatment question. Respondents were asked about the ideal information to be provided on alcoholic drinks in the future and almost half (49%) of participants with the calories treatment wanted information on 'calories' for alcoholic drinks. This does indeed suggest its impact will increase once this type of information is available in reality.

When looking at all tested treatments, the combination of a negative framing[3] of the education on calories for wine displayed the highest effectiveness with 21% of consumers intending to drink less. On the other hand the least effective treatment was the positive framing[4] of the education on calories for beer which resulted in only 13% of consumers planning to reduce their alcohol consumption.

What factors impact the more general and long-term motivation to drink less alcohol?

The general motivation to drink less in future is not driven by a one-time exposure to new information on calories or recommended limits. Key barriers to overcome are peer group drinking and positive alcohol image.

Overall, the willingness to reduce alcohol consumption in the longer term was the same level as for the specific occasion (17%). As expected the second decision was heavily influenced by the first decision. Two thirds of all respondents who were motivated to drink less in the concrete scenario of a friend's party also intended to drink less in the future.

None of the treatment splits exerted any significant influence on this second decision. Instead the analysis reveals that social norms and alcohol image impacted the second decision in the same way. These two barriers are the recommended starting points to be targeted for achieving a more effective motivation and behaviour change:

- Peer group drinking

[3] Wine has more calories than chocolate.

[4] Beer has less calories than pizza.

- Positive image of alcohol (has more advantages than disadvantages)

1.6 Findings and implications – Food waste

Do consumer misunderstandings of the 'best before' label contribute to avoidable food waste in private households or do consumers throw food away (consciously) for quality concerns?

The empirical evidence shows that a misunderstanding of the 'best before' date as related to food safety contributes to consumers throwing away outdated food when compared with the other attitudinal and socio-demographic factors taken into account in the analysis.

A knowledge test was conducted for the two most commonly used expiry labels 'best before' and 'use by'. Following this, participants were asked whether they ever consumed outdated food and whether they threw away food before the 'best before' date.

The knowledge tests revealed a widespread misinterpretation of expiry dates by consumers, which can be assumed to increase avoidable food waste.

- A majority of 54% of European household shoppers were not able to identify the correct interpretation of 'best before' as a quality related date.
- The most common misunderstanding (37%) confused the 'best before' date with the safety related 'use by' date.

Consumers, who believed that the 'best before' label represents a 'safe to eat/drink' limit were significantly more likely to claim not to consume outdated food.

Consumers who said that they were generally cautious in their way of life were also more likely to watch out for any indicators (like any expiry date) that may affect their safety and well-being.

The habit of checking the expiry date – when shopping for products such as crisps or muesli – suggests that this information is highly relevant to these consumers. Therefore it is not surprising that these people are less likely to consume outdated food.

The most relevant factors driving food waste before its 'best before' date were predominantly socio-demographical and motivational variables and only to a lesser extent awareness of the expiry date.

Further empirical evidence is required to

- Explore further reasons why consumers throw away food before and/or after the expiry date;
- Better understand strong country effects, which might be due to varying social norms, differences in climate or storage equipment, cultural cooking or consumption habits, specific food categories, etc.
- Test whether any information and/or education is effective enough to change at least the intention to reduce food waste.

2 INTRODUCTION

2.1 Background

Food labelling helps consumers to get information about their food. It is important that this information is accurate and not confusing so consumers can make informed choices about the food they buy and consume.

On the other hand, making the right food choices may have never been as complicated as it is nowadays, not only because of the variety of products on offer but the volume of food information provided on these products. Scientific research has increased our knowledge about what is more or less healthy. In order to make healthier or more ecologically aware food choices, or to take account of individual dietary requirements (e.g. vegan, vegetarian), more transparency on (individualised) food information is needed. For food suppliers these changing requirements provide new opportunities and new challenges in developing new products and marketing them in the right way.

2.1.1 EU legislation on food labelling (FIC regulation)

Ensuring food safety for European consumers is a top priority for EU policy makers whose ultimate goal is to achieve a high level of protection of consumers' health and interests by providing a basis for informed and safe food choices.

The general EU food labelling legislation has been in force since 1978,[5] while the existing nutrition labelling rules were adopted in 1990.[6] Since then, the number of products as well as the volume of food information has increased considerably and the market and consumer requirements have changed.

To modernise and to streamline the EU legal framework on food nutrition information, the European Parliament and the Council adopted Regulation (EU) No 1169/2011 on the provision of **'Food Information to Consumers'** – the **"FIC Regulation"**.[7]

The remit of the FIC Regulation is to serve the interests of the internal market by

- Simplifying the law,
- Ensuring legal certainty and
- Reducing administrative burden, and
- Benefit citizens by requiring clear, comprehensible and legible labelling of foods.

[5] The existing EU food labelling provisions are laid down in Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs. The majority of the provisions provided in that Directive date back to 1978: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:109:0029:0042:EN:PDF

[6] Directive 90/496/EEC – nutrition labelling for foodstuffs

[7] Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1169&from=EN

The new Regulation brings EU rules on general and nutrition labelling together into a single legal text to simplify and consolidate existing labelling legislation. This new Regulation will apply directly in all Member States, replacing current laws after a three year transitional period. While most requirements apply from 13 December 2014, the nutrition labelling requirements will become mandatory as of 13 December 2016.

In a number of cases, the FIC Regulation sets general principles, leaving the role of defining more specific rules to subsequent implementing acts. This behavioural study is part of the process of gathering robust evidence to support the implementation of the Regulation.

The FIC Regulation improves the existing EU legislation on food and nutrition labelling. It requires certain nutritional information to be shown, ensures legibility and prohibits any misleading information. It also covers specific aspects of food information provision including the following topics that have been covered by this research:

a) **Trans fats:**
The Commission is asked (FIC – Article 30) to assess the impact of appropriate means that could help consumers to make healthier food and overall dietary choices, or that could promote the provision of healthier food options to consumers including, among others, the provision of information of trans fats to consumers or restrictions on their use. Hereby it is important to investigate consumers' understanding of information on trans fat itself and in the context of an overall diet.

b) **Precautionary allergen labelling:**
The Regulation (FIC – Article 36(3)(a)) requires the Commission to establish rules concerning the use of voluntary food information on the possible and unintentional presence in food of substances or products causing allergies or intolerances (precautionary allergens labelling). There are currently various types of such voluntary labelling, which may or may not influence consumer choices in practice.

c) **Labelling of alcoholic beverages:**
In the case of alcoholic drinks, the Regulation (FIC – Article 16) provides derogations for the inclusion of an ingredients list and a nutrition declaration. There will be a future Commission report on these derogations. The study will address whether alcoholic beverages should in future be covered, in particular, by the requirement to provide the information on the energy value, and the reasons justifying possible exemptions, taking into account the need to ensure coherence with other relevant Union policies.

d) **Health-related messages linked to alcohol consumption:**
Alcoholic beverage labels are increasingly used by alcohol producers in the EU, mainly on a voluntary basis. However, there is no adequate information on the extent of these practices or on their effectiveness in terms of visibility and information value. The purpose of this part of the study is to assess effectiveness of existing and alternative messages in terms of attitude change. Although there is no specific request the FIC emphasizes to support the Member States in reducing alcohol-related harm (FIC – recital 40).

e) **Date marking and food waste:**
Depending on the type of food, consumers will continue to see 'best before' and 'use by' dates on pre-packed foods. The latter will be more tightly linked to food safety (FIC – Article 24). It is assumed that consumers often throw away food unnecessarily due to confusion about the difference between "use by" and "best before" date. Behavioural evidence on this issue will allow better defining policy remedies to curb the amount of food simply wasted because of this type of misinterpretations.

2.1.2 The changing role of research in food labelling regulation

In the past, food labelling policy and decision-making involved a consideration of scientific evidence, the input of industry stakeholders such as food manufacturers and retailers, and government and non-government stakeholders.

Over time, regulatory authorities have recognized the importance of consumer research as a critical input to regulatory decision making. Food manufacturing continues to advance, with more innovative and "new" food products available now than ever before. Consumers, as well as manufacturers, are driving this food innovation.

Food nowadays is recognised by policy makers to play an important role in improving health and quality of life, based on evidence that a healthy diet is not only in the interest of individuals (in terms of obesity and mortality) but also influencing the cost of public health care and productivity of the working population.

Gaining a better understanding of the impact of food labelling on consumer behaviour has therefore become an integral part of regulatory decision making. Given the increasing cross-border flow of food products within the European internal market, the European Commission has initiated policy activities which aim to reduce the complexity of quality regulation in Europe.

'Average' consumer vs. real consumer

The European legislation has been based on a definition of an 'average consumer' which is consistent with the traditional economic model of consumer behaviour, in which consumers are defined as reasonably well-informed and observant, and make fully rational decisions when it comes making food choices.

However, recent work in behavioural economics has shown that real consumers do not typically behave in that way and that, in real life, decisions are based on various short cuts (or heuristics) and biases (e.g. as a consequence of habitual choice behaviour). It is useful to apply Kahneman's dual process thinking[8] when trying to understand the way that consumers access and process information on food labels.

In summary, the dual process model asserts that human behaviour comprises the interaction between two systems:

1. **Instinctive, intuitive system** – wherein we do not process information in a detailed or even conscious level. We act quickly and spontaneously because of factors such as time constraints, information overload, etc. which characterise day-to-day life.

   Deliberative, reflective system – wherein our behaviour is rational or planned in that we are consciously aware of the behaviour we are performing and information we are considering. The 'deliberative' brain takes time and thinks about things.

In the context of reading and processing food labels, consumers often (but not always) engage their 'intuitive' brain during the in-store purchase situation – i.e. they glance fairly cursorily at the food label (if at all), and focus only on one of two key pieces of information. If at all, it is only later in the home (e.g. when cooking with or consuming the food at the table) that they engage their 'deliberative' brain and read and consider the labelling information in some detail.

[8] Daniel Kahneman 2011: Thinking fast and slow

Hence, our approach to investigate consumers' behaviour when it comes to food label information combines the differentiation between "instinctive, intuitive system" and the "deliberative, reflective system" with an empirical "bottom up" design to understand their role in the typical food purchase context.

Consumer understanding of food labels

There is a key distinction to be made between consumer information and understanding. This study aims to assess the way in which consumers' access, interpret and use food information. It is both the provision of information and the level of consumer understanding which are under consideration. Consumer policy based on the 'average consumer' standard has been brought into question by behavioural theory which highlights the other aspects that govern consumer behaviour. Providing information is not enough. There is also the gap between information provision and information comprehension which underpins the definition of food product literacy. As Janis Pappalardo points out:[9]

> *"Product literacy requires accurate information and a means of evaluating that information. Obviously, product literacy is thwarted when consumers do not have access to the quality and type of information necessary to evaluate product choices. Thus, truthful information is necessary for product literacy. In addition, truthful information alone may not be sufficient to achieve product literacy, because information is useless if one does not understand how to use it and transform it into practical knowledge."*

Accurate and clear information is a prerequisite to the concept of the literate consumer. But the consumer also faces other constraints than just a presumed lack of knowledge. The information provision needs to be understood within the real-life context of people's shopping behaviour (a context which includes income constraints and strongly established habitual patterns) if it is to be truly effective. In addition, providing accurate and clear information is only the first step. The next step for consumers is to weigh up the pros and cons of reading that information. Do they notice the information, do they realise the relevance or importance of the information, is the benefit of reading this information seen to outweigh the "cost" of the time and effort it will require to read it?

Similarly the idea of misinformation needs to be viewed in the same way. Misleading information is not only a matter of fraudulent health claims or other deliberately inaccurate information. It is a matter of how consumers interpret the information they are given. As Pappalardo mentions in the same article, "What matters for deception is not simply what words are uttered or written on paper, but consumer interpretation".

For this behavioural study, it is not just about assessing the optimal presentation of key food information. It is about fully understanding how this information is or will be used and interpreted by consumers within the broader context of the many constraints faced in the real world.

2.1.3 Key elements of researching a purchase decision

Understanding what shoppers respond to before purchase cannot be explained by a simple decision tree that loosely refers to assumed shopper priorities. This would oversimplify the

[9] « Product Literacy and the Economics of Consumer Protection Policy » (Pappalardo, Journal of Consumer Affairs, 2012)

research issue, which would lead to inappropriate methodologies and/or misleading or flawed results.

In our view it is crucial to disentangle different facets of the purchase decision and avoid oversimplifying what are complex, multi-level (and sometimes sub-conscious) processes. The recommended approach is to systematically examine how shoppers plan, search, select and buy their food.

Let's look at each of these steps in more detail:

Planning refers to when the decision is made about what to buy rather than whether to buy. It relates to product rather than category planning. Sometimes shoppers actively plan what product to buy; sometimes they plan certain aspects of a product. Often, this takes the form of previous knowledge, i.e. shoppers simply know what they are going to buy without active planning (habitual shopping).

Searching relates to how the decision is made regarding "what to buy?" Here, shoppers try to locate an item or an acceptable set of items from which to make a selection. When in search mode, the focus is on de-selection since shoppers scan many products and filter out irrelevant products.

Selection refers to why the product choice decision was made. When in selection mode, shoppers make a choice from available options, sometimes many, sometimes just a few. At some stage, the selection involves trade-offs based on personal preferences. This may not always happen in-store because the choice was made beforehand.

Buying completes the purchase process and all other elements of the purchase decision should be considered in the context of the product bought as a result of the decision process. Sometimes shoppers will simply act on impulse and here they effectively skip the first three phases.

Our knowledge of shoppers, based on many years of behavioural research in the consumer sector and comprising many different techniques (including filming, eye tracking, shopping trip tracking, shopping simulations, neuroscience, and virtual reality testing) has shown us that the reality in-store is that shoppers often decide what they want in advance or else they don't make an active decision. In fact, more time is spent navigating through the shop than engaging with products since most products are irrelevant to the shopper.

The following principles – a selection of general insights about the shopping behaviour and process based on the research we have conducted – are useful for scoping the design of the experiments.

Principle 1: Clarity at the shelf improves ease of shopping

We know that the vast majority of consumers shop under time constraints. Shoppers have a finite amount of time they allocate to shopping for a particular product. So, how can shopping be made easier, i.e. more efficient and beneficial for the shopper?

Principle 2: Improve ease of shopping by reflecting the shopper's search process

When in search mode, interaction tends to be at a category level not at a product level. Shoppers scan many items with very rapid eye movements, looking for visual cues to help make sense of the product category allocation and shelf layout, and narrow the options.

So they look at colours, shapes, sizes and other characteristics, resulting in an at least partially sub-conscious process that filters out irrelevant products. Thus, the primary task is de-selection, not selection. While the visual process may be rapid and sub-conscious, shoppers do know what they are looking for (the screening criteria can be anything: a specific product/brand or a category (generic) "cereal" or a specific consumer need "something quick for lunch", etc.).

A shopper scanning 100 products will do so to reject 95 of them. We know from empirical investigations of the shopping process in different markets by combining eye tracking with neuroscience measures, that positive emotions are only experienced when the shopper finds relevant products. Finding is a positive but searching is a negative experience.

Since shoppers focus on de-selection, it is really important to identify the product features they are looking for and then organise the shelf on that basis. This is the stage where shelf layout really matters. The first goal should be to reduce searching time so that the shopper can move on to the selecting mode.

Principle 3: Minimise searching to increase time for browsing, category engagement and relevant food information

As mentioned earlier, when in "search mode", shoppers focus on what they want to buy and filter out anything not perceived to be relevant to that task. The result is that other products (and point of sale communication measures) become invisible.

For policy makers, the ultimate goal is to improve the purchase decision process so that consumers can make better informed choices (and ideally healthier, more sustainable choices) in relation to a product category. This will only be possible if shoppers are moved quickly into "selection mode".

As we know from our extensive experience with behavioural shopper research, when searching time is reduced, rather than leaving the category, shoppers use their time more productively. Thus they spend more time browsing the different products and interacting with products and labels, which increases the likelihood of looking at relevant food information.

Principle 4: Focus on organising the shelf for shoppers who have made up their mind before

This principle relates to the fact that different shoppers have different tasks when shopping. When shoppers' minds are made up before they go to the shop, they are there to find not to browse. Decided shoppers represent the majority and organising the shelf for them will increase efficiency and thus improve the shopping experience. In addition, 'easier' shopping increases the chances of changing the shopper´s mind set, converting them from 'searchers' to 'selectors'. In turn, this will increase the number of shoppers who may consider healthier alternatives or become open to other choice criteria.

Principle 5: Focus on clear and motivating messages for shoppers who have not made up their mind yet

The fact that different shoppers have different tasks at the shelf has implications for how to communicate to shoppers in store. In order to make a better connection in store, it is recommended to clearly target the messages.

We know that typically point-of-sale material and packs are looked at only very briefly and that most information is discarded so it is vital for messages to be relevant and motivating. But the question is – relevant and motivating for whom?

Messages, particularly those designed to prompt action, will be much more effective if they target the minority of shoppers who have not made up their mind what to buy and are open to influence in store. If one can identify what motivates these shoppers, this will help improving the presentation of food information leading to better informed purchase decisions in store.

So what do these principles mean for the approach to this research?

Firstly, our key focus for investigating the access, comprehension and evaluation of food information, is the "selection" phase, the main aspect of the purchase process which will be actively influenced by policy measures. A common problem with purchase decision research has been the use of inappropriate attributes. Separating search from selection overcomes this by allowing us to create specific attributes which relate to the research goals at hand.

- Search attributes should be capable of being used for shelf organisation. This means that it must be possible to group products on the basis of that attribute and that the groups will be recognisable to shoppers on the shelf.
- Selection attributes should reflect consumer needs/motivations which are known to drive product/brand choice in the category.

Also, we take account of the shoppers' task when shopping the category. Decided shoppers come to the shelf to search and their needs are very different from those who are open and in selection mode.

Secondly, our emphasis on shopper behaviour underlines the importance of undertaking purchase decision research also in store where we are dealing with a real field experiment with real stakes.

Changes to packaging or point of sale layout often confuse habitual shoppers, and new ideas that work in a lab environment often don´t work in a busy, real-life store. Testing new initiatives in a realistic retail context before roll-out is therefore critical in order to select the ideas that work best on shelf, gain buy-in from retail partners and avoid costly mistakes.

2.2 Research objectives

Never before has so much information on food and healthy diets been provided to consumers. The wealth of health claims, quality labels, nutrition facts, apps and advice, together with sometimes misleading or contradictory marketing information, is overwhelming for many citizens. Moreover, it represents a contextual choice architecture that contributes to consumer confusion across all education levels.

Although the situation varies across the EU, mainly because of differences between existing national regulatory policies, the convergent theme across Europe in this area is characterised by an increasing quantity of information and labels shown on food products. At the same time, there are still issues not yet fully understood relating to the quality and presentation of information in a "consumer friendly" way.

Consumers develop different strategies to cope with this overload of information. These can range from ignoring any information or delegating responsibility for decisions to family members or brands (i.e. always buying the same products), or spending too much time and thought on the right choice. Between these extremes, there are several 'behavioural segments' of consumers who do not ignore but drastically simplify information intake based on heuristic shortcuts.

As a consequence of this increasing consumer confusion, the food industry is observing a general decrease of trust in brands and higher product dissatisfaction levels as well as reducing product and brand loyalty. [10]

On the one hand most stakeholders agree that there is a need for more clarity and understanding regarding food information. On the other hand there seems to be little consensus on solutions, despite the publication of numerous studies testing different formats and content of food information with varying outcomes.

Therefore, it is critical for the success of this study to learn from existing evidence and establish a robust methodology that takes into account all issues relating to the following key outcome objectives:

c) Status quo description of consumer understanding and confusion, i.e. explaining the capacity to access, interpret and use existing food product information specifically on allergens, trans fats, origin of primary ingredients, durability, health warnings and labelling of alcoholic beverages as well as further quality label information and thereby:

   - Consider individual consumer features and identify relevant biases and constraints such as cognitive abilities, time resources, repetitive purchases, etc.

     Understand external determinants and different framings of the choice situation contributing to "bad consumer choices" by fostering misunderstandings, information overload or ignorance

d) Identifying the optimal aspects of presentation of food information for the consumer to make better (informed) decisions and thereby:

   - Consider a holistic approach, i.e. assess the interactive effect of one particular label on one particular kind of product in the context of increasing complexity of labelling in the marketplace
   - Look for the best compromise between exhaustiveness and clarity of the label, exploring the possible use of symbols or other means instead of words.

2.3 Research design overview

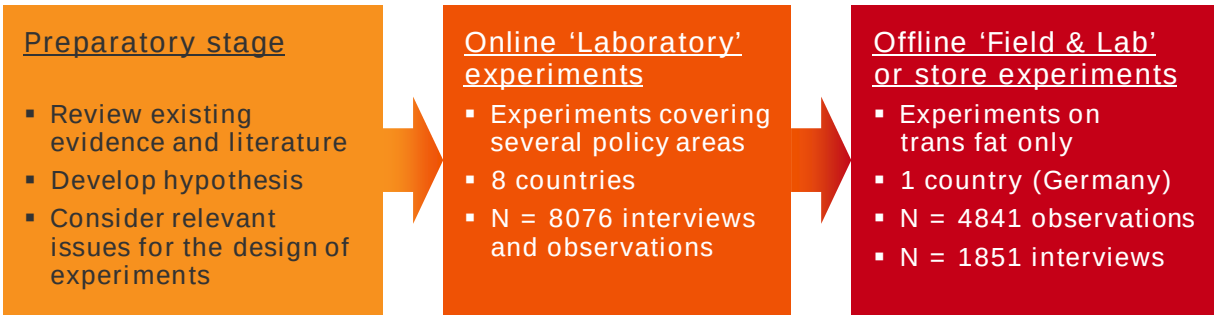
The objectives outlined above are best addressed by applying behavioural experiments that are complemented by classical survey design. As described in Chapter 2.1 food choices can be habitual, impulsive (less conscious), considered (more conscious) or a mix of both. While a classical survey design is useful for collecting relevant cognitive information (e.g. on previous experiences and shopping goals), more indirect tools (e.g. observation) are required to capture less conscious elements of the choice behaviour.

[10] Factbook on consumer confusion 2012 by TNS Infratest (http://nestle-zukunftsforum.de)

Behavioural experiments also were the requested design by the European Commission, who has started to test consumer understanding and policy alternatives using behavioural experiments since 2012. As explained in a recently published Joint-Research-Centre report, this methodology can help policy makers improve their policy with evidence going beyond stated preferences as well as the often unrealistic assumption of rational consumer behaviour.[11]

The timing of this research and the early stage at which the study took place in the policy cycle put more weight on the objective of 'understanding the EU consumer' than on the 'maximisation of policy effectiveness'. This allowed the implementation of a gradual three-stage research design investigating several policy areas:

Figure 2 Research design overview



The preparatory stage comprised a review of existing evidence via desk research combined with a series of meetings of key stakeholders at the European Commission to scope out the hypotheses to be tested in the experiments and decided on overall survey design.

Online 'Laboratory' ('lab') experiments were conducted in eight member states (United Kingdom, France, Germany, Italy, Spain, Finland, Poland, and Romania) in September 2013. A questionnaire with online panellists included the simulation of various shopping and consumption scenarios to collect relevant choice observations on the following policy areas: trans fats, precautionary allergen warning, health warnings and calorific information on alcoholic drinks. Further information without experiments was collected on the topics: origin of primary ingredients and food waste.

Offline 'Field & Lab' or store experiments were conducted in super markets in one member state (Germany) in July 2014. With the consent of a large retailer chain, customers were observed when shopping for specific food categories (yoghurt, frozen pizza and biscuits) and subsequently screened for immediate participation in a 'lab' experiment at a stand with mock-up products of the category they just shopped. The focus of this experiment was on testing the reaction to different levels of transparency of trans fat information.

All experiments are designed as randomised controlled trials. The difference between the 'lab' and the 'field & lab' design is a somewhat higher realism of the latter experiment due to the realistic environment of the supermarkets and the sampling of shoppers who had just made the same type of purchase decision in real life.

[11] http://ec.europa.eu/dgs/health_consumer/information_sources/docs/30092013_jrc_scientific_policy_report_en.pdf

As soon as it was decided to continue the next research step with the policy area on trans fat, the initially intended 'pure field' experiment design had to be changed into the so-called 'field & lab' design for several reasons:

- In a real field experiment all relevant products (real stakes) on the shelves had to be manipulated with specific trans fat information. This would have required an arbitrary or random allocation of high and low levels of trans fat to certain brands without knowing whether this reflects reality or not.
- Since most shoppers were expected to be habitual buyers, the laboratory-like experiments at the stand allowed us to switch their habitual shopping mood into a first buyer mood (assuming that the usual product favourites are out of stock).
- The choice task between mock-up products allowed for a tighter control of influencing variables and a more robust analysis by excluding brand, price, flavour, and package format variations.

3 EXPERIMENTAL 'LAB' DESIGN

3.1 Overview

The experimental design and the questionnaire were developed by TNS in co-operation with DG SANCO. It consists of three main modules:

- Pre-experimental questions, to screen and segment the sample in order to route the respondents to the appropriate experiment as well as questions aimed at collecting information before the experiment and independently from this, to avoid the latter influencing the replies (e.g. on habits, shopping goals and awareness of different fat types and allergy information).
- The core part of the online study were the behavioural choice experiments designed as randomised controlled trials to observe consumers' preferences on food and alcoholic beverages.
- Post-experimental questions captured further relevant issues including a knowledge test on expiry dates, food waste habits, self-control, risk attitudes and socio-demographics.

As the survey had to cover distinct sets of experiments for various topics, the core questionnaire was split into two topics:

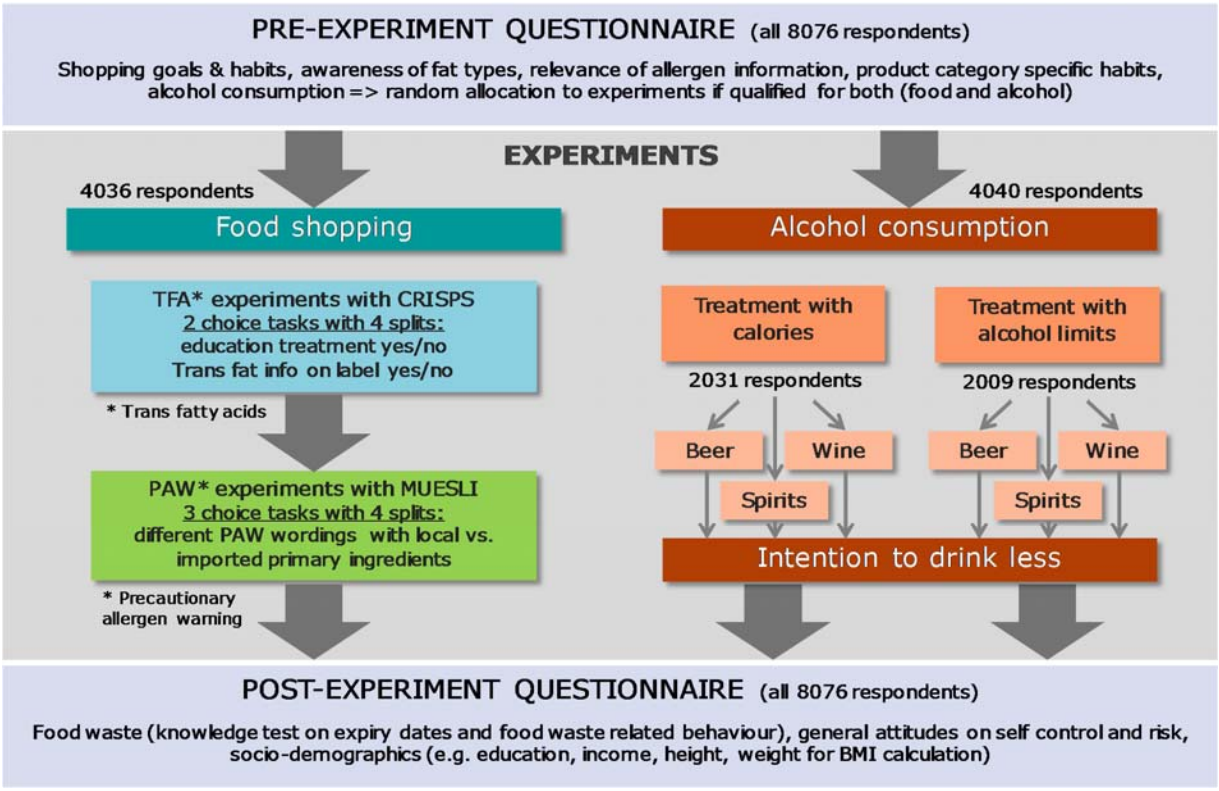
- One half of the respondents were presented with food shopping experiments to identify drivers and barriers of a) healthy choices with selected TFA scenarios and b) cautious choices with selected precautionary allergen warnings.
- The other respondents were submitted questions on decisions about their alcohol consumption covering calorific and warning treatments for beer, wine and spirits.

The design of the experiments took into account typical shopping and consumption habits and preferences, the specific context that consumers encounter when making decisions on what to shop or what to drink in real life.

Some of these previous experiences and habits were relevant to direct respondents into the appropriate experimental group in order to present an individually relevant decision scenario.

In addition, various treatments were developed to fit into the typical information and decision process of a shopping scenario or a specific drinking occasion.

Figure 3 Questionnaire flow for respondents



We took several decisions in the set up phase to finalise the experimental design. To maximise the validity, realistic choice situations had to be replicated as closely as possible, while on the other hand a reduction of real world complexity had to be achieved for analytical reasons but also to avoid overburdening of respondents. The experimental design therefore focused on key variables to reduce real world complexity and to avoid cognitive overburdening of respondents as well as allow meaningful statistical analyses.

This chapter outlines the key challenges and issues which were considered for the final design of the experimental core part of the questionnaire.

3.2 Respondent segmentation

Universe definition

The overall sample was screened for consumers who are responsible for making decisions on everyday shopping for their household. Therefore, participants who did not at least share the shopping responsibility with someone else in their household were screened out.

While the sample definition of household shoppers was appropriate for the shopping experiments, it was not a logical pre-selection for alcohol consumers.

The reason why a shopper sample screening procedure was used as a preliminary base for all experiments is that there was no reliable information available on the socio-demographic structure of 'alcohol consumers' across all relevant countries.

Therefore, the same more generic wording of the screener question was used as in the Eurobarometer, which provided a frame (age and gender structure) which could be replicated in the online survey to capture 'the average shopper of a household'.

This sample base was further screened for consumers of specific types of alcoholic beverages. This sample excludes consumers of alcoholic drinks who do not (or only rarely) shop for their households.

Food vs. Alcohol experiments

Running all experiments for each respondent was not advised as the preceding experiments will always have an effect on subsequent experiments (conditioning effect). Moreover, this would have meant that the online questionnaire length would have exceeded 20 minutes, with the potential consequence of "respondent fatigue".

The first segmentation of respondents was to assign them to either the 'food shopping' or 'alcohol drinking' experiments.

The assignment of each respondent to one of these split groups was guided by the individual relevance of the topics as captured by some questions at the beginning of the survey.

- Qualification for the food experiment was defined as when participants:
    - Were either personally affected by food allergy / intolerance or when members in their household were affected.
    - Had shopped for crisps within the last 6 months.
- Qualification for the alcohol experiment was defined as when participants
    - had consumed beer, wine, vodka or whiskey within the past twelve months.

Respondents who fulfilled both criteria were allocated to the split with the lowest number of respondents in order to achieve an equal sample split between food and drinks experiments within each country.

If someone did not qualify for either topic he or she was assigned to the food experiments, which was then introduced as a hypothetical scenario to shop and select a product for a friend[12].

This design enabled presenting choice tasks to respondents that they are more or less familiar with. For instance, the food split offered shopping decisions between different packs of crisps and muesli to respondents with recent shopping experience of these categories, and the alcohol split was also based on their own consumption.

Further splits and routings of respondents were applied within the experiments to develop a framing of the choice tasks that took into account individual habits and experiences.

In the alcohol split, participants were routed to an experiment with an alcoholic drink, they were familiar with: beer, wine, vodka or whiskey (spirits[13]). Respondents who said that they

[12] The hypothetical scenario was applied to only 3% of the total sample, i.e. 233 respondents. The vast majority qualified for both experiments (89%, 6337 respondents).

[13] The goal was to cover the three most common alcohol categories across Europe: beer, wine and spirits. As the latter category was estimated to be significantly smaller, vodka or whiskey was presented to the respondents. In the analysis, the focus is on the overall category of spirits and not on the differences between vodka and whiskey.

drank alcohol from multiple categories were assigned to the type with the lowest number of completed experiments to achieve an equal sample split across all three main alcohol types.

The following chapters outline the design rationale for each of the three experiments conducted in this survey, i.e. experiments on

- **TFA – trans fatty acids** information in a food shopping scenario
- **PAW - precautionary allergen warnings** in a food shopping scenario
- **Alcohol consumption** scenario with calorific information or alcohol warning

3.3 Experiments on TFA information

The research objective was to investigate consumers' understanding of information on TFA itself as well as in the context of an overall diet. A core question was to explore whether consumers were able to identify which combination of fat types (e.g., with versus without TFA, TFA versus saturates) was the healthier option.

At present consumers in Europe are typically not informed about the existence of TFA in a specific product, neither in the ingredients list nor on the nutrition fact label. For this reason, an experiment based on the current information status did not make sense even not for the control group.

However, current legislation requires that from the end of 2014 onwards, the nature of hydrogenation of vegetable fat, i.e. whether it is fully or partially hydrogenated, needs to be indicated on the ingredients list. This is intended to help consumers identify whether the product may contain TFA or not. Only partially hydrogenated oil (PHO) can contain TFA and the higher the ranking of this ingredient, the higher the amount of TFA could be.

The information on whether partially or fully hydrogenated oils are contained in the product is the minimum level of information that will be shown in Europe from 2014 onwards and therefore served as the control group in the experiment.

With this background, the specific challenge of this choice experiment will be something new for all participants when shopping for food. Although it is likely that some consumers have already heard of trans fats or partially hydrogenated fats, the current[14] food information does not allow comparisons at the point of sale.

3.3.1 Product category for TFA

The product category selected for this experiment was **crisps**. This choice was based on the following criteria:

- Relevance to the policy area: Natural TFA can be found in fat-containing dairy products like cheese, yoghurt, butter, as well as ruminant-based meats (beef, sheep, and goat). Industrial TFA can be found in prepacked cakes, croissants, muffins, chips, crisps, popcorn, chocolate products, fried potato products, margarines, pastries, etc. The latter products can be found on the market with high differences in industrial TFA contents, i.e., from being free of TFA to having 50% or more TFA in the total fat of the

[14] The lab experiments were designed and delivered in 2013.

product. These products were therefore more suitable for testing simple as well as complex fat type combinations.

- Relevance to consumers: The selected category is popular across all relevant EU member states, i.e. with only few non-buyers within the overall sample.
- Relevance of food information for consumers: Categories that attract more selective buying behaviour (i.e. that are less prone to habitual buying or impulse buying) will increase the ecological validity of an experiment that is based on evaluating differences between food information. The most selective buying behaviour is typically observed with baby food with a very high proportion of buyers reading food information in the store. However this category would only be relevant to a very small share of consumers. Chocolate bars represent the other extreme - a typical impulse product that does not attract any reading of food information and was also therefore not suitable.

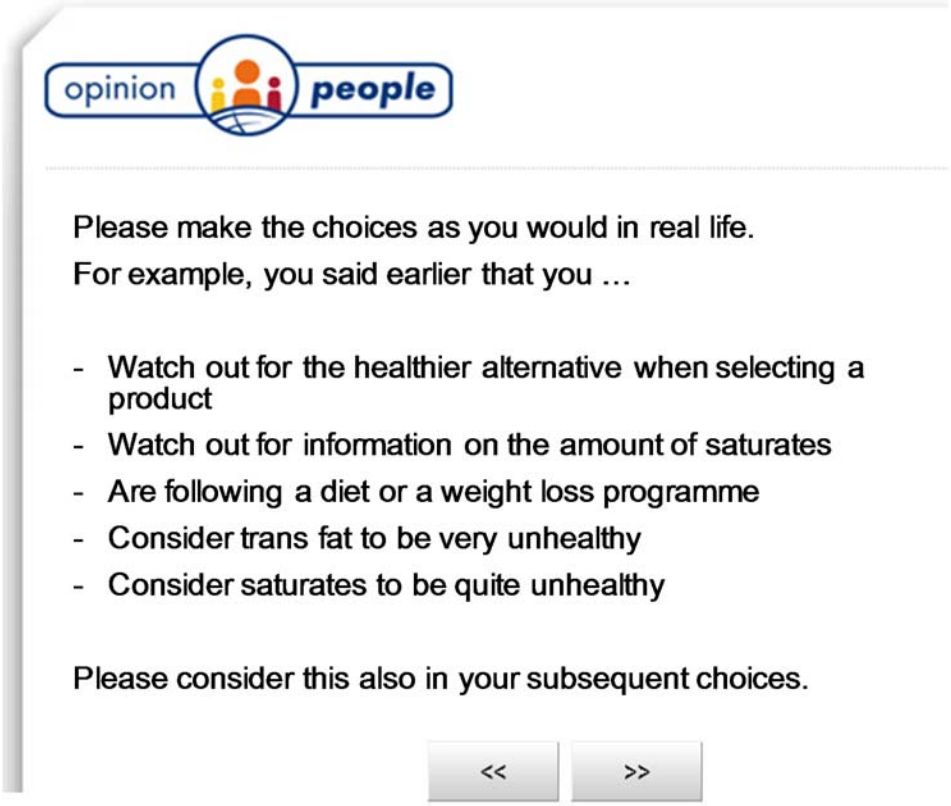
Crisps are relevant to the policy area as they may contain industrial TFA. They are commonly purchased by the majority of consumers across Europe. There was no data available to evaluate how many consumers actually read food information when shopping for crisps, although previous experience with observed shopping research allowed the exclusion of certain categories known to attract low attention to food information, such as spreadable fat and chocolate bars.

3.3.2 Framing of TFA experiments

For all participants directed to the food experiments split, the TFA scenario was the first experiment. Hence, there was a two-step introduction:

- First step – a general introduction relevant to both topics, that explained the general purpose and design of the choice tasks as well as the possibility to earn an additional monetary bonus
- Second step – a more specific introduction to the TFA choice tasks with individual reminders of relevant habits and attitudes that had been mentioned by the respondent earlier in the survey (see figure below)

Figure 4 Example of an individualised introduction for TFA experiments



Based on questions asked at the beginning of the questionnaire, the awareness and evaluation of different types of fat was collected and brought forward again only to those who said they were aware of it and had a healthy or an unhealthy perception of each one. If the type of fat was never heard of or if the respondent was unsure whether it is healthy or unhealthy, there was no specific comment at this stage.

The purpose of the framing with these reminders is to help respondents imagine a more realistic and individual choice situation, which eventually should lead to more realistic observations of choice behaviour in the experiment.

3.3.3 Treatment splits for TFA

The next dimension to be considered was the design of treatment stimuli and the number of treatment splits to be tested. To examine the impact of possible treatments, the following stimuli were developed to test their effectiveness on driving healthy choices:

- Additional TFA information on nutrition label
- Education intervention explaining all fat types

Additional TFA information on nutrition label

Since consumers will be confronted with new terminology (partially and fully hydrogenated oil – PHO/FHO) in the ingredients list on many food products from 2014, it is one goal to find

out whether this term is understood properly. If so, does it foster healthy choices although it is not providing exact information on the presence and amount of TFA?

The alternative scenario is to provide concrete TFA information as it is common in other countries outside the EU (see example below).

Figure 5 Example without TFA and example with TFA

Ingredients: Potatoes, Partially Hydrogenated Sunflower Oil, Rapeseed Oil, Rice flour, Flavourings, Salt, Sugar

Average nutrition information	100 g
Energy	2265 kJ 543 kcal
Protein	4 g
Carbohydrates of which Sugars	56 g < 0.5 g
Fat of which Saturates	33 g 2.0 g
Fibre	3.0 g
Sodium	0.47 g

Ingredients: Potatoes, Partially Hydrogenated Sunflower Oil, Rapeseed Oil, Rice flour, Flavourings, Salt, Sugar

Average nutrition information	100 g
Energy	2265 kJ 543 kcal
Protein	4 g
Carbohydrates of which Sugars	56 g < 0.5 g
Fat of which Saturates of which Trans fat	33 g 2.0 g 18.0 g
Fibre	3.0 g
Sodium	0.47 g

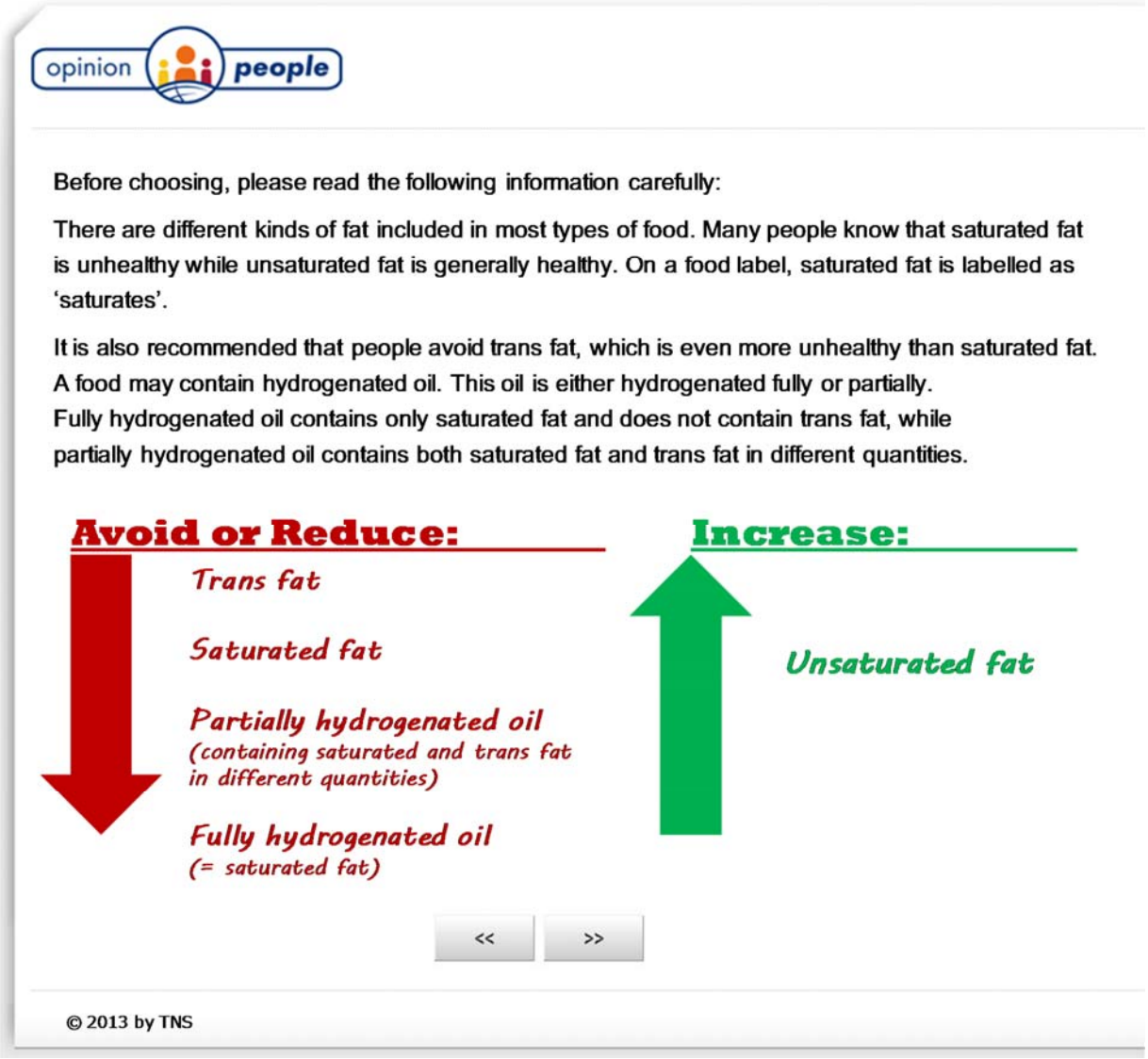
The key question is, whether the additional and more concrete TFA information is actually helping consumers to make healthier choices or whether it is misleading in certain scenarios.

Education intervention explaining all fat types

It was expected that a large share of respondents would have only little or no awareness of specific fat types such as TFA and PHO. Thus an additional treatment was developed to simulate an educational intervention for half of the participants. This was intended to help understand whether an objective explanation of a complex topic to consumers would increase the likelihood to make healthy choices.

While the treatment with TFA information was embedded into each choice task, the education treatment was presented only once before the first task (see figure below).

Figure 6 Education intervention about fat types



Four condition splits were developed to measure the impact of each of the two treatments separately, as well as in combination. Split 4 serves as a control group without these treatments although it will reflect only the reality from 2014 onwards.

Table 7 TFA condition splits

	N	TFA information	Education
Split 1	1 009	Yes	Yes
Split 2	1 011	Yes	No
Split 3	1 009	No	Yes
Split 4	1 007	No	No

This design allows a robust sample base for each split with approximately 1000 respondents that are randomly assigned to each split.

3.3.4 Choice tasks and choice characteristics for TFA

All respondents received 2 subsequent choice tasks:

1. The first choice required a somewhat less complex knowledge regarding TFA, i.e. a choice between a product with or without TFA/PHO. Everyone who is aware that TFA is an unhealthy ingredient would be able to identify the healthier alternative (see Figure 6).
2. The second choice required the knowledge that a product with only small amounts of TFA/PHO is actually healthier than a product without TFA/PHO but substantially higher amounts of saturated fat (see Figure 7).

In both choice tasks 1 and 2, the first choice offered a healthier product A (without TFA/PHO) compared to product B (with 18g TFA).

Figure 8 TFA choice Task 1 – example with TFA information and zoomed labels

As well the options of product A or B, participants could also choose the option 'no difference to me'. This additional option in principle could be selected by participants who either did not notice the difference, did not understand the difference, or for whom the difference was not relevant. Instead of offering such a detailed set of options, which would increase the likelihood of a "non-choice", instead respondents were asked after the experiment to explain the rationale behind their choices.

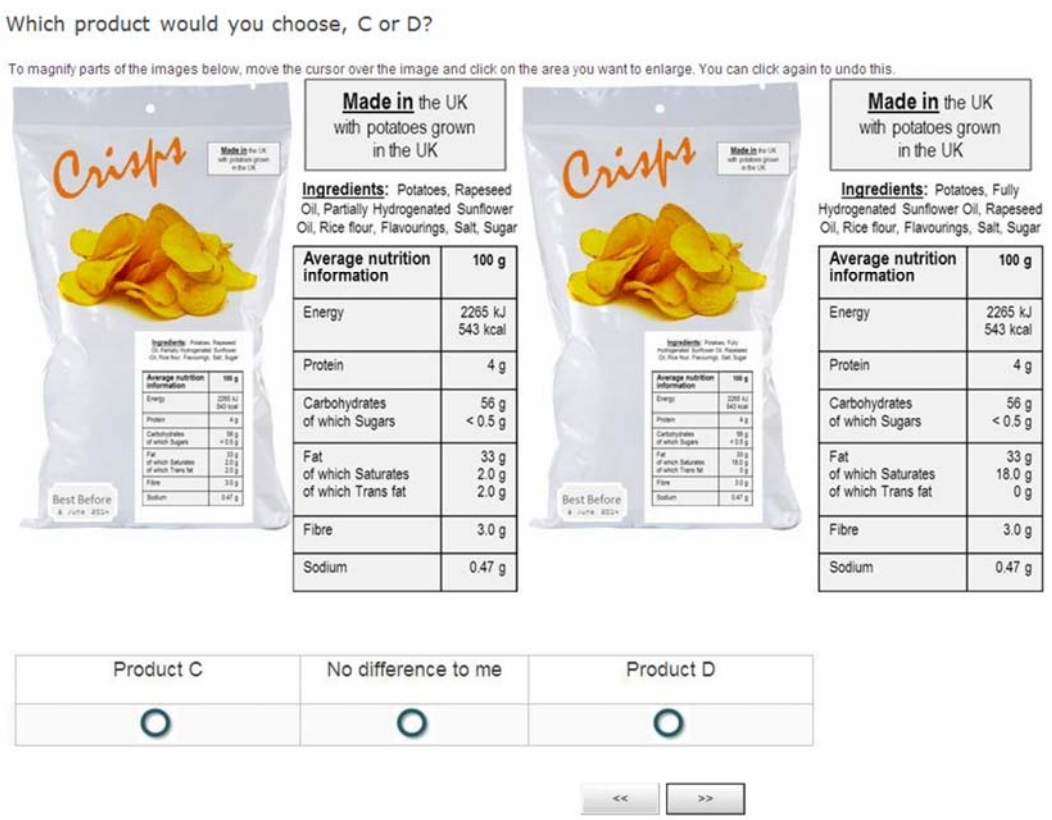
To increase the realism of this exercise, the food information presented on the crisps pack was hardly readable on a typical computer screen – except for the titles. The participant had to actively select and zoom into the labels to read the fine print. This process was intended to simulate the activity in an offline supermarket of taking packages from the shelf and comparing food information.

Nobody was forced to read. The introduction on the previous screen suggested that consumers might read before selection as in real life. However, unlike real life, all other variables were controlled (no price, no brand, same packaging, etc.) and it can therefore be assumed that the zooming behaviour measured in this lab experiment is certainly higher than label reading in reality.

Whether respondents "zoomed" during the experiment or not was monitored in addition to their selection. Overall participants could zoom on three areas: on ingredients, nutrition information and/or origin of primary ingredient.

The second choice offered a healthier product A with 2g TFA (lower ranked PHO) compared to product B without TFA/PHO but 18g Saturates/FHO.

Figure 9 TFA choice Task 2 – example with TFA information and zoomed labels



After making these two choices, participants were asked to post-rationalise why they made these choices, in order to assess whether they had understood the complexity of the tasks.

Finally, a small knowledge test was conducted as an additional measure of correct recall and awareness of TFA information. Five statements about fat types (three true and two false statements) were presented to all participants. Three statements had already been explained in the education intervention and were presented to check whether they recalled the information. Two statements (about which products can contain TFA) had not been explained previously.

3.4 Experiments on PAW

Food allergy is an increasing public health problem linked to a variety of policy issues. In this consumer study the aspect of precautionary allergen warnings (PAW) for the unintentional presence of allergens in food was the key focus.

Food manufacturers can add an advisory 'May contain' labelling on a voluntary basis on their products to pre-empt any liability claims for the unlikely event that an unintended cross-contamination causes any health problems. These warnings can be found on a high proportion of pre-packed food, even where such cross-contamination is unlikely.

For some consumers with a severe food allergy it is sometimes not enough to check only the list of ingredients. In particular, processed and pre-packed food can be subject to unintended cross-contamination with allergens during the production and packaging process, for instance if the allergen was an ingredient in another product that was processed before on the same production line.

Since there is no clear rule about whether or when a PAW should be issued on a product or not, the existence of a PAW actually does not indicate a more reliable choice compared with a product without PAW.

Hence, this study set out to examine whether and how PAWs influence consumers' choice. Which PAW messages are perceived as most risky and are more likely to limit consumer choice, perhaps unnecessarily? How do consumers react when offered one product with and one without PAW? Do they prefer a cautious approach?

Of course, such a decision process is mainly relevant for consumers who are personally affected by a food allergy, which represent only a small proportion of the population in Europe. As this topic represents only one policy area among others in this research, the overall sample of household shoppers was not boosted with allergy sufferers[15].

Instead all respondents were asked about their awareness and experience with food allergies and food intolerances (either because they were personally affected or through shopping for an affected household member). All 4036 participants in the food split went through the PAW experiment, as the framing of the shopping scenario had to be designed homogeneously as a shopping task to be conducted 'for a friend with a severe nuts allergy'.

This way, the analysis of this experiment would allow comparing the choice behaviour of participants for whom the topic was relevant (n = 596; 15%) and those for whom it was not relevant.

An additional aspect was considered in the design of the PAW experiment: information on the country of origin of the primary ingredient of the product. Does the origin (local vs. imported ingredient) affect how people assess the level of risk of a PAW? Qualitative research in UK has indicated that PAWs on local products are often considered as safer than imported products without a warning[16] and this hypothesis was to be tested as part of the experiment.

3.4.1 Allergen and product category for PAW

There is a wide array of allergens that the experiment could have focused on. The choice of the nut allergen was driven by the following considerations, and the assumption that a PAW for nuts is likely to cause a higher level of consumer detriment than for other allergens[17]:

- Nuts are a more common allergy type and are typically related to more severe consequences for an allergy sufferer.

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15 A sample booster would have required identifying individuals with a specific food allergy such as nuts to make it personally relevant and less hypothetical. This would have required a significantly larger sample size and would have caused unintended bias in the results of the other food experiment.

16 Barnett J, Vasileiou K, Gowland MH, Raats MM, Lucas JS (2013): Beyond Labelling: What Strategies Do Nut Allergic Individuals Employ to Make Food Choices? A Qualitative Study. PLoS ONE 8(1)

17 Ditto Barnett et. al. UK 2013

- Due to the more severe allergic reactions (sometimes even fatal), the industry uses PAWs more often in relation to nuts than other allergens for liability reasons.
- Unintended cross-contamination with nuts is more likely in a wide range of product categories such as bakery, chocolate, cereals, desserts, processed or ready-made meals. Allergic consumers consider these categories as particularly problematic as they are strongly associated with nuts, and are more likely to require closer examination.

The choice of a specific allergen type was followed by a suitable product category. For this experiment **muesli** was selected based on the following criteria:

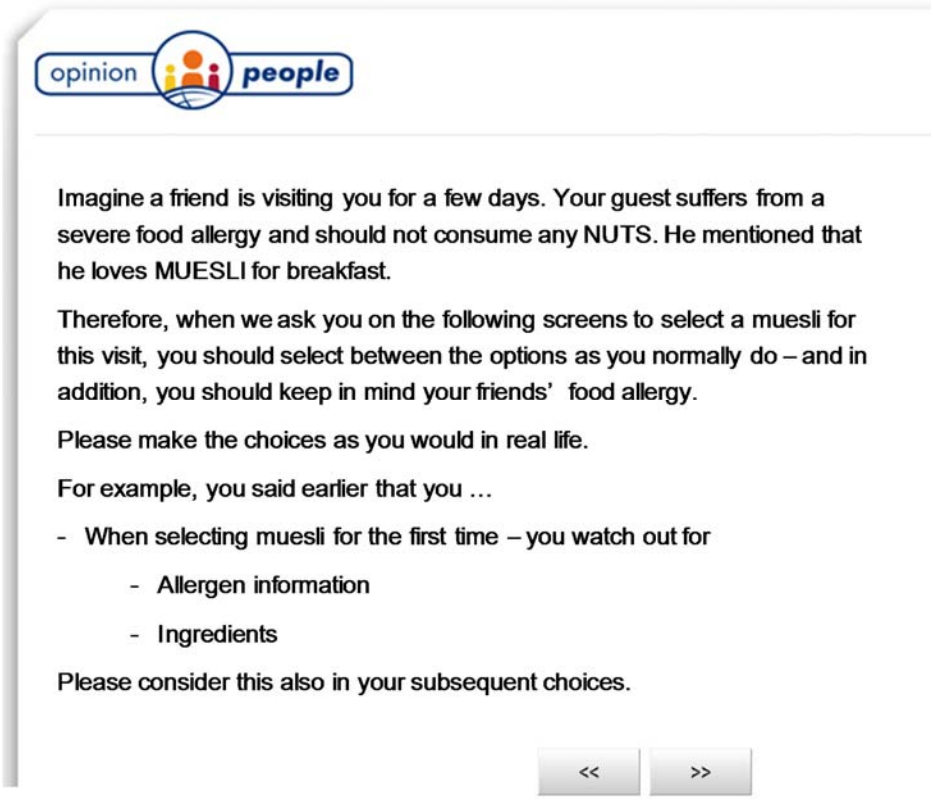
- Relevance to the policy area: PAW for nuts are common among prepacked cakes, chocolate, cereals, deserts, ready-made meals such as pizza.
- Relevance to consumers: The selected category should be popular across all relevant EU member states, i.e. with only few non-buyers within the overall sample.
- Relevance of food information for consumers: Categories that attract more selective buying behaviour (i.e. that are less prone to habitual buying) will increase the ecological validity of an experiment that is based on evaluating differences between food information.
- Suitability for field experiments: If the PAW experiment is to be repeated for subsequent testing in real supermarkets, this requires a category with limited brands/products. Moreover, the typical packaging for the products should allow for the application of unobtrusive additional labelling.

Muesli is relevant to the policy area as it often contains nuts intentionally but may also contain nuts as an unintended ingredient. Muesli is purchased by many consumers across Europe. One can assume that allergy sufferers are less susceptible to impulse buying and more likely to look for relevant food information than others when buying a product for the first time. Finally, muesli was considered as a better fit for the shopping scenario as it is a healthier category than chocolate.

3.4.2 Framing of PAW experiments

The introduction for the PAW experiments was presented to all 4036 participants of the food split after completing the section on TFA. There was an homogeneous framing of the shopping goal for everyone by asking them to select a muesli pack for a friend with a severe nuts allergy. This standard opening was enhanced with individual reminders of habits when shopping this category.

Figure 10 Example for individualised introduction for PAW experiments



The purpose of the framing with these reminders is to help respondents more easily imagine a more familiar choice situation, thereby allowing more realistic choice behaviour in the experiment.

3.4.3 Treatment splits for PAW

The next dimension to be considered was the design of treatment stimuli (alternative PAW wordings) and the number of treatment splits to be tested. A maximum of four sample splits was recommended to allow a robust analysis when comparing alternative treatments across all participants. Based on previous desk research the following messages were selected as the most common wordings with a sufficient differentiation in style and detail:

- May contain nuts
- May contain traces of nuts
- Cannot guarantee nut free
- Made in a facility that also processes nuts

These advisory allergen warnings were displayed next to the ingredients list, where it is usually placed.

Each respondent was assigned randomly to one of the four treatment splits.

Table 11 PAW treatment splits

	N (all)	N (affected)	PAW version
Split 1	1 011	149	May contain nuts
Split 2	1 010	143	May contain traces of nuts
Split 3	1 008	147	Cannot guarantee nut free
Split 4	1 007	157	Made in a facility that also processes nuts

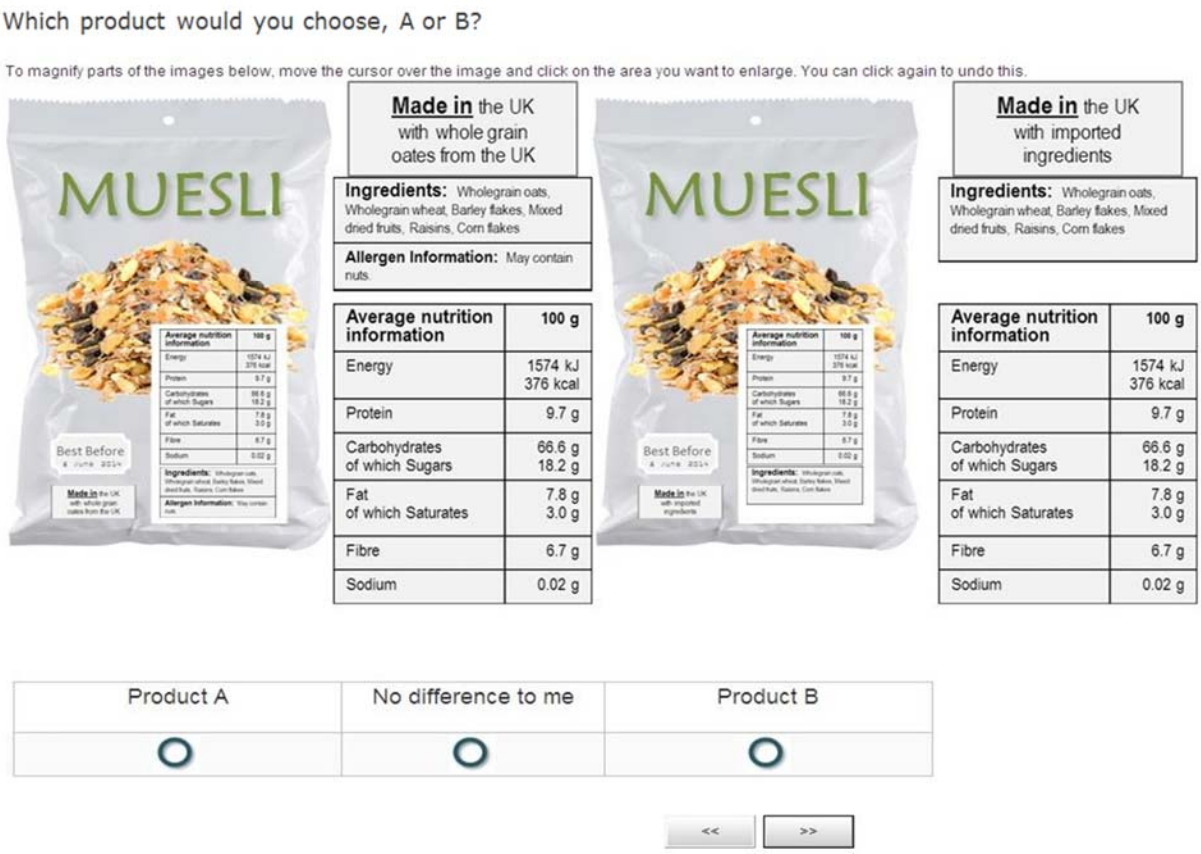
There is no version that represents a standard or current status quo, which could serve as a natural control group in this design. Therefore, the intention was to use the collected data to suggest how the different treatments should be best compared.

3.4.4 Choice tasks and choice characteristics for PAW

Three choice tasks were presented in a randomised order (to avoid any order effect) to each respondent:

- Choice 1 required a decision between one muesli pack with a PAW and local ingredients and one muesli pack without a PAW and imported ingredients (see figure below).
- Choice 2 required a decision between two local mueslis, with only one of them displaying a PAW.
- Choice 3 required a decision between two mueslis with imported primary ingredients with only one of them displaying a PAW.

Figure 12 PAW choice Task 1 – example with 'May contain' and zoomed labels



As well as the options of product A or B, participants could also choose the option 'no difference to me'. This additional option in principle could be selected by participants who either did not notice the difference, did not understand the difference, or for whom the difference was not relevant. Instead of offering such a detailed set of options, which would increase the likelihood of a "non-choice", instead respondents were asked after the experiment to explain the rationale behind their choices.

To increase the realism of this exercise, the food information presented on the muesli pack was hardly readable on a typical computer screen – except for the titles. The participant had to actively select and zoom into the labels to read the fine print. This process was intended to simulate the activity in an offline supermarket of taking packages from the shelf and comparing food information.

Nobody was forced to read. The introduction on the previous screen suggested that consumers might read before selection as in real life. However, unlike real life, all other variables were controlled (no price, no brand, same packaging, etc.) and it can therefore be assumed that the zooming behaviour measured in this lab experiment is certainly higher than label reading in reality.

Whether respondents "zoomed" during the experiment or not was monitored in addition to their selection. Overall participants could zoom on three areas: on allergen information, nutrition information and/or origin of primary ingredient.

These choice scenarios were intended to explore whether the awareness of a specific PAW creates more cautious consumer decisions by avoiding packages with a PAW and also the

hypothesis of whether the origin of ingredients has an impact on the risk assessment of PAWs can be checked.

After completing all three choices participants were asked to post-rationalise why they had made these choices. The answers might help to better understand the experimental results. Moreover, a direct risk assessment of six different allergen warnings was collected, which can be compared with the experimental results.

3.5 Experiments on alcohol consumption

In contrast to the previously described food shopping experiments, the design of the alcohol sample split focussed on the consumption of alcoholic drinks rather than purchase. It focused on two core policy issues:

- Does calorific information for alcoholic beverages influence consumers' intention to drink less?
- Do health-related messages linked to alcohol consumption influence consumers' intention to drink less?

While currently in the EU, typically there is no information to consumers on the calories included in alcoholic beverages, health-related messages are increasingly used by manufacturers on a voluntary basis. The aim of the study was to investigate whether the awareness of this specific type of information on calorific content has any impact on the consumer intention to drink less.

The specific challenge of this choice experiment was that the design of a *consumption scenario* in an online survey is more hypothetical than a *shopping scenario*. Within the context of a survey, it is not possible to simulate and observe the decision process beyond the stated intention to drink less. Moreover, there are of course many influencing factors that are relevant in a real 'drink consumption' situation that cannot be taken into account in a hypothetical online scenario. Such factors would require a separate study which simulates the more relevant facets of the decision process in this area.

Within a restricted questionnaire space and sample, the alcohol consumption experiment was designed to focus on:

- Three different types of alcoholic beverages: beer, wine and spirits (see next Chapter 3.5.1)
- One specific drinking occasion: a party at a friend's home (see Chapter 3.5.2)
- Two alternative treatments: education/information either on calories or on officially recommended limits (see Chapter 3.5.3)

Therefore, the experiment covered only the consumers' assessment phase of the given treatment information and its immediate impact on the stated intention to drink less in the specified situation and in the future.

3.5.1 Product categories for alcohol consumption

The product categories selected for this experiment were:

- Beer
- Wine

- Spirits (Vodka/Whiskey)

This choice was based on the following criteria:

- Relevance to the policy area: The five main alcoholic beverage categories are beers, wines, liquors, spirits and flavoured alcoholic drinks (alcopops). In particular the latter three require further definition of sub-categories for a realistic framing, e.g. for flavoured alcoholic drinks (shandy, wine cooler, prepacked cocktails, etc.) for spirits (vodka, whiskey, gin, tequila, rum, etc.).
- Relevance to consumers: The selected (sub-) categories should be popular across all relevant EU member states, i.e. with only few non-consumers within the overall sample.

A maximum of three categories was set to allow a robust sample base and meaningful statistical analysis. Alcopops and liquors were not covered as they were less frequently consumed by a sample of household shoppers compared with the selected categories of beer, wine and spirits. Spirits were specified as vodka or whiskey.

The alcohol experiment was only presented to participants who had drunk at least one type of alcohol within the past 12 months and who were randomly assigned to this split if they also qualified for the food questions. One question about general preferences when choosing an alcoholic drink was asked before assigning a specific type of alcohol. The assignment to the alcohol category (beer, wine, vodka, whiskey) was conducted at random among all types consumed with the goal to achieve an equal sample size for the three main categories.

3.5.2 Framing of alcohol experiments

Before introducing the experiment, drinking habits and consumption patterns were collected, i.e. types of occasions, frequency and amounts consumed.

Collecting data on realistic drinking volumes impose a real challenge to researchers as well as to participants as there are several individual biases and external barriers expected to influence the answer behaviour:

- The decision to drink a certain amount at a specific occasion is most often not a conscious decision which is recalled properly the next day or whenever this question is recalled. The reason for that is not only the influence of alcohol, but also the fact that there is often no specific attention given to the volume of drinking.
- As a result, post-rationalisation or over-confidence about one's level of restraint may influence the answers given, which cannot be measured by comparison with a more objective observation in a quasi-laboratory experiment.
- Social norms may withhold respondents from reporting real consumption, thereby leading to systematic under-reporting of consumed volumes.
- Most multi-country studies on drinking patterns do not specify the serving size of a drink as this often varies significantly across (and even within) countries. However, one assumption was that the level of current drinking volume could be a key factor which influences the willingness of drinking less in the future. Therefore this study offered an average European serving size per category to the number of glasses when collecting drinking volumes (see Table below).

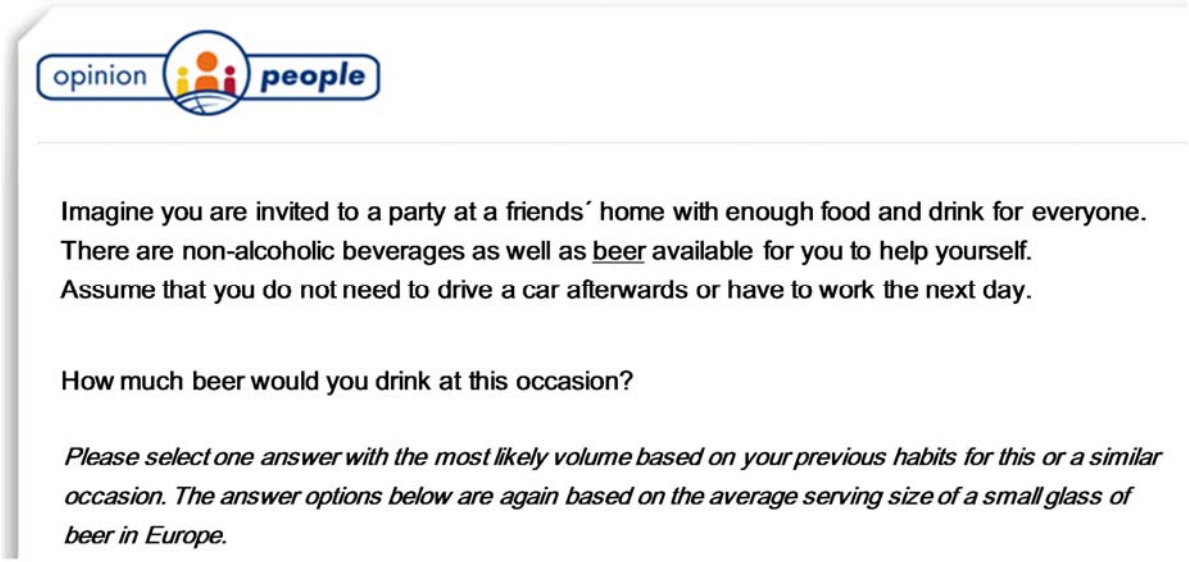
Table 13 Serving sizes used for collecting drinking volumes

Beer[18]	Wine	Spirits
1 small glass or less (up to 0.25l)	1 small glass or less (up to 0.1l = 100 ml)	1 small shot or less (up to 0.01l = 1cl)
2 small glasses (up to 0.5l)	2 small glasses (up to 0.2l = 200 ml)	2 small shots (up to 0.02l = 2 cl)
3-4 small glasses (up to 1l)	3-4 small glasses (up to 0.4l = 400 ml)	3-4 small shots (up to 0.04l = 4 cl)
5-6 small glasses (up to 1.5l)	5-6 small glasses (up to 0.6l = 600 ml)	5-6 small shots (up to 0.06l = 6 cl)
7-8 small glasses (up to 2l)	7-8 small glasses (up to 1l)	7-8 small shots (up to 0.1l = 10 cl)
More than 8 small glasses (2l)	More than 8 small glasses (1l)	More than 8 small shots (0.1l = 10 cl)

The introduction to the decision scenarios was designed in two steps:

- First step – a general introduction valid for all alcohol types explained the general purpose and design of the experiment as well as the possibility to earn an additional bonus
- Second step – a more specific framing of a given drinking occasion (see Figure below)

Figure 14 Introduction for alcohol experiments – example for beer



[18] In UK the serving size for beer was translated into pints.

The framing of a given situation was necessary to control the impact of the variety of all possible occasions and to be able to focus on the impact on treatments as well as selected other factors that are less diverse.

The occasion of a party at a friends´ home was selected because it was expected to be a common occasion, which excluded the relevance of costs and thereby should allow for a high variance of answer behaviour.

3.5.3 Treatment splits for alcohol

To examine the impact of disclosure of calories and health warnings the following stimuli were developed to test their effectiveness on the intention to drink less alcohol:

- Education on the amount of calories of a drink
- Education on the officially recommended limits of alcohol to drink per day

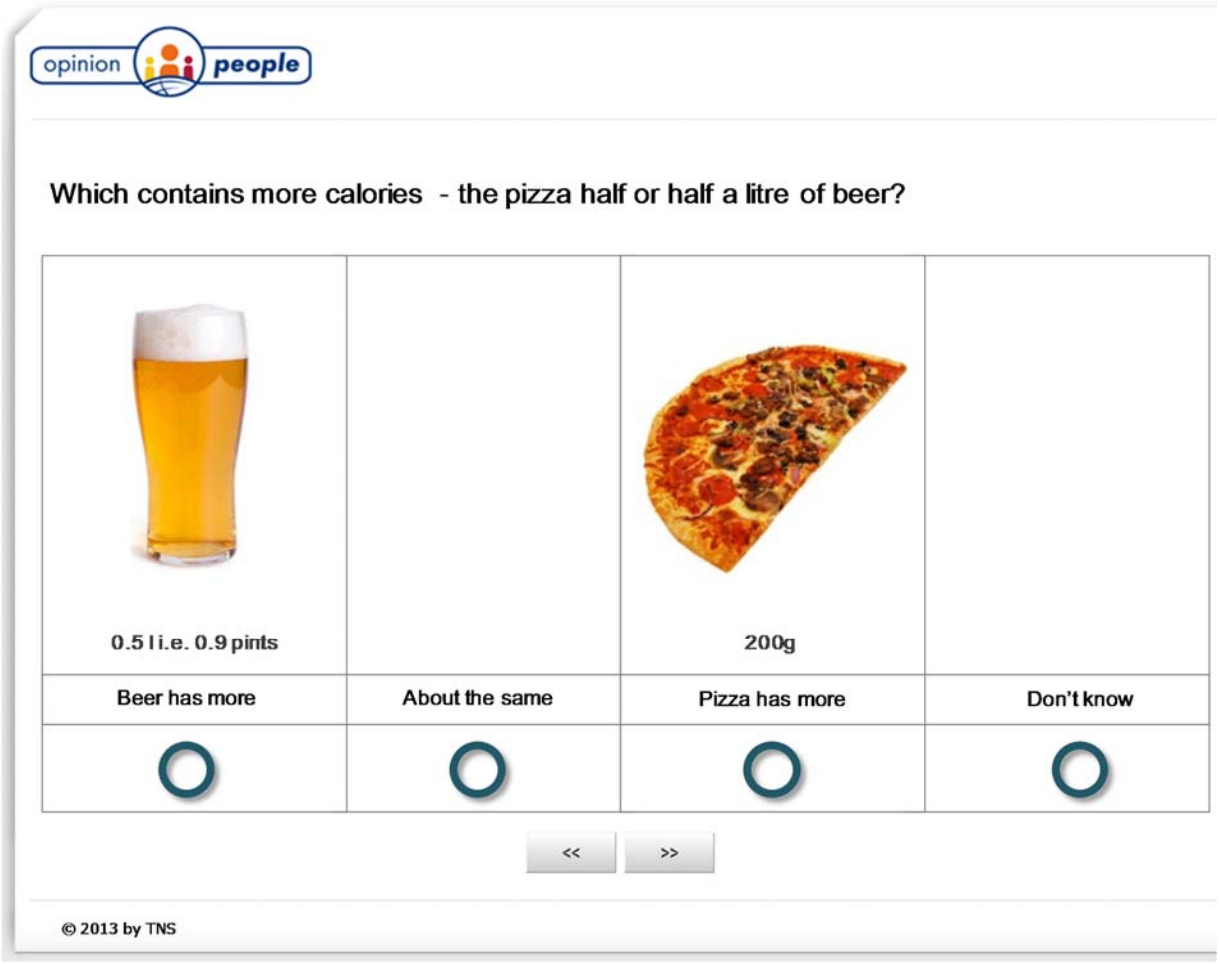
Both treatments were designed as an interactive education starting with a knowledge test with a subsequent disclosure of the correct answer.

Calorific information treatment

Since consumers are typically not informed about the calories contained in alcoholic drinks the knowledge test on calories was designed as a comparative test with food products that usually display calorific information. The comparison with a reference product was intended to make this task easier and more tangible for online respondents. A lower rate of 'don't know' responses was expected as a result of this educational treatment which also included images. The reference food type was selected on the basis of a high familiarity for consumers of the respective alcohol type. Moreover, the reference food varied by setting alternate frames in terms of more, the same or fewer calories. This allowed the testing of the impact of negative vs. positive framing of the education treatment.

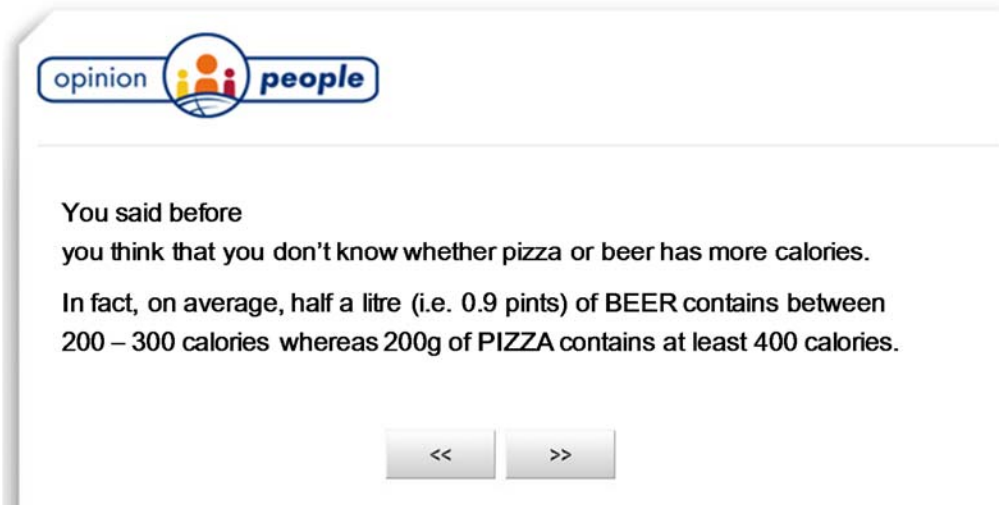
Beer drinkers were asked to compare 0.5 litres of beer with 200 grams of pizza and to decide which of these contained more calories (see Figure below).

Figure 15 Knowledge test on calories for beer



On the subsequent screen respondents were then told whether their answer was correct or not. In this example pizza has more calories than beer (see Figure below).

Figure 16 Education on calories for beer



A similar treatment was applied to

- Wine drinkers: 200 ml of wine has more calories (120-170 kcal) than 20 grams of chocolate (100 kcal).
- Whiskey/Vodka drinkers: 2 cl of whiskey/vodka has about the same as 10 grams of mixed nuts (50 kcal).

Limits treatment

There is an increasing variety of health warnings in existence for alcohol, some of which are driven by mandatory regulation and others by self-regulation by the industry in some EU member states. The former tend to be more prescriptive and factual in describing alcohol content and recommended safe consumption. The latter voluntary information from the industry tends to comprise a vaguer, more general advisory 'enjoy in moderation' message.

The health warning "Alcohol – Know your limits"[19] was selected because it is relevant to all consumers (in comparison to special target populations such as pregnant women or car drivers).

It is suitable for all alcohol categories and works in all European languages.

Moreover, it is concrete enough to conduct a knowledge test suitable for an education intended to persuade people to drink less.

[19] Published by the Public Health Agency in UK: http://www.knowyourlimits.info/ with a similar campaign by the BZgA in Germany: http://www.kenn-dein-limit.info/

Figure 17 Knowledge test on limits for wine

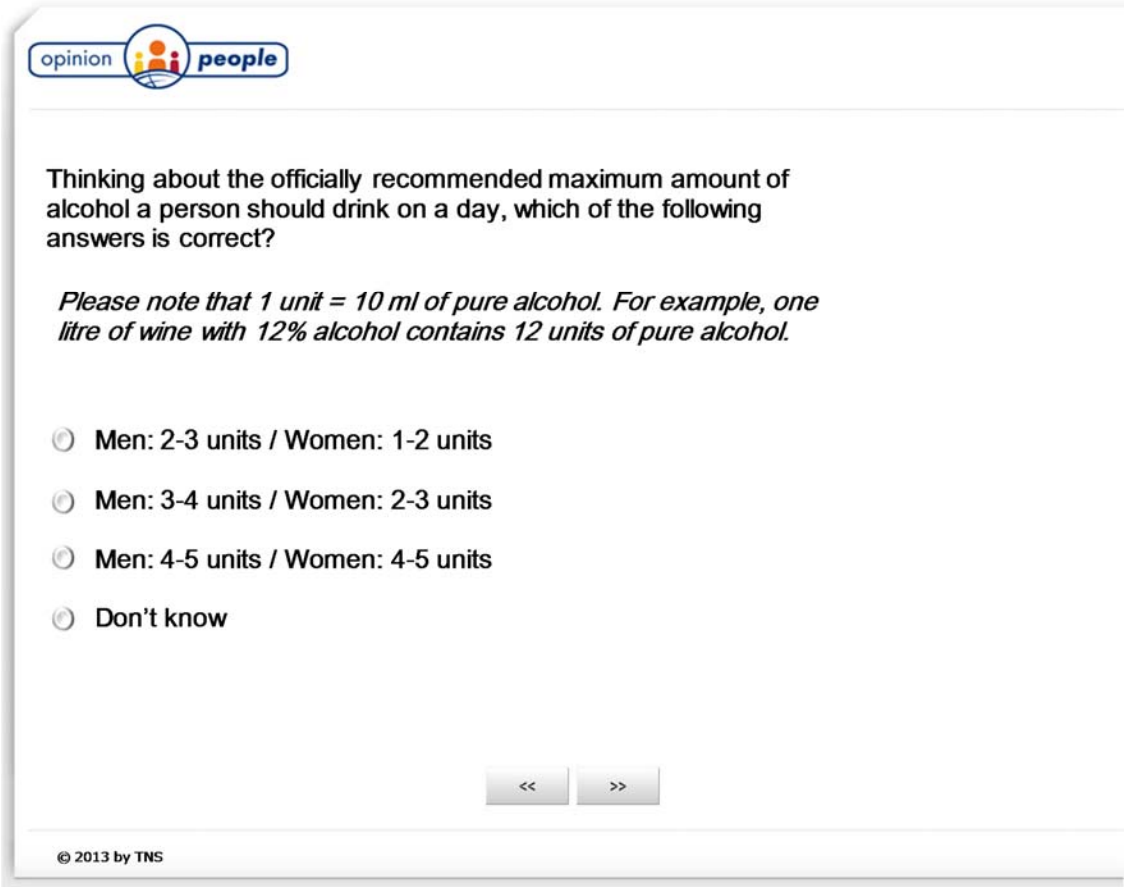
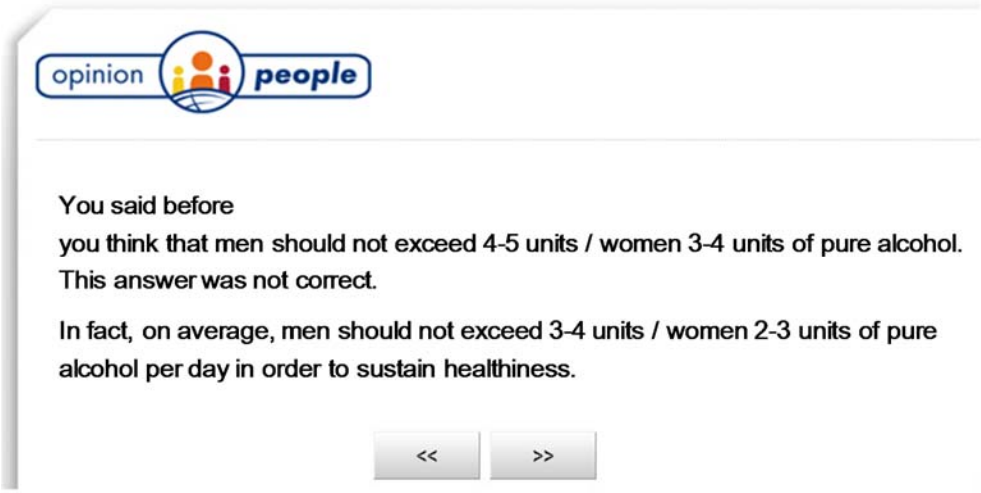


Figure 18 Education on limits for wine



Eight condition splits were developed to measure the impact of each of the two treatments separately for the three alcohol categories.

Table 19 Alcohol condition splits

	N	Category	Education
Split 1	680	Beer	Calories
Split 2	671	Beer	Limits
Split 3	674	Wine	Calories
Split 4	668	Wine	Limits
Split 5 / 7	677	Spirits (Vodka/Whiskey)	Calories
Split 6 / 8	670	Spirits (Vodka/Whiskey)	Limits

This design allowed a robust sample base for each split with approximately 670 respondents randomly assigned to each treatment version.

3.5.4 Choice tasks and choice characteristics for alcohol consumption

All respondents received two subsequent choice tasks after the education treatment:

- The first choice required a more short-term decision, whether one would consider a revised intention to drink a certain amount at the specific occasion.
- The second choice required a more long-term decision, whether one would consider drinking less, the same or more at any occasion in the future.

Both decision scenarios offered four answer options: drinking less, the same or more with the additional option of not making a decision.

Both scenarios were framed by a comment to "Be quick and answer within 5 seconds". The idea behind this nudge was to receive answers closer to an intuitive reaction than a conscious deliberate reaction. A quick and intuitively expressed intention is expected to reflect better the well-known status quo bias of behaviour, while longer considered answers are more likely to suffer from an over-confidence bias. According to behavioural theory the former should be closer to an implemented behaviour than the latter.

The time that respondents actually stayed on this screen for reading and answering the choice tasks was measured with the following results:

- The median duration across all respondents for the first choice was 15 seconds and for the second choice 12 seconds.
- As it took approximately 10 seconds to read all of the information presented on the screen in the first task and about 5 seconds for the second task, the majority of respondents answered within the requested time frame.
- In the first task, 27% of the participants exceeded 20 seconds and in the second task this was only 11%. However, in an online scenario it is difficult to assess whether these

respondents needed more time to read or to decide on the appropriate answer or for other reasons (e.g. unforeseen interruptions, slow internet connection).

Figure 20 Alcohol choice 1 – example with wine and calories treatment

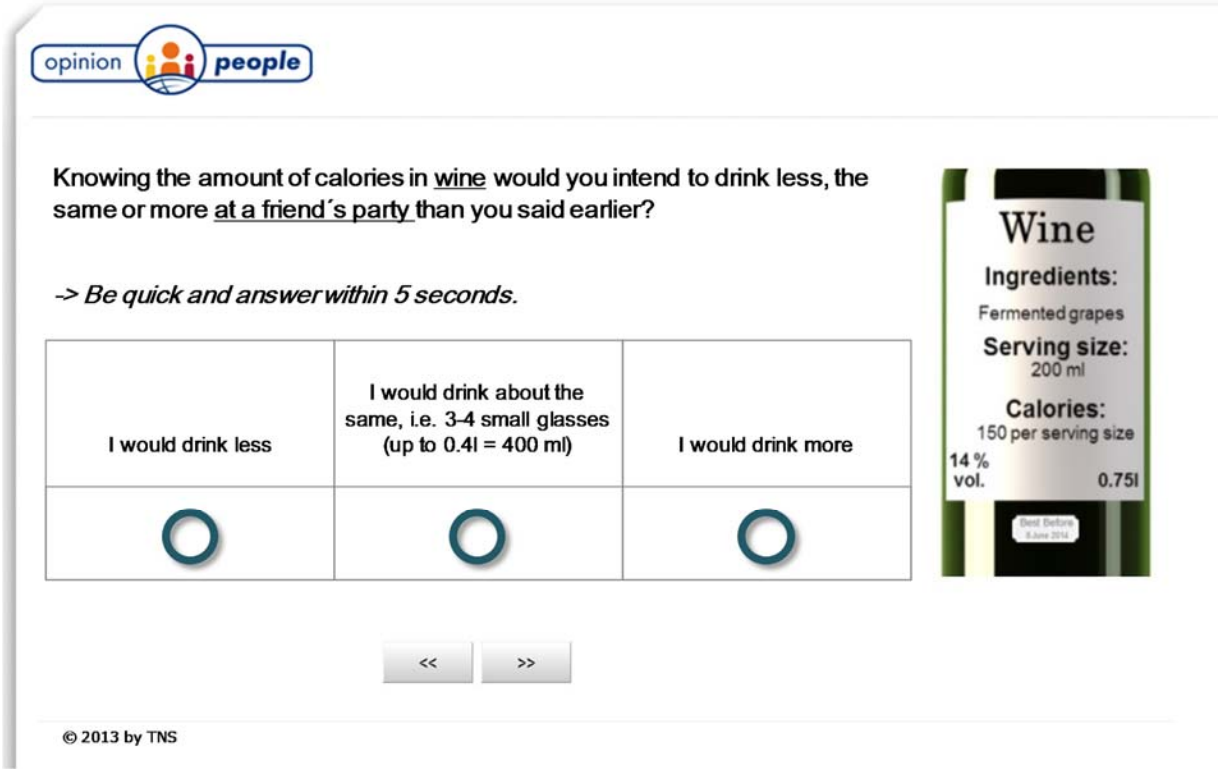


Figure 21 Alcohol choice 1 – example with wine and limits treatment

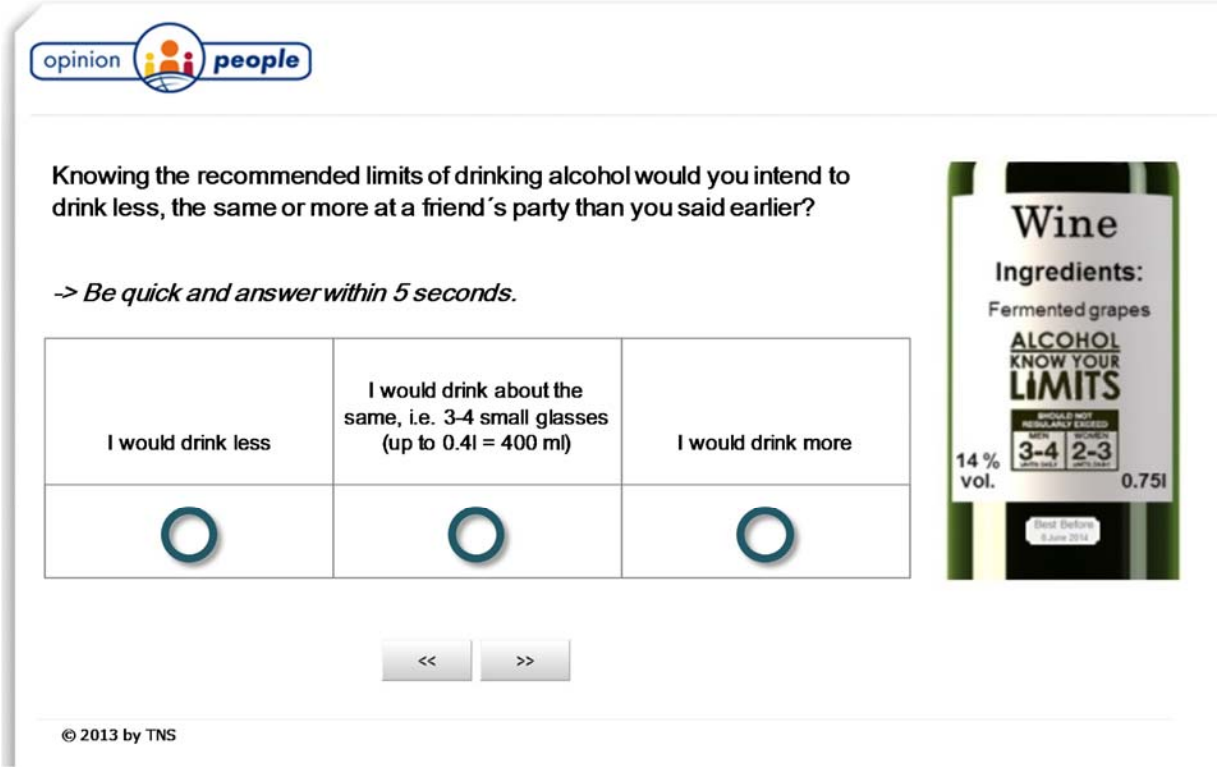
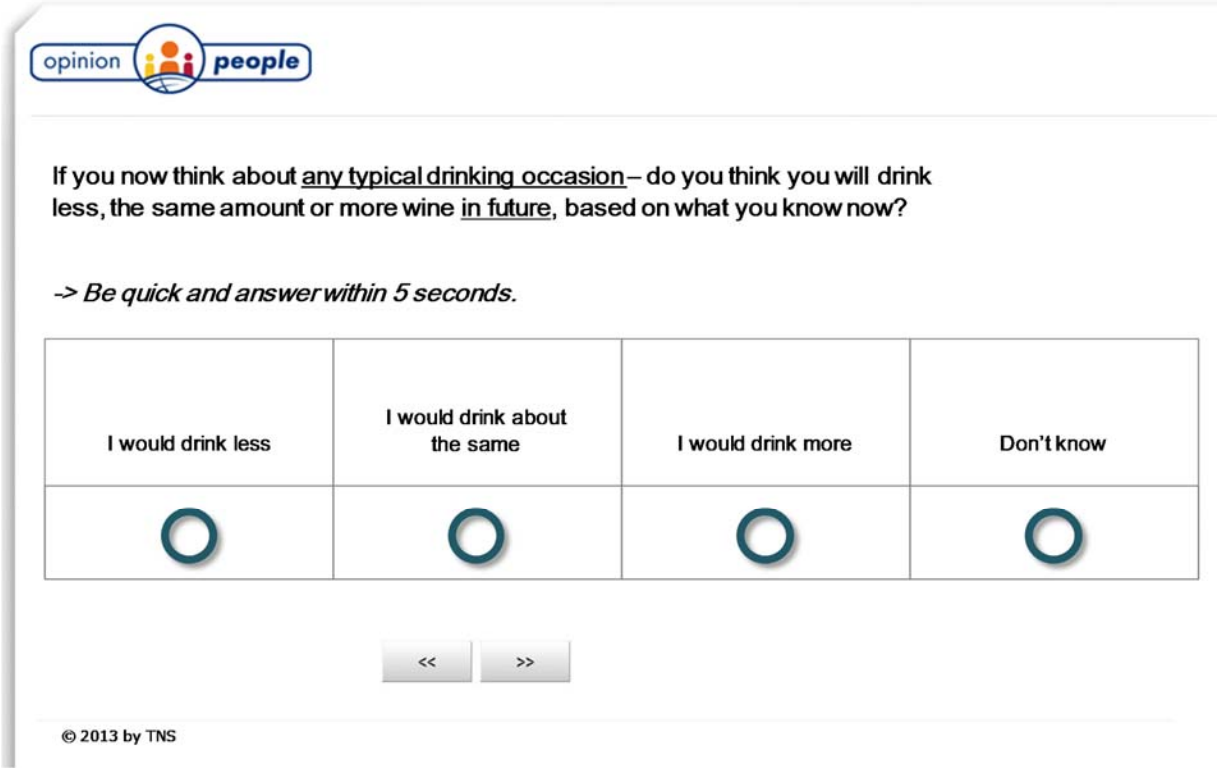


Figure 22 Alcohol choice 2 – example with wine



Both choice tasks differed in the following aspects:

The first decision asked whether a previously stated intention to drink in a specific scenario (party at a friend's home) would change as a result of the information presented. This was supported by an image of a bottle with information on calories or with a health warning on limits. Moreover, they were reminded of the amount they had previously stated (prior to the education treatment).

The second decision asked the respondent whether s/he would intend to change his/her drinking behaviour at a similar occasion in the future. There was no accompanying image or reminder of their previous statements. The respondent was required to make a decision based only on what s/he knew by this stage.

These choice tasks allow an investigation of which of these treatments are effective in driving a short-term attitude change towards a specific drinking occasion. The design also allows an analysis of whether short term intention influences a more long-term attitude change.

After completing the two decision scenarios, participants faced questions on attitudes towards drinking as well as information on alcoholic beverages.

4 EXPERIMENTAL 'LAB' FINDINGS ON TRANS FATS

This section explains the most important findings of the experimental part on TFA to provide answers for the ultimate research objectives:

b) What are the main individual biases and external barriers that prevent shoppers from choosing foods with a healthier food composition? How does the disclosure of TFA contents in the nutrition information and/or consumer education on TFA and fats influence consumers' ability to identify healthier food choices?

To contextualise the findings of the research and to structure the analysis towards the ultimate objective of understanding the drivers and barriers of the food choice decision process we describe below a model of a simplified choice process in a shopping situation.

Such a process comprises three main stages:

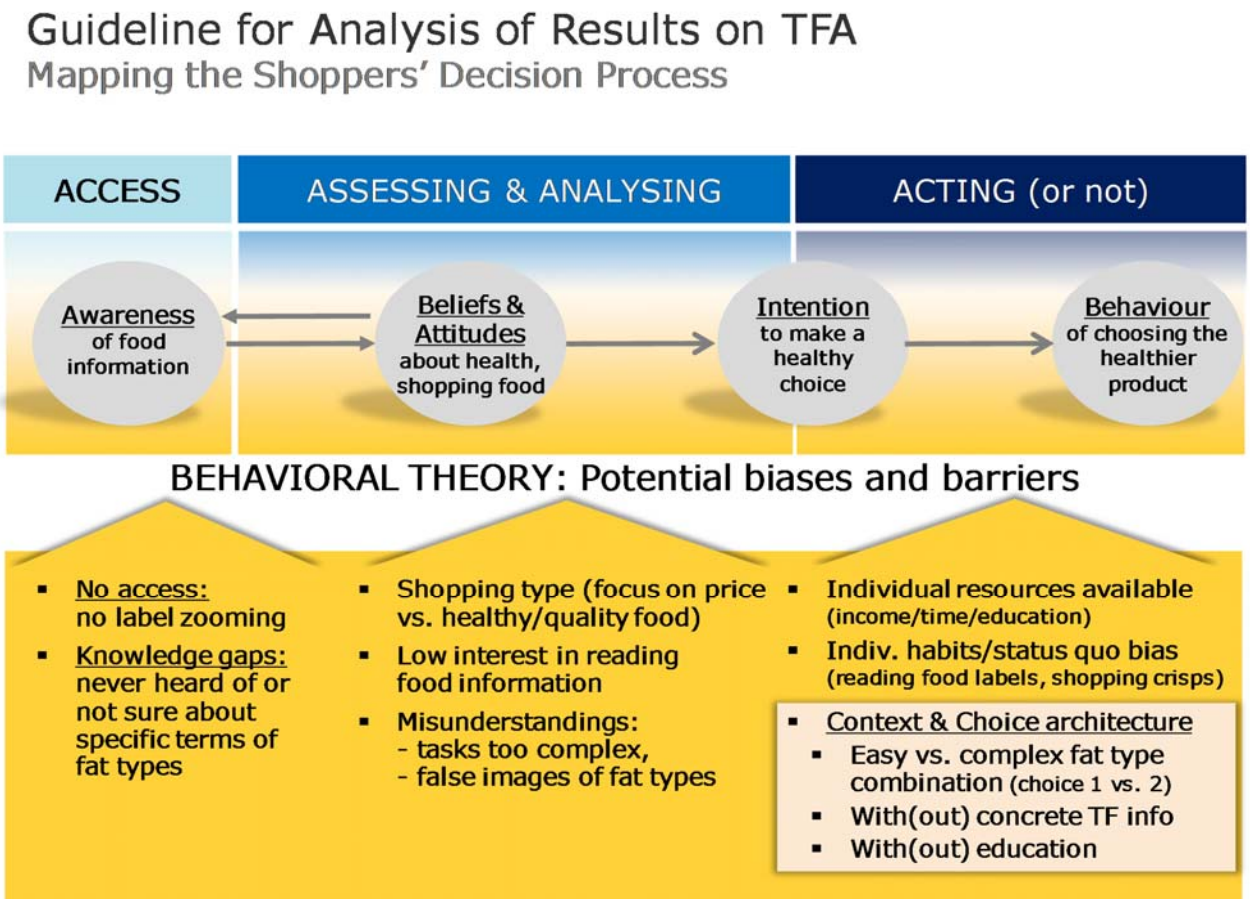
- Accessing available information
- Assessing and analysing information
- Acting by taking a choice based on previous steps

While these steps may characterise a more rational and conscious decision making, the survey design also allowed an exploration of whether there are less conscious elements that shape the decision process. Thus, a more realistic assessment of the impact of potential treatments should be possible to identify whether they would have the power to overcome "heuristics" and habitual behaviours by nudging consumers towards more informed and healthy food choices.

Of course, any online survey design is restricted in terms of capturing all of the relevant parameters of a real world design. However, most of the parameters listed in the table below were included in the study.

The treatment measures – as described earlier – are not easily assigned to one of the three main stages of a decision process. In fact, each individual stimulus more or less follows the theoretical order of accessing, analysing and acting. Any communication from education to persuasion will be more geared towards influencing awareness and beliefs and attitudes for a more sustainable and conscious behaviour change, which may not be seen immediately but over time. Changes in the choice architecture are known to have a more direct impact at the decision stage by overcoming status quo bias, i.e. more unconscious habits. Therefore, the hypothesis is that steering methods can be expected to show a more immediate effect as compared to pure information stimuli.

Figure 23 Guideline for analysis of TFA results



The subsequent analysis and description of survey findings will start in Chapter 4.1 with a description of disaggregated findings of the observed decision behaviour in the choice tasks with suggestions for variables to be included in the statistical base model. The bivariate examination of potentially influencing variables is more or less structured along the graphical overview. This is supplemented by a descriptive overview of observed choice behaviour for the tested treatments.

Chapter 4.2 combines the discussed variables by multivariate analysis to answer the key questions about what are the statistically significant barriers and motivators for healthy choices.

4.1 Observed choice behaviour

The first choice task required the identification of the healthier alternative between product A which contained no PHO or TFA and product B which displayed 18g TFA or a high ranking of PHO. About one third of all participants identified the healthier product A, while 58% stated that there was no difference between the 2 products.

The second choice task presented product C with 2g TFA or low ranking PHO in comparison to product D with no PHO or TFA, but 18g of saturated fats. This choice scenario achieved a

significantly higher share of participants identifying the healthier product C (46%) while only 29% said there was no difference.

In both choices, half of the sample received additional information on the TFA amount within the nutrition facts. The other half of the sample was only able to identify information on TFA/PHO by zooming into the ingredients list. Similarly, only half of each of those subsamples received education on TFA and fat, whereas the other half didn't.

Therefore, the observed choice behaviour displayed in the table below is a result of a mix of treatments as described in Chapter 3.3.3. Separate results for the treatment splits are presented further below in tables 33 and 34.

Table 24 Observed choice behaviour in TFA Tasks 1 and 2

Food split: TFA EU8 – Total Base unweighted	**Choice Task 1** 0 vs. high TFA/PHO 4 036	**Choice Task 2** 2g TFA/PHO vs. high SF 4 036
Product A/C healthier product	**31.1%**	**46.4%**
No difference to me	58.4%	29.3%
Product B/D less healthy product	10.5%	24.3%
Total	100%	100%

The majority of those who identified product A/C as the healthier alternative also recalled correctly the respective choice rationale (72% in Task 1 and 84% in Task 2). Respondents who were not able to decide between product A/C and B/D predominantly explained this by not being able to spot any differences (66% in Task 1 and 53% in Task 2).

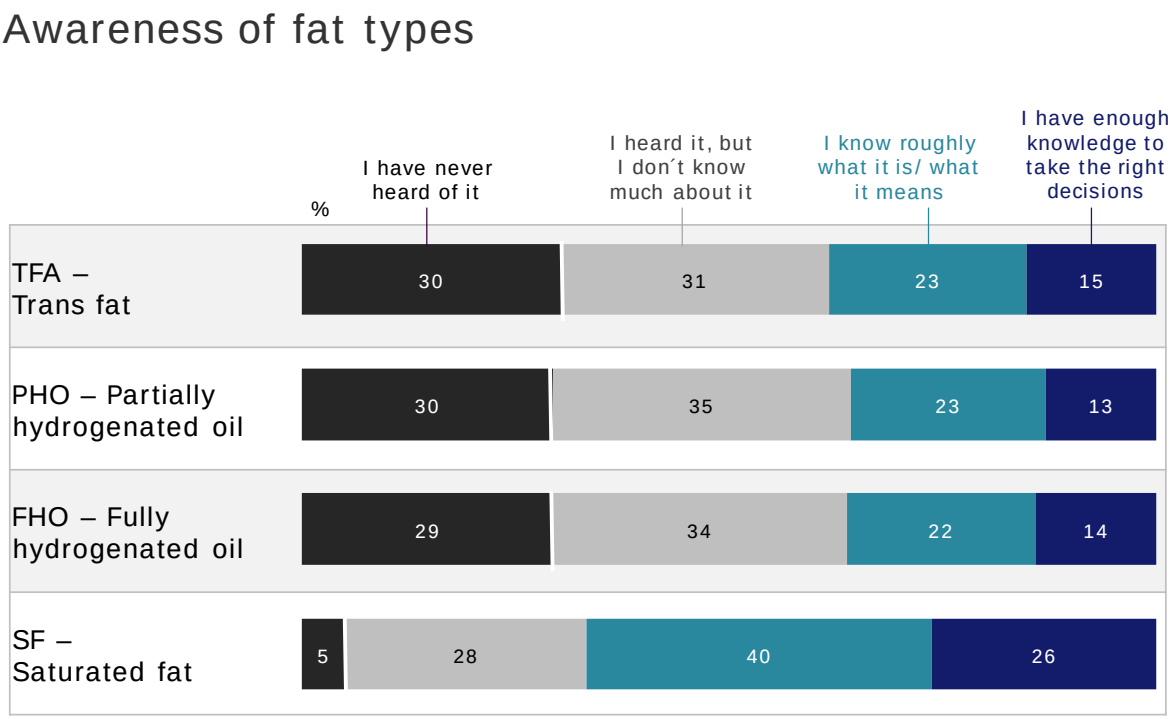
The latter result indicates that the simple provision of food information is often not enough to make consumers aware of TFA/PHO content. This requires a more detailed analysis of barriers and drivers of awareness, seen in the following chapter.

4.1.1 Potential awareness drivers

One key requirement for making healthier choices in such scenarios is a minimum level of awareness and the correct evaluation of the various fat types. This data was collected before the experimental part of the survey with the following results:

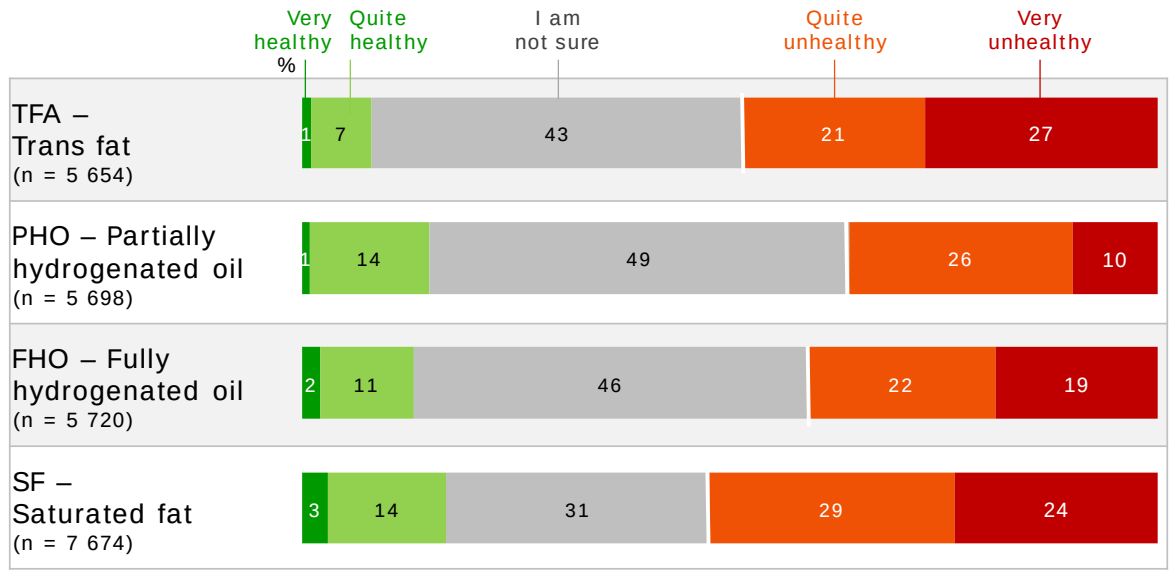
- Almost everyone had heard of saturated fat previously and around half correctly classified it as something unhealthy.
- Compared to that, the general awareness of all of the other fat types is significantly lower. Around 30% claim to have never heard of them. Amongst those aware of each type of fat, only around half were able to judge whether it is something healthy or unhealthy.
- Overall, trans fat seems to have a more unhealthy image than PHO or FHO.
- FHO seems to have a slightly more unhealthy image than PHO

Figure 25 Awareness of fat types



Q12: Have you ever heard of these types of fat before? Which of the following applies to you regarding ...?
Base: EU8 – all respondents (n = 8 076)

Figure 26 Evaluation of fat types

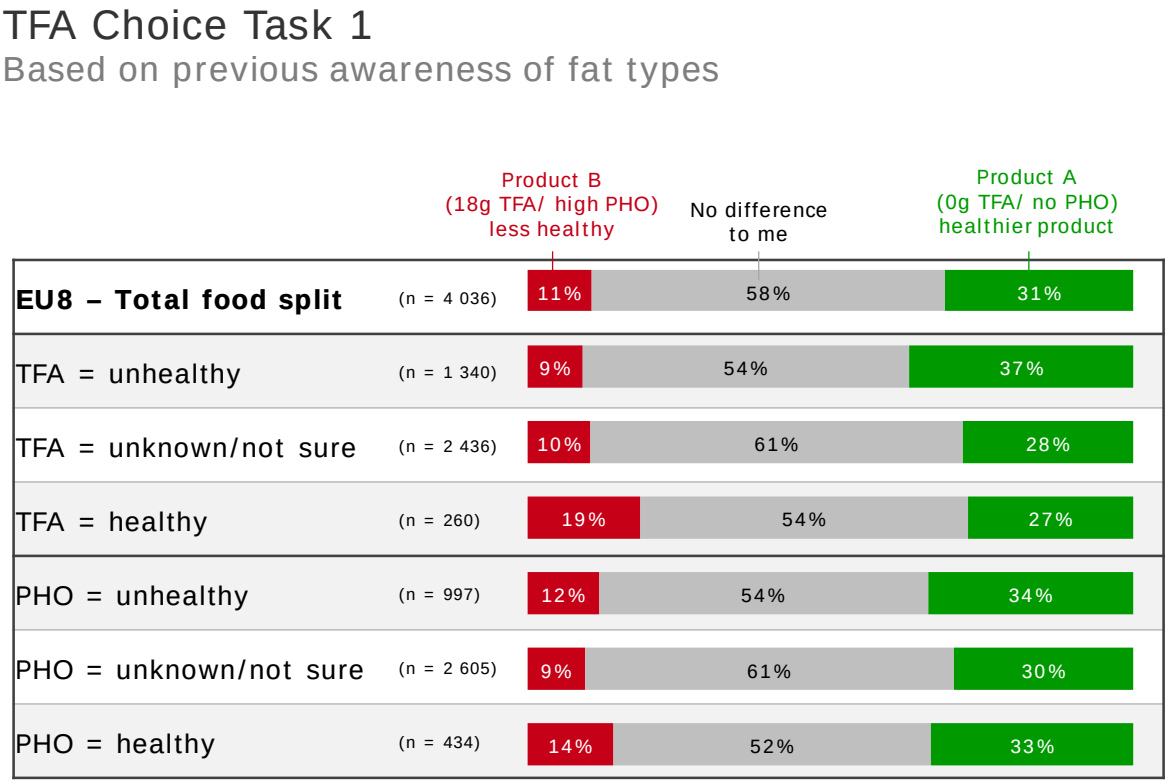


Q13: Based on what you know, how healthy do you think these types of fat are?
Base: EU8 – respondents who heard of the term before (n = between 5 654 and 7 674)

When looking at the choice behaviour of consumers with a correct knowledge of the relevant fat types, (i.e. who knew already that TFA, PHO and Saturates are unhealthy prior to the experiment), there is the suggestion of a possible interdependency in particular for the second choice scenario (see figures below).

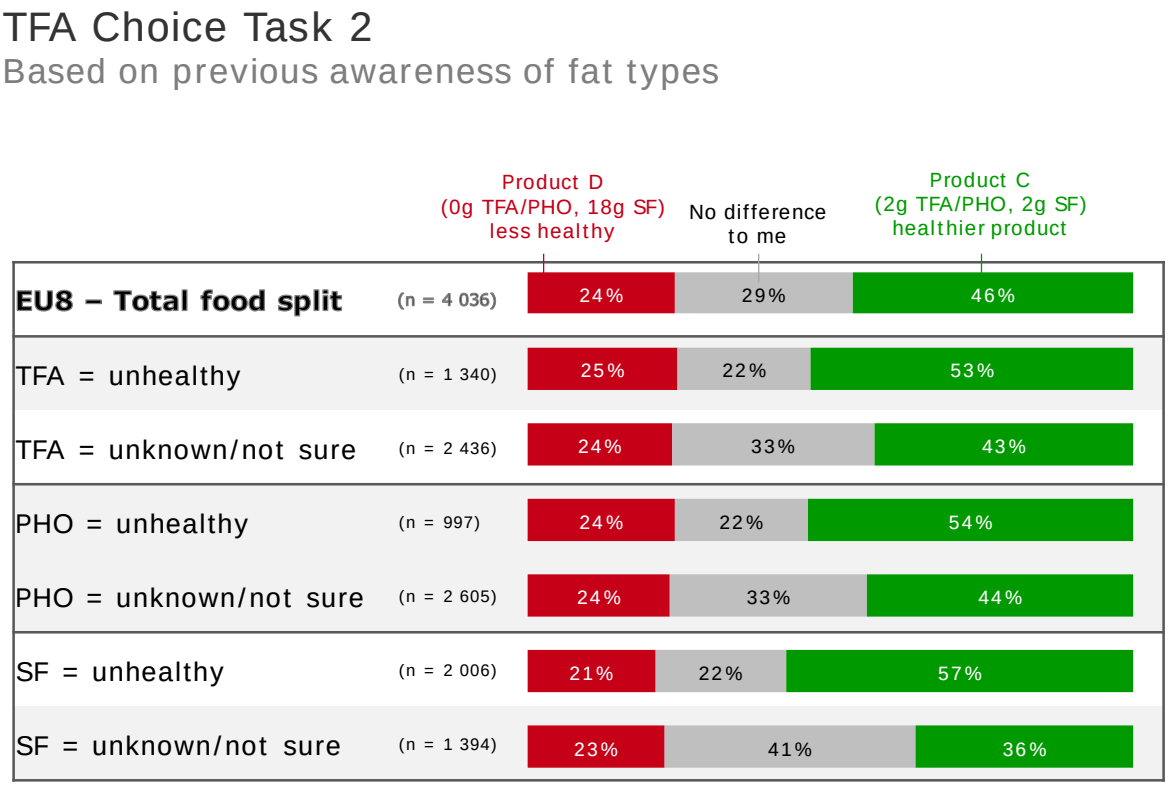
- Prior awareness of TFA being unhealthy seems to correlate with more healthy choices in both tasks.
- The knowledge that PHO is unhealthy seems to correlate with healthier choices only in the second task, but does not show significant differentiation in the first task.
- Saturated fats (SF) were a key differentiator in the second choice task. For this reason it is not surprising that consumers who were previously aware that saturated fat is unhealthy identified most often the healthier alternative.

Figure 27 Pre-experimental awareness of fat types vs. Task 1 behaviour



Q271/272: Which product would you choose?
Base: EU8 – all respondents with food experiments and with the respective awareness of the specific fat type

Figure 28 Pre-experimental awareness of fat types vs. Task 2 behaviour



Q281/282: Which product would you choose?
Base: EU8 – all respondents with food experiments and with the respective awareness of the specific fat type

When looking at the previous awareness of fat types, the choice behaviour of the first task displays a smaller variance compared to the second task.

One possible explanation is that consumers are already familiar with the term saturates on food labels, while the other terms are new and less familiar in a shopping situation. Even if someone is aware, they have not been able to compare this characteristic between products in real life as they are not currently shown on food labels.

Another interesting observation was the zooming behaviour of participants. Participants were instructed to select and read food information as in real life - therefore nobody was requested to zoom into any label. However, the difference between the two products was barely readable without zooming. As a result, a high zooming rate was observed:

- 70% of all (food split) participants zoomed into at least one label in the first choice.
- 72.5% zoomed into at least one label in the second choice.

The nutrition facts label was accessed most often. This provided key information for all splits in Task 2, but only for selected splits in Task 1. The ingredients label would have provided all respondents in all splits with the relevant information. However, very few looked more closely at this. The origin label was seen by one in four respondents in Task 1, and by one in five respondents in Task 2. There was no choice-relevant information included in this label.

Overall, such evidence indicates that the information on ingredients seems to be less relevant to respondents – when comparing crisps – than nutrition facts or information on country of origin.

As zooming on the information was a necessary condition (albeit not sufficient in itself) for the ability to select the healthier option, we need to control for such behaviour[20]:

- Respondents who zoomed on none of the labels displayed by far the lowest share of healthy choices;
- The zooming of nutrition facts correlates most with healthy choices in both tasks;
- Zooming on the information on country of origin irrelevant to health seems to have a negative influence in the first task and a positive in the second task.[21]
- Looking more closely at the essential ingredients information seems to have been more helpful in the second task.

Table 29 Zooming behaviour[22] in Task 1

Food split: TFA Choice Task 1 Base unweighted	**EU8 – Total food split** 4 036	**Zooming nutrition facts** 2 568	**Zooming ingredients** 620	**Zooming country of origin** 1 034	**Nothing zoomed** 1 210
Product A – healthier product (0 TFA/ no PHO)	**31.1%**	**38.0%**	**33.0%**	**23.5%**	**18.3%**
No difference to me	58.4%	53.5%	30.6%	65.0%	73.3%
Product B (18g TFA/ high PHO)	10.5%	8.5%	36.4%	11.5%	8.4%
Total	100%	100%	100%	100%	100%

[20] In inferential analysis, "controlling for variables" implies studying the variability of one variable keeping the other variables (the ones that we want to control for) constant.

[21] The multivariate analysis will show in Chapter 4.2.2 that zooming on the country of origin label does have a negative impact on healthy choices in both tasks. This misleading descriptive result can be due to the correlation of "zooming country of origin" with the age of the respondents: we find that typically younger consumers check more often for country labels than older consumers.

[22] Each respondent was able to zoom into up to 3 different labels or none of them. Hence, the horizontal sum of the total zooming behaviour is > 100% because those that zoomed in 2 or 3 segments were counted multiple.

Table 30 Zooming behaviour[23] in Task 2

Food split: TFA Choice Task 2 Base unweighted	EU8 – Total food split 4 036	Zooming nutrition facts 2 706	Zooming ingredients 561	Zooming country of origin 869	Nothing zoomed 1 110
Product C – healthier product (2g TFA/PHO, 2g SF)	**46.4%**	**56.4%**	**52.6%**	**53.1%**	**22.7%**
No difference to me	29.3%	17.3%	20.4%	26.0%	57.9%
Product D (0 TFA/PHO, 18g SF)	24.3%	26.3%	27.1%	20.8%	19.4%
Total	100%	100%	100%	100%	100%

4.1.2 Potential beliefs & attitude drivers

Consumer motives and attitudes around food shopping were considered in this analysis, as it was expected to make a difference on the ability to identify the healthier alternative. Some questions on shopping engagement and goals were included, which can be looked at separately or via a cluster segmentation.

The descriptive analysis based on individual statements revealed several motivational barriers, i.e. fewer healthy choices by consumers who

- do not look for healthier alternatives (no health goal)
- do not take time for browsing and usually shop in a rush (not enough time)
- think price is more important than anything else and who cannot afford to buy what they want (not enough money)
- do not read labels or pay attention to food information

Each of these individual statements seems to be logical. However, as every respondent has an individual mix of motives, it can be more insightful looking instead at clusters of shopper types with similar sets of motives.

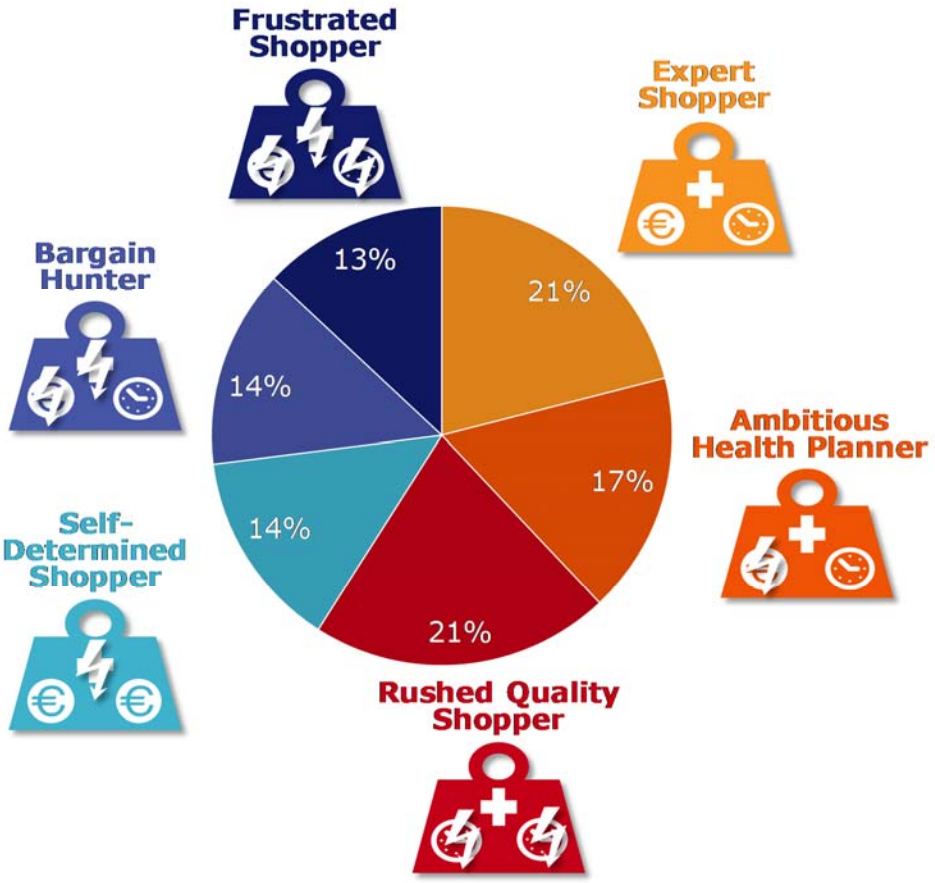
Six distinct shopper segments were identified based on a distance analysis[24] about the three key resources that are obviously required for paying attention to food information in a shopping situation:

[23] Each respondent was able to zoom into up to 3 different labels or none of them. Hence, the horizontal sum of the total zooming behaviour is > 100% because those that zoomed in 2 or 3 segments were counted multiple.

[24] A distance analysis works in the same way as a cluster analysis only with predetermined cluster definitions: Each respondent was allocated to one of eight target clusters, with the best fit, e.g. enough money but no time or interest, or high interest in quality/health but no time and money, etc. The original eight clusters were reduced to six (by combining two clusters) in order to achieve robust sample base for each segment.

- Time[25],
- Money[26],
- Interest in quality and health aspects[27].

Figure 31 Shopper types



The Expert Shopper (21% of shoppers) has all the resources: time, money, interest in health and quality when shopping food. This type is highly experienced and used to paying attention to all types of food information except price. They are more informed about all fat types, are least overwhelmed by choice and perform best in identifying the healthier

[25] Based on Q9 statement 2 "I usually shop in a rush" and statement 3 "I usually take time and browse while shopping to see what is new"

[26] Based on Q9 statement 5 "I can only afford to buy what I need rather than what I want" and Q11 statement 2 "Price is more important than anything else"

[27] Based on Q11 statement 1 "I'm never willing to compromise quality for a lower price" and statement 5 "I will always choose the healthier alternative when selecting a product"

alternatives in the TFA experiments. Hence, this type suits well as a reference group in the final analytical model.

The Ambitious Health Planner (17% of shoppers) wants to make healthy choices and invests enough time to read food information but has the second lowest income level and therefore cannot afford all of the things that s/he wants. This type plans its shopping most often by making lists, has the highest rate of reading all kinds of food information and displays the highest risk aversion in general. This segment is represented by a higher share of women, of older people as well as having the highest average BMI[28] amongst respondents. Although the health planners were less familiar with the terminology of fat types, their performance in the TFA experiment was second best in identifying healthy options.

The Rushed Quality Shopper (21% of shoppers) has sufficient money (income) and interest in quality and healthy foods but not enough time for shopping. This type is well educated, very loyal to brands and displays an above-average frequency of reading food labels with focus on organic labels. The rushed quality shopper displays an average awareness and behaviour in the TFA experiments.

The Self-Determined Shopper (14% of shoppers) represents the wealthiest segment without any health goal. This cluster features rather younger respondents, often in single households, the highest share of males and less food restrictions. The habit of accessing food information is well below average. In the TFA experiment, this type was less often able to identify the healthier alternative – in particular in the more complex Task 2.

The Bargain Hunter (14% of shoppers) has time and enjoys shopping for the best price deals. This segment features the lowest income and education levels. Since the main focus is on price, there is no attention to other food information or health issues. In the TFA experiment this type was less often able to identify the healthy product in Task 1, but scored averagely in Task 2.

The Frustrated Shopper (13% of shoppers) lacks all relevant resources: time, money and interest in quality or healthy food choices and is least likely to enjoy the shopping process. The focus of this segment is on price only, which comes together with the lowest readiness to read any other food information. This group features the youngest respondents, with the highest share of single households, with lower education and income levels. In the TFA experiment, subjects in this group tended to select the less healthy product in both tasks.

[28] BMI = Body Mass Index

Table 32 Shopper type summary on TFA experiments

SHOPPER TYPE	Performance in TFA choice Task 1	Performance in TFA choice Task 2
Expert Shopper	Healthiest (38%)	Healthiest (52%)
Ambitious Health Shopper	More healthy (34%)	Average (46%)
Rushed Quality Shopper	Average (29%)	Average (47%)
Self-Determined Shopper	Average (29%)	Less healthy (42%)
Bargain Hunter	Less healthy (28%)	Average (48%)
Frustrated Shopper	Least healthy (26%)	Least healthy (40%)
All Participants (Food Split)	**∅ = 31%**	**∅ = 46%**

The descriptive analysis above suggests including the following motivational variables into the final analytical model:

- Shopper types (covering health goals as well as the relevance of time and prices)
- (Dis-)Agreement with the statement "I read labels and pay close attention to product information"

4.1.3 Experimental treatments

The tested treatments were also included in the final regression model. However, it is clearer for non-statisticians to see how the choice behaviour differs when comparing different treatment splits.

One key result in the table below is that the vast majority of consumers were not able to make an informed decision in the first scenario without any additional treatment. As the results of the control group reveal (split 4) about 64.4% (56.7%+7.7%) were either not able to spot or to understand the difference between product A and B. Moreover, this choice behaviour does not change at all through only an educational intervention (split 3). It should be noted that in splits 3 and 4 only accessing and understanding the information in the ingredients list would have enabled an informed choice. The low proportion of participants accessing the ingredients list and the low knowledge on PHO/FHO discussed above may explain that only very few participants may have succeeded with this task.

Only the additional information on concrete amounts of TFA on the nutrition fact label (as in splits 1 and 2) seemed to provide significantly more clarity to consumers in choice Task 1.

However, the combination of both 'education and TFA info' (split 1) was associated with the most healthy choices in the first scenario according to this bivariate analysis.

Table 33 Treatments in Task 1[29]

Food split: TFA Choice Task 1 Base unweighted	**EU8 – Total food split** 4 034	**Split 1: with edu – with TF info** 1 008	**Split 2: no edu – with TF info** 1 011	**Split 3: with edu – no TF info** 1 009	**Split 4: no edu – no TF info** 1 007
Product A – healthier product (0 TFA/ no PHO)	**31.1%**	**61.6%**	**47.4%**	**7.7%**	**7.8%**
**Not able to spot any differences*	*38.3%*	*13.9%*	*23.5%*	*59.4%*	*56.7%*
**Differences were not relevant to me*	*13.6%*	*11.2%*	*14.5%*	*13.3%*	*15.6%*
**Did not understand the difference*	*6.3%*	*4.2%*	*5.5%*	*7.9%*	*7.7%*
Product B (18g TFA/ high PHO)	10.5%	9.1%	9.1%	11.8%	12.0%
Total	100%	100%	100%	100%	100%

In Task 2 the control group scenario (split 4) seemed to be easier compared to Task 1, as 49% of consumers were able to correctly identify the healthier product C without any education or additional TFA information.

In this case, the most comprehensive treatment (split 1) was the least effective compared to being the most effective in Task 1. The additional TFA information misled many consumers to focus on TFA and neglect the high amount of saturates in product D. The highest share of healthier choices can be observed in split 3, with the education as the sole treatment, which seemed to improve, at least slightly, the choices made compared to the control group.

[29] The table shows a combined bivariate analysis of the choice question and the post rationalisation for the initial answer option "No difference to me".

Table 34 Treatments in Task 2

Food split: TFA Choice Task 2 Base unweighted	**EU8 – Total food split** 4 036	**Split 1: with edu – with TF info** 1 009	**Split 2: no edu – with TF info** 1 011	**Split 3: with edu – no TF info** 1 009	**Split 4: no edu – no TF info** 1 007
Product C – healthier product (2g TFA/PHO, 2g SF)	**46.4%**	**41.0%**	**42.4%**	**53.1%**	**49.0%**
**Not able to spot any differences*	*15.4%*	*9.3%*	*14.1%*	*17.3%*	*21.1%*
**Differences were not relevant to me*	*10.8%*	*11.4%*	*11.4%*	*9.2%*	*11.2%*
**Did not understand the difference*	*3.1%*	*2.8%*	*3.3%*	*2.8%*	*3.4%*
Product D (0 TFA/PHO, 18g SF)	24.3%	35.6%	28.8%	17.7%	15.3%
Total	100%	100%	100%	100%	100%

In summary, the descriptive analysis of the choice behaviour between the different fat type scenarios shows that the treatments impact on healthy choices in the following ways:

- TFA information on nutrition fact label
  - Highly positive impact in scenario 1 (with or without TFA)
  - Negative impact in scenario 2 (small TFA difference and high SF difference)
- Education stimulus
  - Positive impact in scenario 1 only in combination with TFA information
  - Positive impact in scenario 2 only without TFA information

This conflicting summary indicates that the analytical model outlined in the next chapter should also investigate the interaction effects between these two treatments.

4.2 Findings of the multivariate analysis

In this section, we present the summary results of the multivariate analysis, conducted using binary logistic regression to identify the major determinants of consumer choices in the experiments. Good (or healthy) choices are defined as respondents choosing product A/C in each of the tasks 1 and 2.

Firstly, we wanted to identify the drivers and barriers of making healthy choices. Secondly, we wanted to test the potential effect of the treatments under evaluation in this study.

The presentation of the results begins in chapter 4.2.1 with the summary of results of what we refer to as the 'base model', i.e. not controlling for the potential effect of treatments, but focussing on the main individual biases and barriers.

This is followed by chapter 4.2.2, which adds the treatments to the base model to identify the most effective measure in improving consumers´ choices.

To make it easier to read, in the following analysis, exact technical values are replaced by symbols showing the direction (positive or negative) and strength of influence, and the significance levels[30]. The appendix provides a detailed overview of the results of the multivariate analysis.

4.2.1 Main biases and barriers of healthy TFA choices

As already discussed, the selection of variables to be included within the base model was based on conceptual considerations and in-depth analysis of the bivariate associations between the variables considered, as well as for the dependent variable in the behavioural experiments.

Since the two choice tasks involved different biases and barriers, there were three base models: one for Task 1, one for Task 2 and a final one looking at what drove healthy choices across both tasks.

All models were structured in the same way, covering the following four dimensions:

- Prior awareness of a specific subject and/ or accessing the necessary information during the experiment:
    - Zooming specific food information in the experiment
    - Pre-experimental knowledge on all fat types (TFA, PHO, FHO, SF)
- Motives and attitudes (including shopper types[31]):
    - Shopper types
    - General interest in food information
- Habits:
    - Reading habits when shopping for crisps
    - Recent buying experience of crisps
    - Whether following a weight loss programme / diet
- Socio-demographics:
    - Age, gender, income, education, household composition, body mass index, countries.

The socio-demographic variables were selected according to their expected and/or actual impact on the quality of consumer decision-making.

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[30] Three stars (***) indicate a strongly significant impact with a probability p = 0.001, i.e. there is only one chance in a thousand that the observed result could have happened by coincidence. Two stars (**) indicate a moderately significant impact with p = 0.01 and one star (*) indicates a slightly significant impact with p = 0.05.

[31] Furthermore we have run all these models with the original variables that are the base for the typology (shopping goal and engagement in Q9/11). On the whole, the multivariate analysis shows the same results. Hence, the validity of the subsequent results can be additionally confirmed. To avoid multicolinearity the regression models were run either with the typology or with the original variables of the typology.

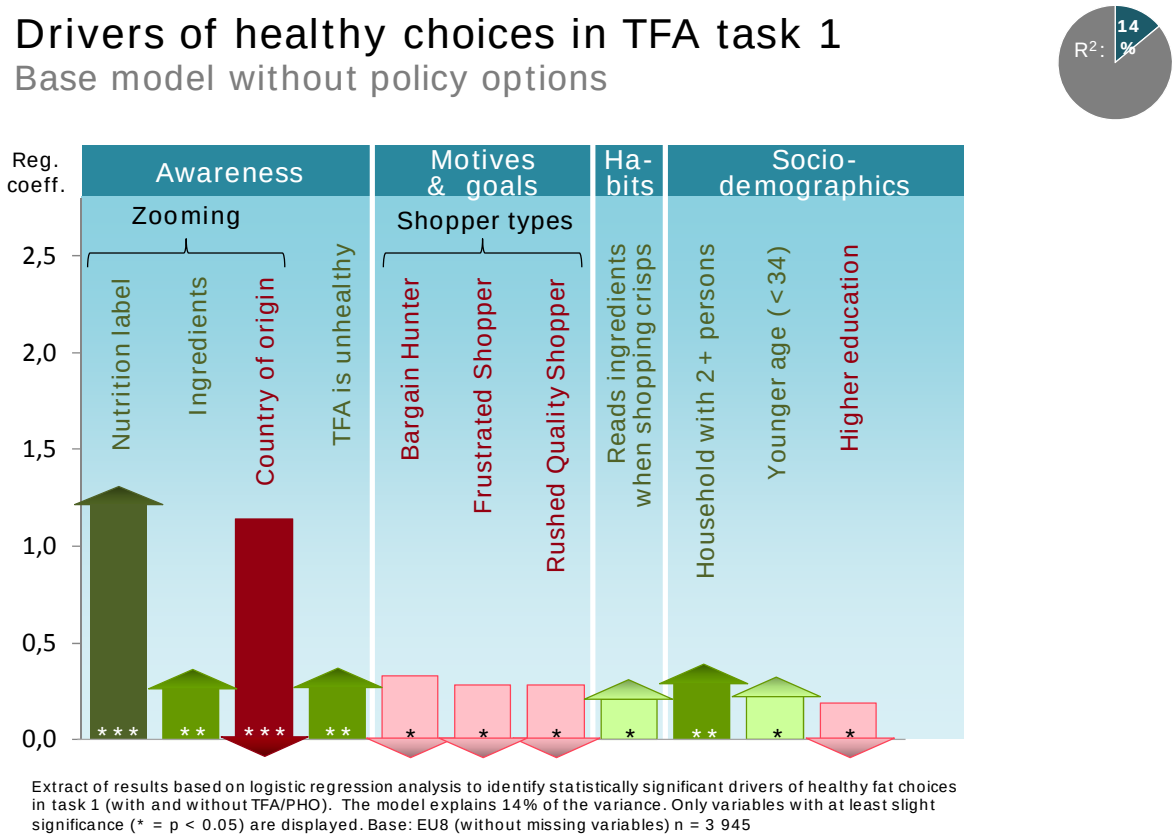
The three base models are all statistically significant and explain a reasonable portion of the variation in the dependent variable.

Base model for the first choice task

The first TFA task required the identification and correct evaluation of a product with and without TFA or PHO. All other food information was kept identical for the two products.

The most relevant factors driving choices in this task were awareness variables and, to a lesser extent, motivational and habitual biases as well as socio-demographics.

Figure 35 Drivers of healthy choices in TFA Task 1 without treatment options[32]



Extract of results based on logistic regression analysis to identify statistically significant drivers of healthy fat choices in task 1 (with and without TFA/PHO). The model explains 14% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed. Base: EU8 (without missing variables) n = 3 945

Awareness

Accessing relevant food information by zooming on the nutrition label (strongly significant) and zooming on the ingredients (moderately significant) was the main driver of good choices. This is hardly surprising, for information to be used, it has to be accessed first.

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[32] The model explains about R^2 = 14%. This represents a high proportion given the type of variable at stake. (Categorial variables only take values 1 or 0. R^2 and minimum least squares line fitting the observed points is going to be far from both values: 0 and 1.)

What is more surprising is the comparably stronger effect of zooming into the nutrition label as opposed to the ingredients list. Only half of the respondents were provided with relevant differences on the nutrition label, while all respondents were presented relevant differences in the ingredients list. One would therefore expect that the ingredients list would have a higher influence than the nutrition label.

However, the empirical evidence shows that the information accessed on the nutrition label was much stronger than the information provided on the ingredients list. The terms PHO and FHO which were used in the ingredients list are both less established in consumer minds than other fat types (see chapter 4.1). This may explain why fewer consumers who zoomed on the ingredients were able to identify the healthy option, compared with those who zoomed on the nutrition facts.

Another strong barrier is the attention paid to 'irrelevant' food information in the experiment, such as zooming on the country of origin. Consumers who were interested in this criteria did not find any differentiating information when they zoomed on the fine print, and subsequently were making less healthy choices.

Of the questions exploring existing knowledge of fat types, only one – namely "TFA is unhealthy" – turned out to have a moderately positive impact on the choice. Those who knew TFA is unhealthy were more likely to pick the healthier product.

Knowledge about PHO (correctly unhealthy, incorrectly healthy or no idea about PHO) had no impact– despite also being a key criterion for an informed choice.

Motives & Goals

Of the six different shopper types, the expert shopper (who has sufficient interest, money and time to look for healthy products when shopping for food) performed best in identifying the healthier fat combination in both tasks. Therefore this type was used as a reference group in the analytical model to identify the types with the higher motivational barriers. In the first task there were three types who performed less well:

- The Bargain Hunter (no money, no interest but enough time),
- The Frustrated Shopper (no time, no money, no interest),
- The Rushed Quality Shopper (no time, but enough money and interest).

This result is not surprising - a stronger emphasis on time and cost (compared with quality or health aspects) limits the ability to make healthier choices.

Habits

The only habitual factor with a slightly significant impact is the common practice of reading ingredients when shopping for crisps. Individual habits of paying attention to food information was collected at the beginning of the questionnaire and used as a reminder in the introduction of the experiment. This design helped to increase the proportion of respondents zooming on the ingredients list, which again contributed to a more informed choice.

Socio-demographics

Younger respondents and those living in larger households were most likely to make healthier choices in the first task:

- Shopping for at least one other person has a moderately significant positive impact
- Being younger (under 35) has a slightly significant positive impact

- Higher education (those finishing full-time education aged 22 and over) has a slightly significant negative impact

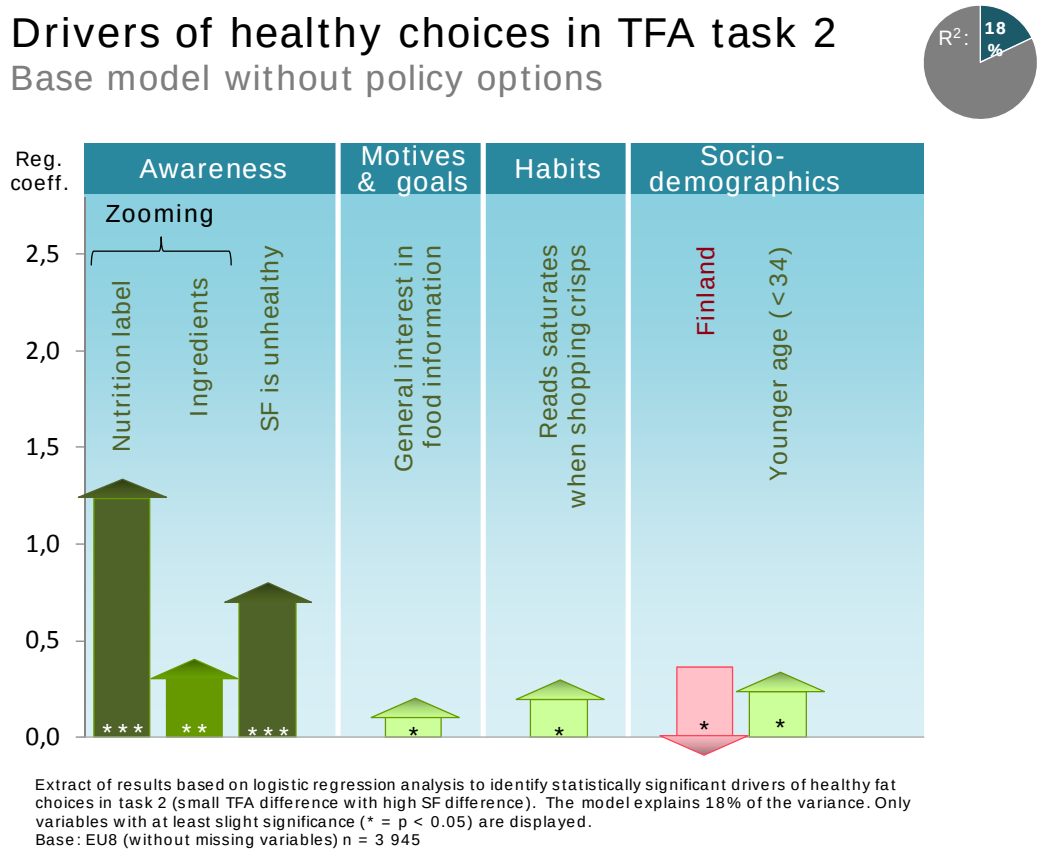
All other socio-demographic factors played no part in the choices. There was no country effect, nor were there differences by gender, income or body mass index.

Base model for the second choice task

The second TFA task required the identification and correct evaluation of two types of food information: the healthier product in this case contained a small amount of TFA/PHO and also a small amount of saturated fat (SF/PHO), while the less healthy product included no TFA/PHO but a very high amount of SF/PHO. All remaining food information was identical across the two products.

The most relevant factors driving the choices in this task were again awareness factors but very few additional variables, which means that the model only explains 18% of the variance (although this is higher than the 14% explained by the base model for the first choice task).

Figure 36 Drivers of healthy choices in TFA Task 2 without treatment options[33]



Extract of results based on logistic regression analysis to identify statistically significant drivers of healthy fat choices in task 2 (small TFA difference with high SF difference). The model explains 18% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: EU8 (without missing variables) n = 3 945

<u>Awareness</u>

Similarly to the first task, those who zoomed on food information performed better. The attention given to the nutrition information was the strongest driver of choosing the healthier product. Zooming on the ingredients list also had a moderately significant impact. Both labels were relevant to making an informed decision.

In contrast to the observed behaviour in the first task, zooming on the country of origin label did not have a negative impact on the quality of the choice. This may be the expected learning effect from the earlier task. In the second task, fewer respondents zoomed on irrelevant features.

Of the variables describing the pre-experimental knowledge of fat types, knowing that "Saturated fat is unhealthy" had the most positive impact on the quality of the choice made. Stated previous knowledge about TFA or PHO (whether correctly or not) had no impact.

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[33] The model explains about R^2 = 18%. This represents a high proportion given the type of variable at stake. (Categorial variables only take values 1 or 0. R^2 and minimum least squares line fitting the observed points is going to be far from both values: 0 and 1.)

Motives & Goals

Shopping types do not show any noticeable effect in the second task. However, those who said they had a general interest in food information were more likely to perform better.

Habits

The only habitual aspect – featuring a modest positive effect – was the practice of reading the information on amount of saturates when shopping for crisps.

Socio-demographics

Healthier choices in the second task were observed more often among younger respondents (below 35) and less often among Finnish respondents than in other countries[34].

All of the other tested socio-demographic factors had no impact.

Base model for both tasks

As has been described, there were three common drivers of healthier choices in the tasks:

- Zooming on the nutrition label,
- Zooming on the ingredients,
- Age, with younger respondents more likely to choose the healthier option.

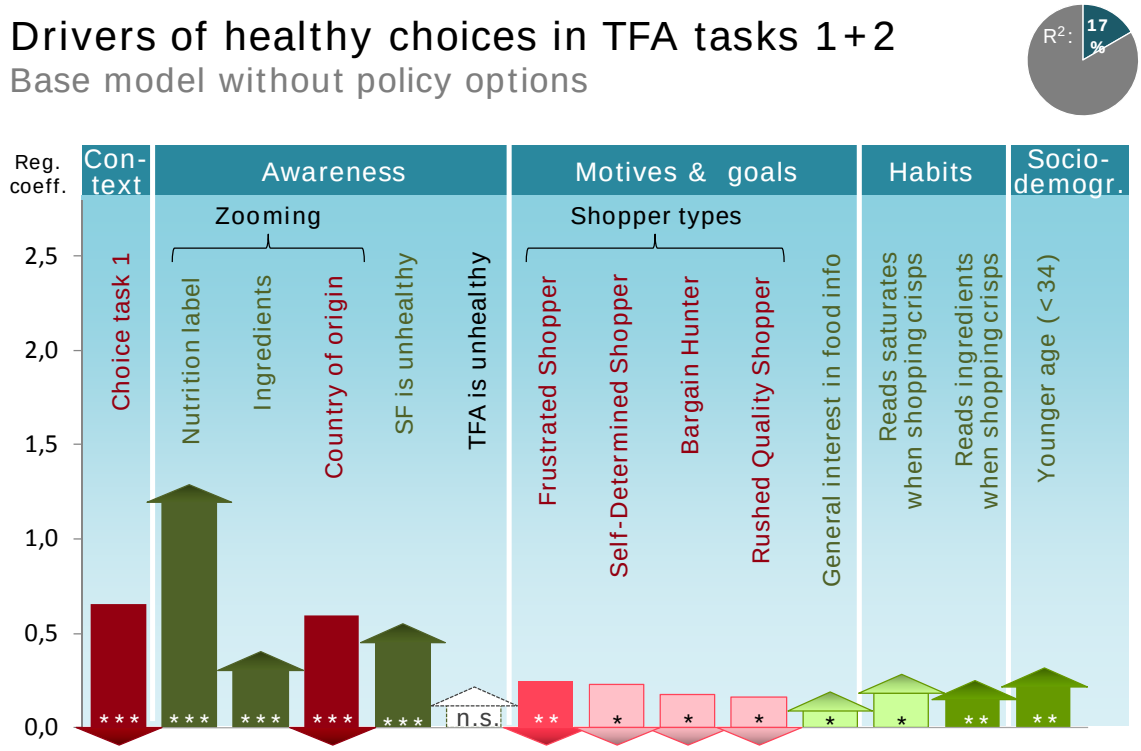
Having said this, all other determinants and barriers varied and a combined analytical model was constructed to see if this was able to explain any further what was driving choice behaviour in the tasks. Both choice tasks were included with the same weight, as it was not possible to know which scenario is more common in reality.

This combined model required an additional variable representing the different choice architecture of both tasks. As the second scenario achieved a higher share of healthy choices, this task was used as the reference group[35] in the combined base model with the key drivers shown in the table below.

[34] Poland was selected as the reference country in all TFA models since this country was the closest to "average" choice behaviour in both TFA tasks.

[35] If the first task were used as a reference group, the results would remain the same. The only difference would be the presentation: instead of a negative direction for the first task, there would be a positive direction for the second. The interpretation remains identical: Healthy choices are more likely in the second scenario and less likely for the first.

Figure 37 Drivers of healthy choices in both TFA tasks without treatment options



Extract of results based on logistic regression analysis to identify statistically significant drivers of healthy fat choices in both choice tasks.
The model explains 17% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: EU8 (without missing variables) n = 3 945

The most relevant factors driving healthy choices in both choice scenarios were again primarily awareness variables, followed by the choice architecture, the age group, habitual biases and eventually to a lower extent some goals and motivations.

Context

The context and choice architecture in task one had in its essence a much simpler design than the second task, if one assumes complete transparency and product literate consumers. There was only one parameter to be identified and evaluated correctly. However, the majority of consumers were not able to even spot this difference. The key barrier in the first choice was that the tested type of food information (differing levels of TFA, PHO, FHO) is not yet seen in reality on food products in Europe.

On the other hand, the second scenario presented a combination of more familiar food information (differing amount of saturates) in addition to future/hypothetical food information (differing levels of TFA, ranking of PHO). The fact that the primary piece of information was more familiar to consumers certainly helped increase the number of healthy choices. This bias in the first task could therefore be termed an 'unfamiliarity' bias.

Awareness

Almost all awareness variables discussed previously in the description of the individual tasks were very strong drivers in both scenarios. Paying attention to the relevant labels has a very positive impact, while zooming on irrelevant information in this task was counterproductive to making a healthier choice.

Having knowledge prior to the experiment that saturated fat is unhealthy remained a strong driver overall in the combined model. However, previous knowledge of the unhealthiness of TFA had no impact at all in this combined perspective. The positive influence in the first task was flattened out by the negative influence (albeit not significant) of a superficial knowledge of TFA in the second task.

Motives & Goals

All motivational drivers that were identified in the separate analyses were also visible in the combined model with the same strength and direction, with the addition of one of the shopper types – the self-determined shopper – as a negative influence on healthy choices.

Generally speaking, if a shopper's focus is more on resources such as time or costs rather than quality or health then the likelihood of making a healthy choice is slightly reduced – in particular for the choices in the first scenario because they have less interest in reading food information or trying to identify healthier alternates

Habits

Two consumer habits contribute positively to the ability to make healthy decisions. If someone is used to looking for the ingredients list and checking the amount of saturates when shopping for crisps, then this was also the behaviour that supported the correct identification of the healthier alternatives in the experiment.

Socio-demographics

The only variable that remains a significant driver in the combined model is age. Younger consumers (below 35) were significantly more able to make healthy choices compared to older consumers.

One immediate theory for this is that the impact of age could be a result of the online design of the experiment. The zooming functionality in an online survey is not very common yet. The higher familiarity of younger participants with these digital features could be the reason behind increased propensity to make healthy choices. However, there is no empirical evidence supporting this hypothesis. An additional regression analysis conducted to understand the drivers of zooming behaviour is described at the end of the subsequent Chapter 4.3.2.

All of the other variables identified in the separate models (household size, education and country) were not relevant in the combined model.

4.2.2 Effectiveness of tested treatments on TFA

To answer the second key question in this research on the most effective interventions, the base model was enhanced by adding the tested treatments.

There are different ways of including these variables, either as condition splits based on the treatment combinations described earlier:

- Split 1: with TFA information and with education
- Split 2: with TFA information but no education
- Split 3: no TFA information but with education
- Split 4: no TFA information and no education (control group)

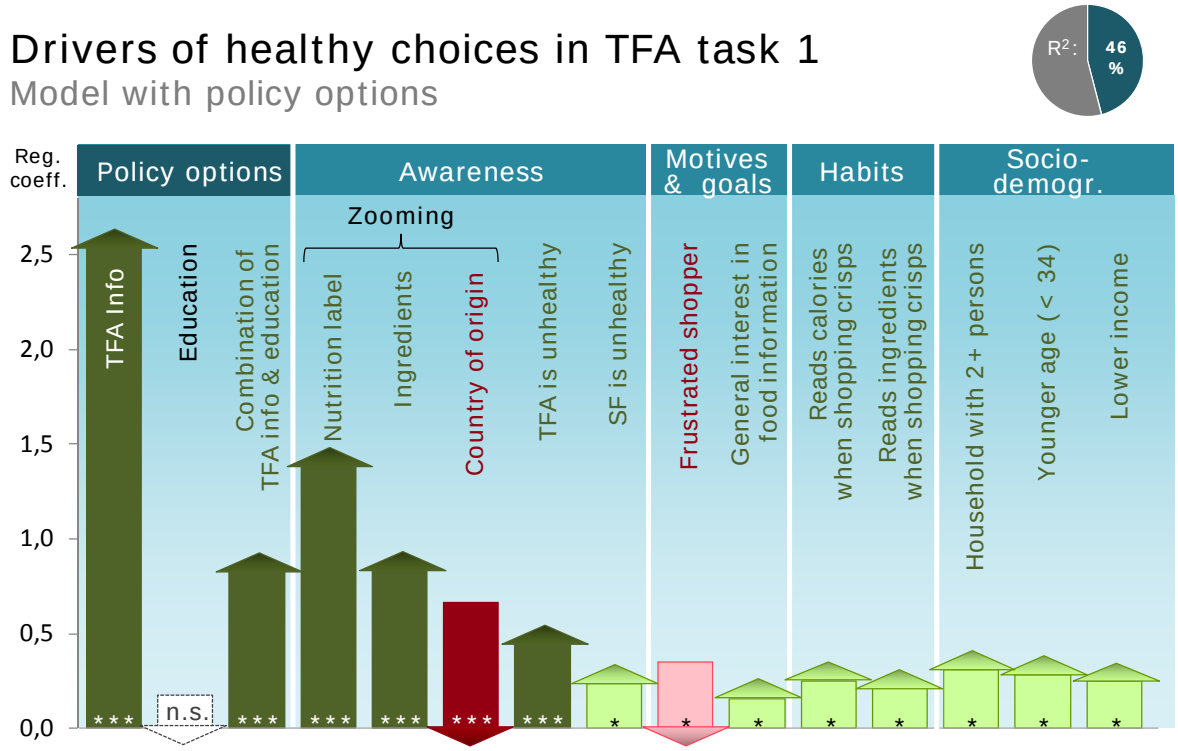
Alternatively they can be presented as individual stimuli with the interaction effect observed between both measures:

- With TFA information
- No TFA information (reference category)
- With education
- No education (reference category)
- Interaction effect of TFA info & education

Both options deliver identical results. The latter version was used in the base model. The following tables present the same structure of variables as used in the base model described earlier but with the treatments added to the analysis. Of course, the explanatory power of the enhanced model is higher than the base models shown before by explaining 46%[36] (up from only 14% in the task 1 base model) of the choice behaviour in Task 1 and 20% (up from 18% in the base model) in Task 2.

[36] Binary logistical regression models are typically evaluated by Pseudo R^2 to assess the quality of the model by its explanatory power. The displayed R^2 has been defined according to Nagelkerke.

Figure 38 Drivers of healthy choices in TFA Task 1 with treatment options



Extract of results based on logistic regression analysis to identify statistically significant drivers of healthy fat choices in task 1 (with and without TFA/PHO). The model explains 46% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: EU8 (without missing variables) n = 3 945

The inclusion of the treatment options into the base model changes the impact of several variables. A higher relevance and/or strength can be observed for:

- All awareness variables with relevant information i.e. zooming on the ingredients and nutrition information as well as prior knowledge about TFA and saturated fat
- The general interest in reading food information
- The habit of checking calories when shopping for crisps
- Consumers with a very low income (less than 10k€)

This is clearly a result of the inclusion of the additional food information and education in the model, which made the health disadvantage of TFA clearer to respondents who was presented and saw the TFA amounts disclosed in the nutrition information and who are more interested in this area. Respondents in the control group who were presented 'no TFA info' and 'no education' are not included in this model, which focuses on the impact of new and additional food information for consumers on the choice task.

Treatment options

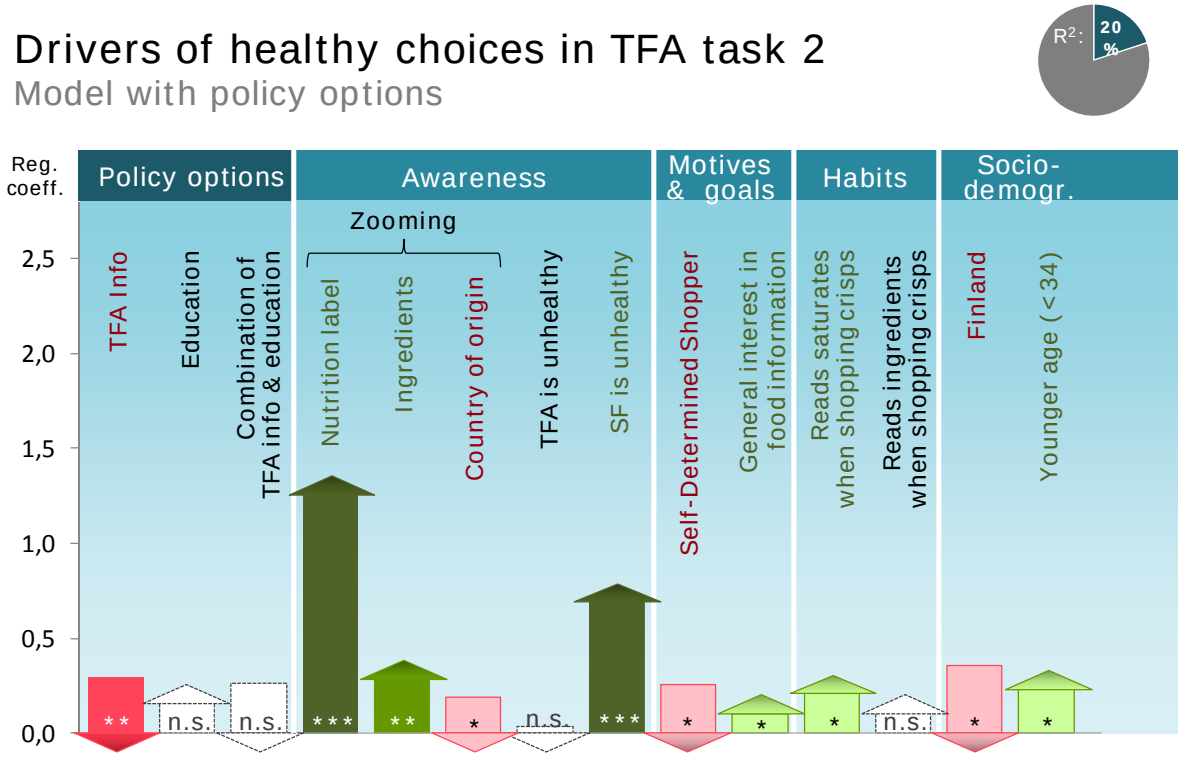
The key driver of healthy choices in Task 1 is the presentation of a concrete amount of TFA on the nutrition label. This is by far the strongest influencing factor if the decision is between a product with TFA and a product without TFA.

In contrast to this, the educational stimulus alone has no statistically significant influence. The negative direction that was observed in the descriptive analysis is not significant when looked at in this model.

The combination of an educational intervention and the TFA amount on the nutrition label showed a strong momentum towards more healthy choices in Task 1.

In Task 2, the impact of the additional treatments is far less pronounced than in the first scenario as can be seen in the table below.

Figure 39 Drivers of healthy choices in TFA Task 2 with treatment options



Extract of results based on logistic regression analysis to identify statistically significant drivers of healthy fat choices in task 2 (small TFA difference with high SF difference). The model explains 20% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: EU8 (without missing variables) n = 3 945

Regardless of whether the model includes the treatments or not, there are robust results for most individual variables already included in the base model. Only two changes among the previously explained variables can be observed: Participants who zoomed on the country of origin label as well as the Self-determined Shopper type were not less likely to make healthy choices if exposed to the additional TFA information.

Treatment options

In this second choice task, however, the additional TFA information presented a significant barrier to healthy choices. This is no surprise as the negative impact was already observed in the previous chapter. In contrast to the first scenario the product with TFA was healthier overall because it included less saturated fat.

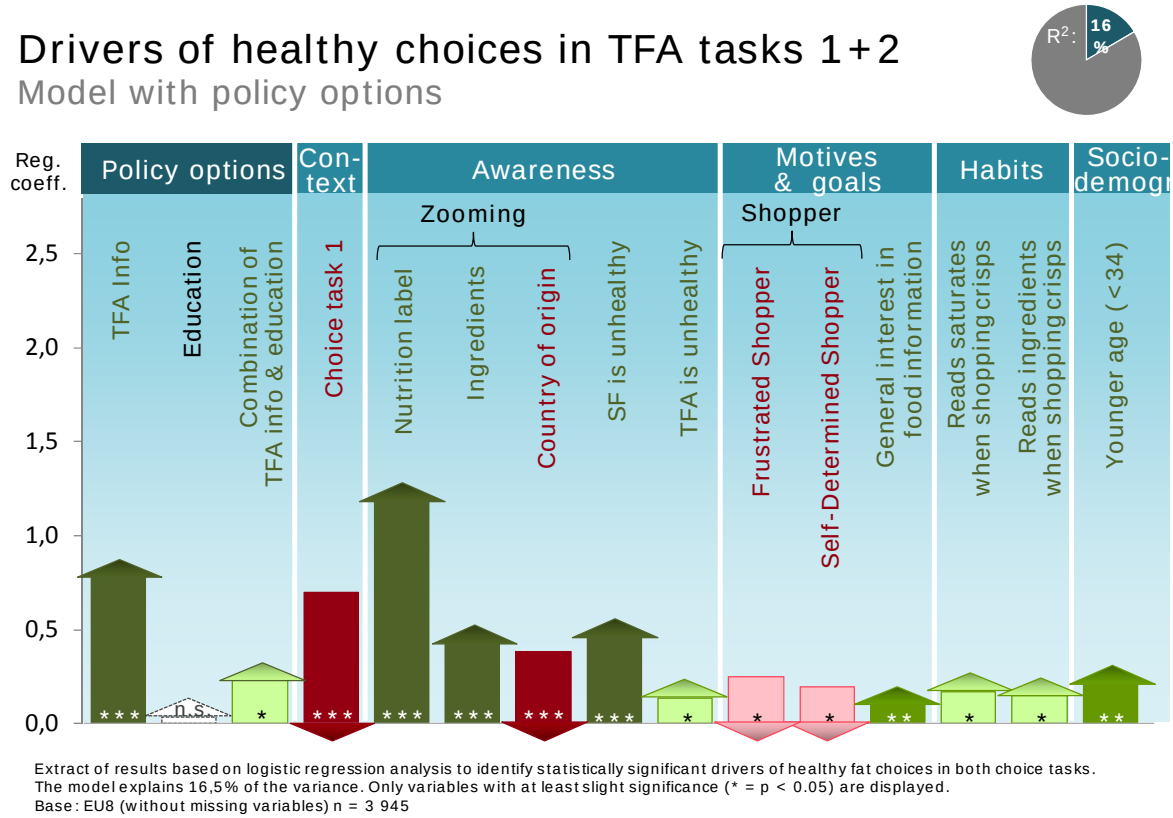
The education stimulus presented alone seemed to work in a positive direction in the bivariate analysis, but the statistical model shows that this effect is not significant.

Moreover, the combination of TFA information and education did not support consumers in making healthy choices, although the negative tendency of this combination is not statistically significant.

Overall, none of the tested treatments fostered healthy choices. The TFA information in particular had a counterproductive impact, which while not on the scale as the positive impact in Task 1 but strong enough for consumers to be distracted by the TFA content so that they did not notice the unhealthy amounts of saturates. It should be noted, however, that the second task was designed to test for overreaction when TFA information is provided, even when the healthier choice contained some TFA and saturates compared to the unhealthy choice with very high amounts of saturates but no TFA. In other words, the provision of TFA information in the nutrition facts was not expected to improve participants' decision in this task. At best, expert consumers could have understood that the high amounts of saturates outweigh the small amounts of TFA.

To summarise all relevant drivers and barriers across both choice tasks with the treatments, the following table presents the final overview.

Figure 40 Drivers of healthy choices in TFA tasks 1+2 with treatments



Extract of results based on logistic regression analysis to identify statistically significant drivers of healthy fat choices in both choice tasks.
The model explains 16,5% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: EU8 (without missing variables) n = 3 945

Treatment options

When combining both tasks, the same treatments that were effective in task 1 are also effective in making healthy choices overall. The negative overreaction in task 2 when presenting TFA information on the nutrition label is not seen when looking at both choice context scenarios. Presenting TFA information alone helps consumers to make better choices as does to a lesser extent the combination of education and TFA transparency.

Education on fat types alone is not retained long enough to enable healthy choices – even within the short, controlled timeframe of laboratory experiments. This might be due to the fact that terms like PHO and FHO are not familiar to consumers yet and the terms are easily confused.

Moreover, it is a very complex topic and requires time and expertise to understand the differences between all fat types, how they relate to each other and which is less healthy in relation to other types. It will be quite difficult to develop simple information and education on 'which fat combination is better or worse' that is easily absorbed by the majority of consumers.

In summary, these are the main drivers and barriers of healthy 'fat' choices:

The key drivers are

- Correct awareness of unhealthy fat types,
- Zooming on relevant food information and ignoring irrelevant labels,
- More familiar choice architecture as in Task 2.

Further less significant but positive drivers are

- General interest in food information,
- Habit of reading food information such as the amount of saturates and ingredients when shopping crisps,
- Younger consumers under 35.

Further less significant barriers are

- Motivations of Frustrated Shopper and Self-determined Shopper types. Both types have the highest risk-taking attitude and are not interested in healthy alternatives.

This summary accentuates the importance of the first and the last stage of the decision process. Access to relevant food information is the main barrier that needs to be overcome. The second hurdle is the context and framing at the decision stage. In order to better understand how to reduce this initial barrier of consumers actively accessing the relevant food information, the following explains the drivers and barriers of zooming behaviour in the experiment. The conclusions based on these findings are outlined in Chapter 7.1.

Drivers and barriers of zooming behaviour in TFA choice tasks

In addition to the main research objectives, there are further insights that can help fine tune our conclusions. This section explores what makes reading food information an issue which is salient (or relevant) to consumers.

While the question about whether consumers access food information in the experiment is the key survey metric for making healthy choices, the study also indicates that not everyone is interested in this kind of information although most say they regularly read food labels[37].

Therefore, it can be valuable to look more closely at the factors that influenced the zooming behaviour of consumers in the choice experiment. Three quarters (75%) of participants zoomed on at least one relevant food label (nutrition facts and/or ingredients list) in the experiment.

There are several hypotheses for how the zooming behaviour might be influenced e.g.

a) Did the educational intervention at the beginning of the experiment increase zooming activity?

b) Were shoppers with less interest in health goals also less likely to zoom on food information?

c) Did reading habits when shopping have an influence?

d) Were younger consumers more familiar with the technical zooming feature?

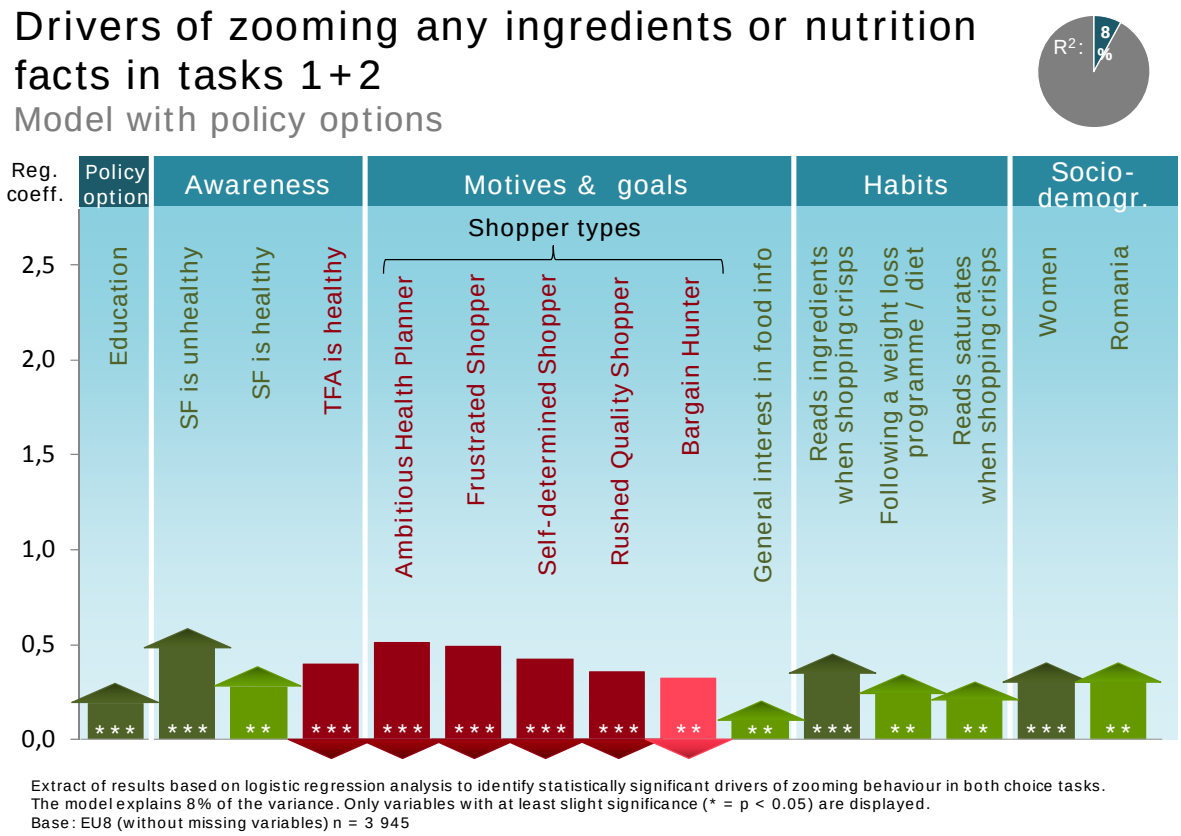
To identify the relevant drivers a logistical regression model was developed with the goal variable "zoomed at least once on any label in either task" and a set of potentially influencing variables covering similar dimensions as the base model but adjusted to the new analytical focus:

- Education on fat types (no education as reference group)
- Context / choice task (as in base model)
- Awareness of fat types (as in base model)
- Relevance of motives and goals (shopper types as in base model)
- Habits (as in base model)
- Socio-demographics (countries, gender, age, education, income, household type, BMI as in base model)

The result of this analysis (explaining about 8% of the variance with strong significances) is displayed in the table below.

[37] 76% of all participants agree with the statement "I read labels and pay close attention to product information". It can be assumed that this reflects a high overconfidence bias rather than actual behaviour. The observed zooming behaviour in this experiment certainly does not reflect the label reading behaviour in the reality of a shopping trip with a wide range of products with brands, prices and much more food information.

Figure 41 Drivers of zooming any ingredients or nutrition facts in tasks 1+2



Extract of results based on logistic regression analysis to identify statistically significant drivers of zooming behaviour in both choice tasks.
The model explains 8% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: EU8 (without missing variables) n = 3 945

A wide variety of drivers can be identified with strong significance confirming the first three hypotheses. Only the last hypothesis was not verified by the analysis. The age of participants did not have an effect on whether the zooming functionality was used or not during the experiment.

The drivers of zooming on food information were:

- **The education treatment** had a positive and strongly significant effect on whether respondents zoomed on relevant food labels.
- **Lack of motivation and goal to read food labels**
  Shopper types that lack either interest, money or time were less likely to access food information. The expert shopper (characterised by having enough interest in health, enough money and time when shopping) displayed the highest rate of zooming in the experiment and was therefore used as a reference group. All other shopper types were significantly less likely to zoom on the information.
- **Habits of reading relevant food information**
  Consumers who usually read ingredients and check the amount of saturates were more likely to do the same in the experiments. This was also the case for consumers who are currently following a weight loss programme.

- **Specific images of fat types**
  Previous awareness of saturated fats (whether correct or not) had a strong positive influence (with the exception of people who incorrectly thought that "TFA is healthy" who were less likely to zoom on the information). Consumers who did not know anything about types of fat prior to the experiment did not zoom at all in this experiment.
- **Women** and Romanian respondents were more likely to zoom on the information.

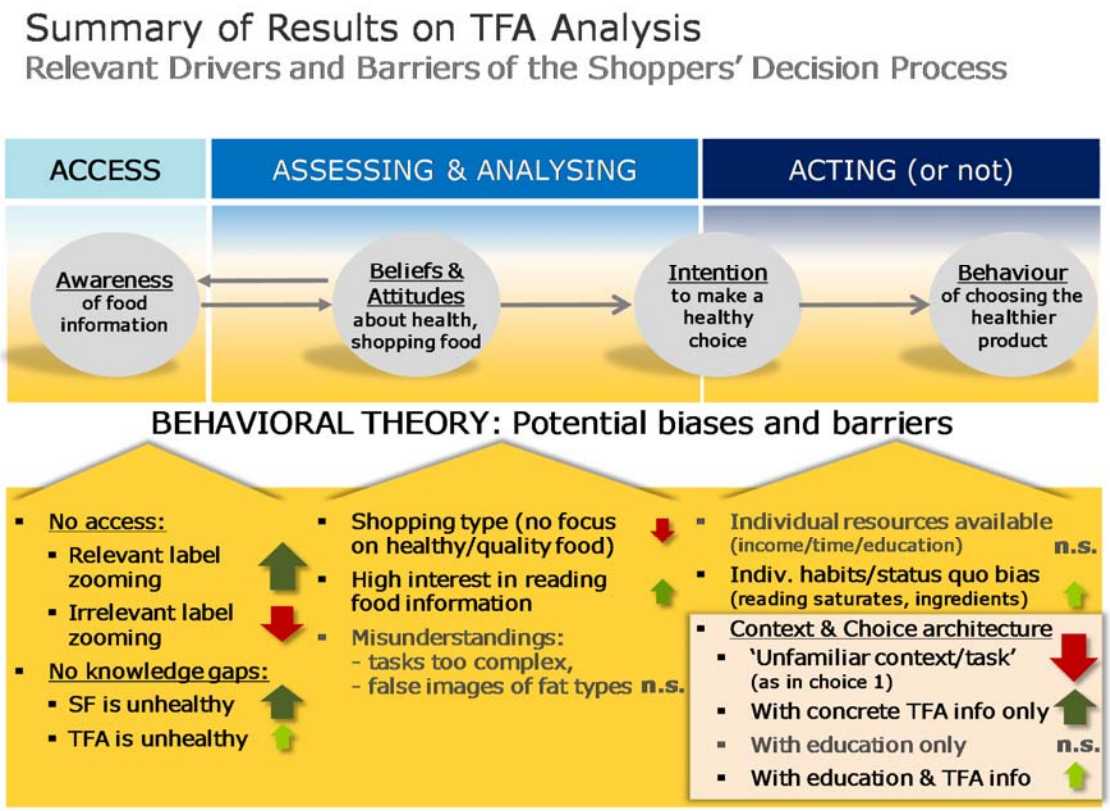
As expected, the drivers of active attention (zooming) were a higher priority for people with health goals when shopping, as well as those with a minimal level of existing knowledge of fat types and the habit of reading relevant food labels.

4.3 Conclusions regarding TFA

For the summary of findings and conclusions of the behavioural study the graph below can serve again as a conceptual guideline. It represents a simplified and idealised illustration of a comprehensive decision process. It covers the typical stages of a shopper's decision process from accessing and assessing relevant food information to taking the final decision.

The identified individual biases and external barriers as well as the tested treatments are marked with symbols to indicate their direction and effectiveness of impact on making healthy choices.

Figure 42 Summary of results on TFA analysis



1 **The evidence from this study confirms that being able to identify the healthier alternative is largely driven by initially accessing the relevant information on the food label and the familiarity of the choice scenario.**

These are the key findings of how individual biases and external barriers influence consumer choices with varying combinations of fat types:

- The key driver of healthy choices is the **zooming on the nutrition label** for both choice tasks. Among all three different food labels the nutrition label was clicked by far the most often. This is surprising as only half of the participants received relevant information on this label in particular for Task 1. Yet, the access to this label provided more support for a correct identification than any of the other two food labels. This indicates that the more structured design of the nutrition label is better suited to show relevant food information (amounts in particular) compared with the ingredients list.
- **Zooming on ingredients list** also fostered healthy choices. This label contained all of the relevant information for all participants in both choice tasks, but only a small

proportion accessed this information. Therefore, its influence was less strong than the nutrition label.

- **Zooming on irrelevant labels** such as the country of origin in these tasks presented a strong barrier as they indicated other consumer preferences and distracted from the relevant information about fat types.
- **Familiarity with at least some of the choice architecture** was the second most important driver of healthy choices. The trade-off between zero and high amount of TFA was a more difficult task to respondents, as they were not used to such a decision. The additional differentiation of amounts of saturates in Task 2 was more familiar and would lead to more healthy choices normally.
- Previous **knowledge that saturates are unhealthy** was also a key driver as it directed consumers to focus on the relevant label in the tasks. Likewise pre-experimental knowledge that **TFA is unhealthy** had a positive effect albeit smaller and less significant. Incorrect perceptions of fat types and PHO or FHO had no impact.
- The ability to identify the healthier product was also driven by age. **Younger shoppers** (below 35 years) were significantly more adept in both tasks.
- **Individual interest** in food information for shoppers with health objectives contributed to more healthy choices.
- **Individual habits** such as checking saturates or ingredients when shopping for crisps had a limited impact.

How can the conscious accessing of food information and the familiarity and clarity of the choice architecture be improved in order to encourage more healthy choices?

To identify the most effective treatment in driving healthy consumer choices, the analysis of the experiments looked at the impact of each individual treatment (education on fat types or concrete TFA information on the nutrition label) as well as at the combination of both.

Some of the key findings about the effectiveness of the tested treatments influencing the consumer choices are as follows:

The application of concrete amounts of TFA on the nutrition label has a strong and positive impact on healthy consumer choices with or without an educational clarification treatment.

- The additional information about TFA is like a double-edged sword if the two observed scenarios are looked at separately. It supports healthy choices in scenarios where only the amount of TFA differs. At the same time it distracts consumers from healthy choices in scenarios where there are other unhealthy fat types. However, the overall effect of the treatment to display the amount of TFA on food has a positive impact.

- A simple educational intervention alone is not effective at all in influencing healthy consumer choices. The explanation and evaluation of different fat types only has an impact if the terminology used (e.g. TFA) is also found on the nutrition label.
- If in reality the choice architecture of Task 1 (comparing only different amounts of TFA) is the most prevalent, then the combination of education and information would be recommended as the most effective treatment.
- If in reality the choice architecture of Task 2 (comparing TFA with other unhealthy fat types) is more prevalent, then none of the tested treatments would be recommended as they would have either a negative impact (TFA information only) or no impact (combination of both treatments) on healthy choices.

Overall the most efficient of the tested treatments was the display of TFA information on the nutrition label which provided more clarity in the final decision stage for identifying the healthier alternative.

- The survey revealed a general lack of awareness of terms such as partially hydrogenated oil (PHO) or fully hydrogenated oil (FHO). This explains why choices between these terms (without TFA information) were mostly not possible because people didn't know the difference. Moreover, these terms were displayed in the ingredients list and not the nutrition fact label which was much more likely to be accessed (zoomed on) in the experiment.
- Whether consumers will become more familiar with the terms PHO and FHO once they are implemented on food labels in Europe in 2014 could be subject to further research, e.g. by field experiments.

5 EXPERIMENTAL 'LAB' FINDINGS ON PRECAUTIONARY ALLERGEN WARNINGS (PAW)

This section describes the key findings of the experimental part on the usage of PAW on food labels in order to answer the following research objectives:

a) What do consumers cognitively understand, when they see a PAW? What is the level of risk associated with different types of PAW wordings as well as with the absence of any PAW?

b) Do consumers take a cautious approach? What leads consumers to restrict their choice by choosing what appear to be safer products without a PAW?

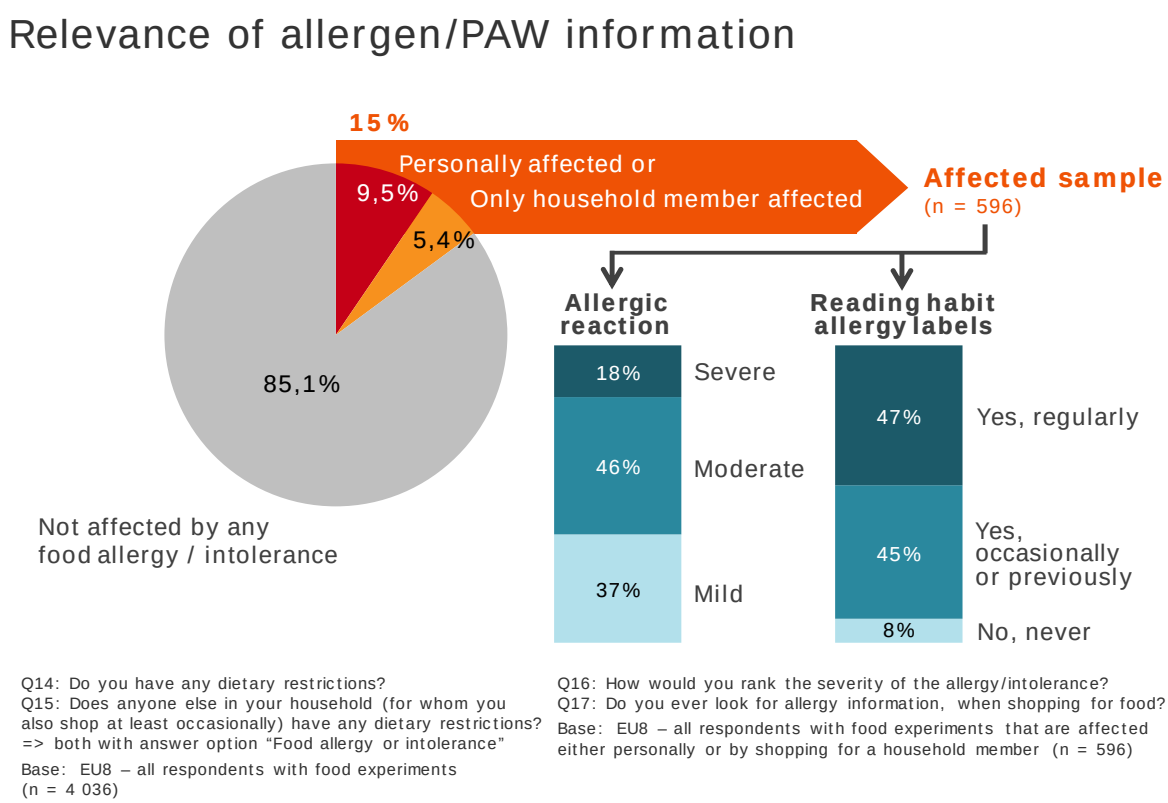
c) What is the impact of the tested PAW labels on the choice process?

The inherent nature of PAWs required the identification of the relevant target group of consumers that the subsequent analysis would be based on, as not all consumers are personally affected by food allergies or experienced in shopping for someone with a food allergy. Since this policy area represented only one topic amongst several within the study, there was no booster of allergic consumers in the sampling design. Instead the individual relevance and experience of allergen information for food was collected before the introduction of the experiments. This was used as the base for a segmentation, allowing the comparison of choice behaviour between a realistic scenario (affected consumers) and a hypothetical scenario (unaffected consumers).

Overall 596 affected consumers were identified within the sample. This is a robust base for covering personally affected consumers as well as consumers who shop for affected household members.

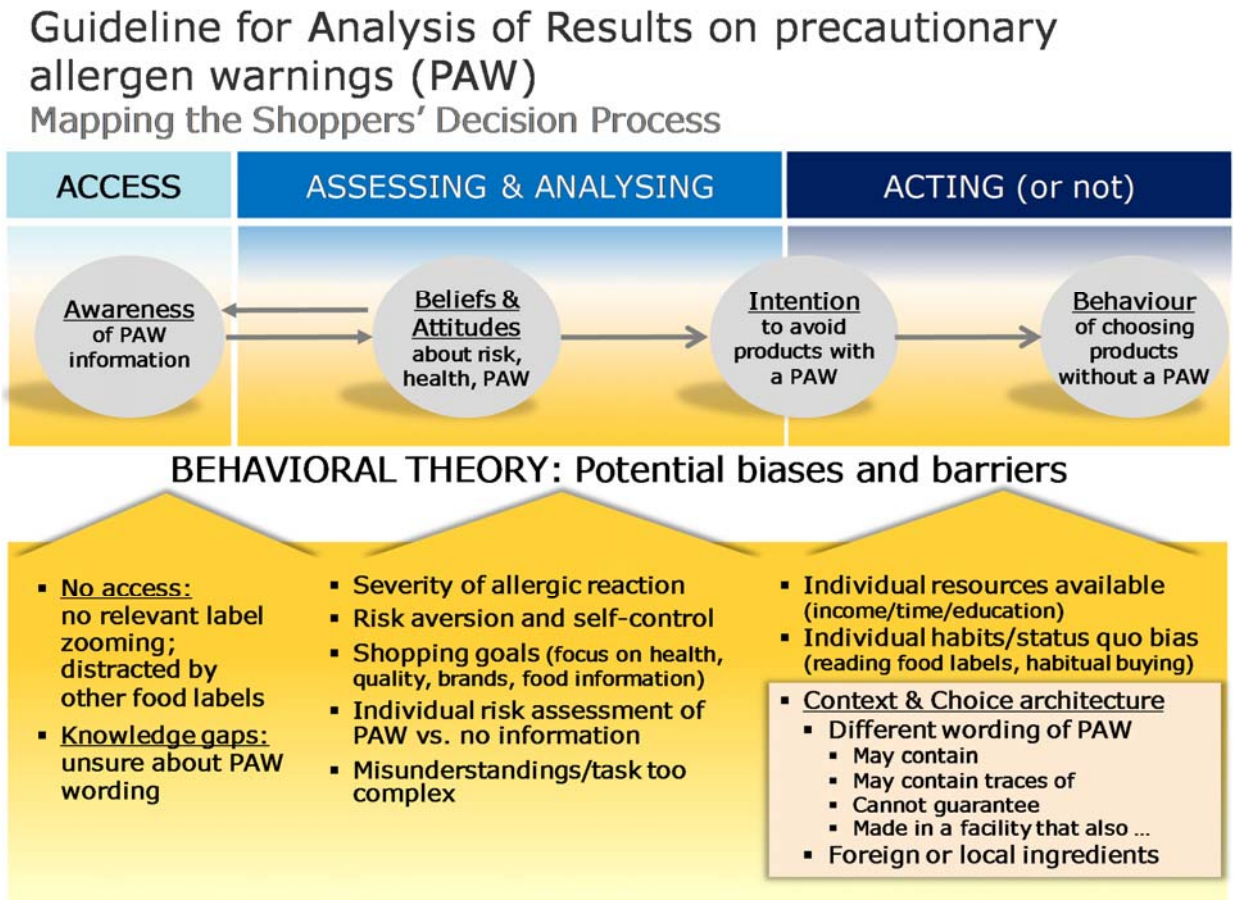
Only 18% of these affected consumers said that they experienced severe allergic reactions if food was contaminated by an allergen. Even so, this segment was quite homogeneous as almost everyone was experienced in reading allergen information when shopping food. Hence, the 'affected' sample is the base for the core analysis of results and wherever necessary there is a comparison with the 'unaffected' sample base.

Figure 43 Relevance of allergen / PAW information



To contextualise the findings of this and to structure the analysis in order to come to an understanding of the factors that influence the choice process in a shopping scenario, we put forward a map of a simplified decision process (as explained in Chapter 4) adapted to this policy area.

Figure 44 Guideline for analysis of results on PAW



The analysis starts with a description of the consumer's risk assessment of various versions of allergen information in Chapter 5.1. This section covers the cognitive perception of consumers when shown a list of differently worded PAWs.

The following Chapter 5.2 covers the disaggregated findings of the observed decision behaviour in the choice tasks with suggestions for variables to be included in the statistical base model. This is supplemented by a descriptive overview of observed choice behaviour for the tested PAW alternatives.

Chapter 5.3 combines the discussed variables in a multivariate analysis to identify the statistically relevant drivers and barriers of allegedly safe choices.

5.1 Consumers' cognitive risk assessment of PAWs

This section looks into the question about what consumers cognitively understand, when they see a PAW on a product such as muesli. In particular, what is the level of risk they associate with each individual PAW wording as well as the absence of any warning.

The statements to be evaluated were presented as a matrix question in a randomised order to avoid ranking effects or any bias for the overall analysis.

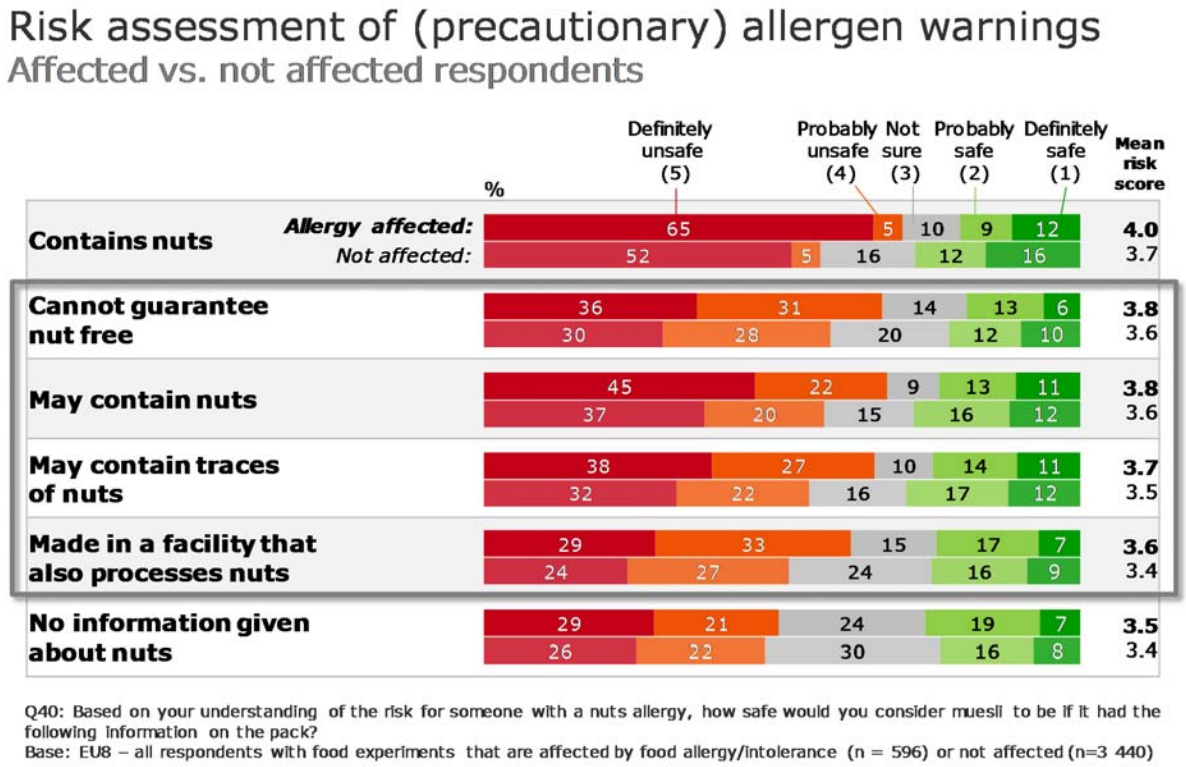
In addition the unambiguous option 'contains nuts' was included, which served as an indicator of the difficulty of this task. If all respondents identified this option as definitely unsafe, then the task could be deemed as easy. However this was not the case (see table below), although participants affected by allergy issues were more likely to identify the 'contains nuts' label correctly as definitely unsafe than not affected consumers.

In comparison to all other labels the 'contains nuts' information achieved the highest mean risk score among both the affected sample (4.0) as well as the unaffected sample (3.7).

At the other end of the evaluation scale – if no information was given about an allergen – this was regarded as less risky by the average consumer. The risk assessment of this option hardly differed between both samples.

The four tested PAWs were all located between these two anchor points. The risk ranking was largely identical for both sample segments although the risk levels assigned by the affected consumers were generally higher.

Figure 45 Risk assessment of PAWs



Q40: Based on your understanding of the risk for someone with a nuts allergy, how safe would you consider muesli to be if it had the following information on the pack?
Base: EU8 – all respondents with food experiments that are affected by food allergy/intolerance (n = 596) or not affected (n=3 440)

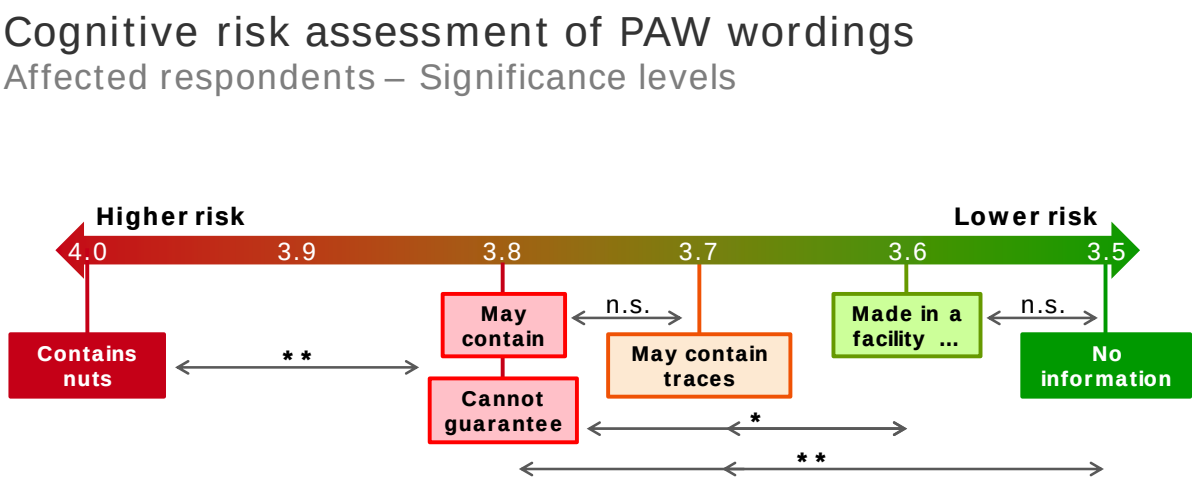
The differences in the evaluation between the four PAW options were not strong enough to justify a robust ranking as presented in the chart. However, there is a tendency indicating that the more precise the wording of a PAW the lower the risk associated with it by consumers.

- 'Made in a facility that also processes nuts' achieved the relatively lowest risk score of 3.6
- 'May contain traces of nuts' ranked as second lowest level with a mean risk score of 3.7

- 'May contain nuts' and 'cannot guarantee nut free' both have an identical mean score of 3.8.

There is a slightly significant lower risk level for 'Made in a facility' compared with any of the other three PAWs. 'Made in a facility' is also the only PAW whose assessment is not significantly more risky than that that of no information at all. The labels 'May contain', 'May contain traces' and 'Cannot guarantee' were all moderately significant with regards to a more risky perception compared with 'no information'.

Figure 46 Cognitive risk assessment of PAW wordings



Q40: Based on your understanding of the risk for someone with a nuts allergy, how safe would you consider muesli to be if it had the following information on the pack? Scale: 5 = definitely unsafe, 4 = probably unsafe, 3 = not sure, 2 = probably safe, 1 = definitely safe. Base: EU8 – all respondents with food experiments that are affected by food allergy/intolerance (n = 596)

In summary, around two thirds of the affected consumers considered any of the displayed PAWs as unsafe. Hence, one would assume that a similar share would also take a cautious approach by avoiding products which display these types of PAW.

5.2 Observed choice behaviour

To understand how consumers react when given a choice between a product with and a product without a PAW, an experimental choice task was designed to observe the choice behaviour of participants.

Unlike the TFA experiment described in the previous chapter, the observation of the choice behaviour was intended to capture not only the cognitive part of a decision but also intuitive, habitual and less conscious factors that also influence this type of decision in reality.

This experimental part was presented to respondents before the cognitive risk assessment to avoid any unwanted influence from this exercise. The framing of the experiment aimed to provide a realistic scenario while also controlling for a manageable selection of variables to isolate the impact of the most relevant factors.

As a result, there were three subsequent choice tasks presented in a randomised order, each offering two different muesli products:

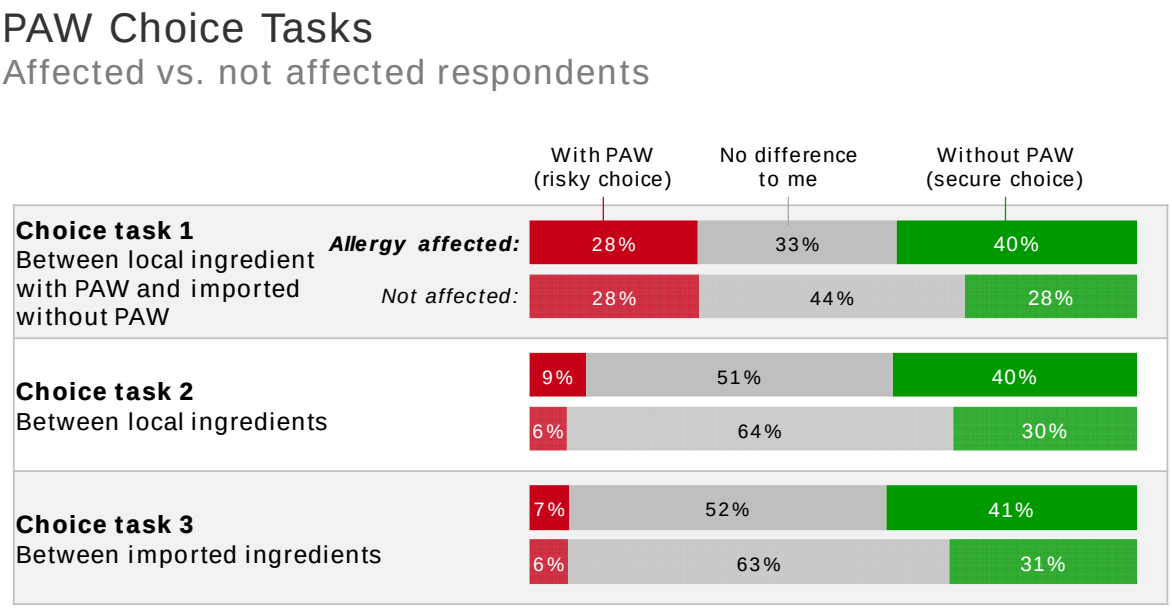
- Task 1 offered a choice between a product with local ingredients and a PAW and a product with imported ingredients without a PAW.
- Task 2 offered a choice between two products with local ingredients. Again, the only difference was that one had a PAW and the other not.
- Task 3 offered a choice between two products with imported ingredients. The only difference was that one had a PAW and the other not.

The rationale for including the origin of the ingredients was to test whether this has an impact on the risk assessment of PAWs[38]. Moreover, it allowed comparing the relevance of a PAW on the choice behaviour if it is the only differentiating variable (Tasks 2 and 3) vs. if there is a second differentiating variable (Task 1).

When focussing on allergy affected consumers, the share of safer choices is almost equal across all three scenarios with 40% on average. This is a significantly higher rate of safe choices compared to the unaffected sample as one would expect.

[38] Of course, this is just one possible influencing factor among many others. When comparing different products in reality, there will be further differences in terms of price, brands, colours, packaging, etc. This might be subject to further research, if required.

Figure 47 PAW choice behaviour by affected and not affected respondents



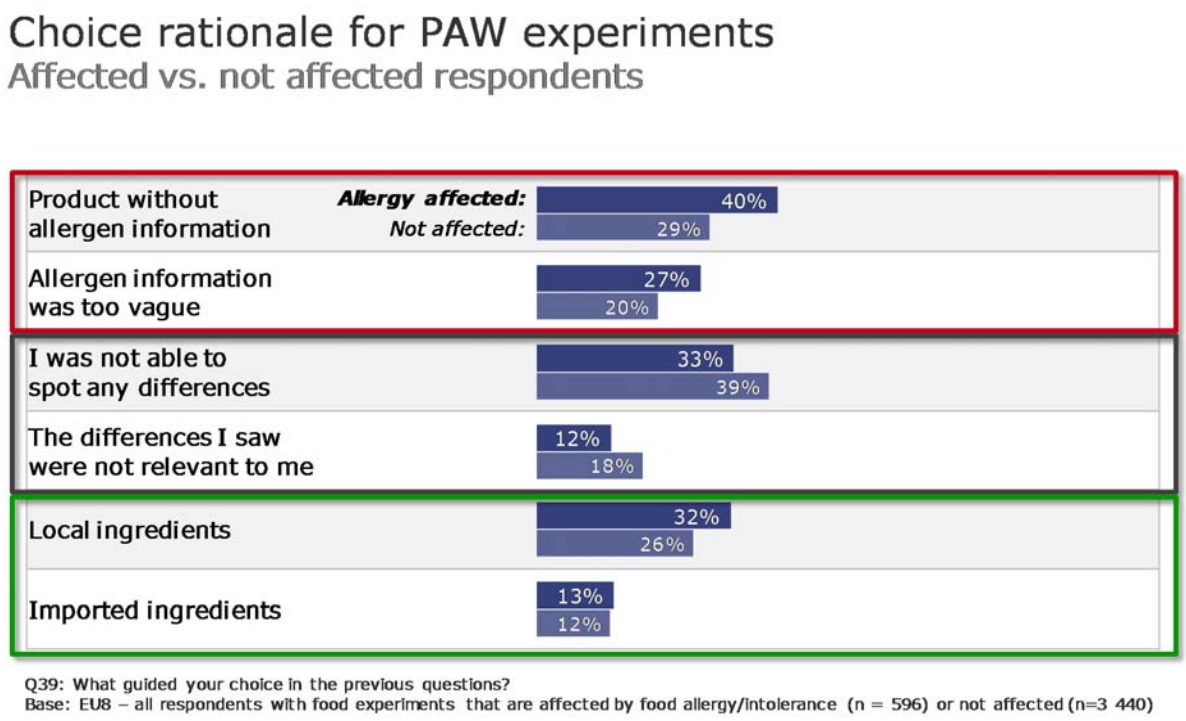
Q341-365: Which product would you choose? Randomised order of tasks.
Base: EU8 – all respondents with food experiments that are affected by food allergy/intolerance (n = 596) or not affected (n=3 440)

The PAW labels restricted choices for a sizeable proportion of consumers regardless of the origin of the ingredients. A striking distinction, however, is the higher proportion of less safe choices and the lower proportion of those who thought there was no difference in Task 1. Clearly the preference for the local origin vs. imported ingredients outweighed or distracted consumers from the PAW label, i.e. the local origin increased the proportion that made a more risky choice.

Another indicator for the relevance of origin information in this context is the post-rationalisation recorded after the experiment. Around a third of the affected participants stated that they favoured products with local ingredients which obviously increased the more risky choices seen in Task 1.

The proportion of respondents who said that they tried to avoid the product with allergen information also matched the 40% observed in the choice tasks (see table below).

Figure 48 Choice rationale for PAW experiments



Those participants who said that the allergen information was too vague actually had a higher tendency to avoid the product with the PAW than to ignore it.

Overall a sizeable proportion of affected consumers was not able to spot any differences, indicating that this task is not a typical habit even for all affected consumers[39].

5.2.1 Potential awareness drivers

The key requirement to identify an appropriate muesli product for a friend with a nuts allergy was, as in real life, to access the relevant food label section in the experiment. Participants were instructed to select and read food information as in real life therefore nobody was specifically asked to zoom on any label. However, the difference between the two products was hardly legible without zooming. Hence, a high level of zooming was observed in this experiment:

- 83% of all affected participants zoomed on at least one label in each of the choices.
- 79% of all unaffected participants zoomed on at least one label in each of the choices.

The nutrition facts label was accessed most often (by around two thirds of participants), although it did not provide any differentiating or relevant information.

[39] These are in particular elder consumers in Finland or Eastern European countries.

The crucial PAW was accessible together with the ingredients list and was more often zoomed on by affected participants (44-46% vs. 34-37%) in all tasks. The origin information was accessed in both samples by around a third of participants in each choice task.

Overall, this indicates that the nutrition fact label dominated attention when comparing muesli products, despite the goal to select something appropriate for an allergic friend, which should have nudged participants into zooming on the ingredients lists.

The research design meant that it was necessary to zoom on the information in order to make an informed choice. It is therefore unsurprising that zooming had a strong impact.

Table 49 Zooming vs. choice behaviour in Task 1

Food split: PAW Allergy affected Choice Task 1 Base unweighted	**EU8 – Total affected** 596	**Zooming nutrition facts** 363	**Zooming ingredients** 271	**Zooming country of origin** 204	**Nothing zoomed** 102
Product A (local with PAW)	28%	33%	15%	60%	22%
No difference to me	33%	35%	9%	12%	54%
Product B (foreign – no PAW)	**40%**	**32%**	**77%**	**28%**	**24%**
Total	100%	100%	100%	100%	100%

Table 50 Zooming vs. choice behaviour in Task 2

Food split: PAW Allergy affected Choice Task 2 Base unweighted	**EU8 – Total affected** 596	**Zooming nutrition facts** 394	**Zooming ingredients** 260	**Zooming country of origin** 231	**Nothing zoomed** 100
Product C (local – no PAW)	**40%**	**32%**	**82%**	**39%**	**22%**
No difference to me	51%	61%	8%	55%	54%
Product D (local with PAW)	9%	7%	10%	7%	24%
Total	100%	100%	100%	100%	100%

Table 51 Zooming vs. choice behaviour in Task 3

Food split: PAW Allergy affected Choice Task 3 Base unweighted	**EU8 – Total affected** 596	**Zooming nutrition facts** 385	**Zooming ingredients** 269	**Zooming country of origin** 223	**Nothing zoomed** 102
Product E (foreign with PAW)	7%	5%	9%	4%	13%
No difference to me	52%	62%	11%	58%	61%
Product F (foreign – no PAW)	**41%**	**33%**	**81%**	**39%**	**26%**
Total	100%	100%	100%	100%	100%

- The zooming on the ingredients correlates most highly with cautious choices in all tasks.
- Respondents who zoomed on the irrelevant nutrition facts were mostly not able to recognise any difference.
- The enlargement of the origin label only had a significant impact on more risky choices in Task 1.

So far the descriptive analysis suggests the inclusion of the following awareness variables into the final analytical model:

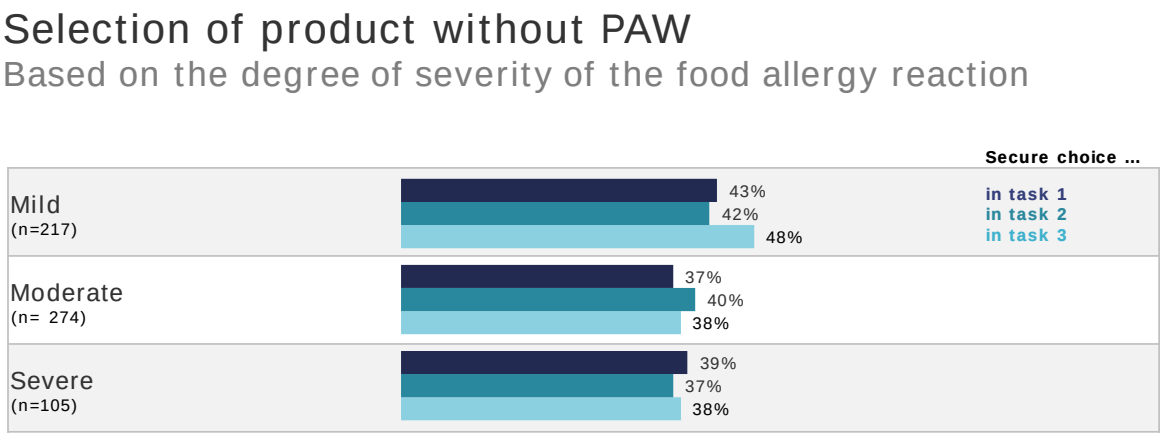
- Zooming behaviour in the experiment
  - Ingredients label with(out) PAW as a driver of making less risky choices
  - Nutrition label as a barrier to making less risky choices
  - Country label as a barrier to making less risky choices and a driver of local products despite the PAW

5.2.2 Potential beliefs and attitude drivers

Consumer motives and attitudes around food shopping as well as more general personality traits should be considered as potentially influencing factors in whether one tends to avoid a product with a PAW or ignore this information.

The first variable that was expected to be relevant was the degree of severity of their own food allergy/intolerance and/ or the one of the affected member in the household. The assumption was that the more severe the allergy, the more cautious the product choices. Instead, the data based on 596 affected participants indicates no significant impact of the degree of allergic reaction. In fact there is a slight tendency that participants with a mild reaction are more likely to avoid products with a PAW, in particular when it is presented in conjunction with imported ingredients as in Task 3 (see table below).

Figure 52 Selection of product without PAW vs. severity of allergy reaction



Q341-364 Which product would you choose? Selection of product without PAW

Base: EU8 – respondents in the food experiment affected by allergy with the respective severity of the allergy reaction

The analysis of shopping goals based on the individual statements indicated the following tendencies:

Products without PAW were less likely to be selected by participants who (strongly) agreed that they

- Never compromise quality for a lower price,
- Always try to choose the healthier alternative,
- Read labels and pay close attention to product information (only relevant in Task 3),
- Are loyal to the brands they buy (only relevant in Task 3).

Obviously some affected consumers motivated by health and quality goals when shopping do not consider a product with a PAW as a risky choice. There are often other types of information such as brands they look for and trust more.

However, since the sample base of affected consumers does not allow much further segmentation, the significance of these variables will only be tested in the multivariate base model. In this analysis, the segments will be aggregated to allow for a sufficient base in each category. This is also the reason, why the shopper typology will not be applied to this model since six segments will not provide a robust sample base among the affected participants.

Furthermore, there are two general personality traits, which might be influential in these choice tasks: risk-aversion and self-control. Yet, the direction that they indicate in the descriptive analysis does not confirm initial assumptions in particular for the variable of risk-aversion. Participants were less likely to avoid choosing the product with a PAW who (strongly) agreed that

- Security is more important to them than excitement and adventure;
- They prefer doing things that pay off right away than in the future.

A general propensity towards more security is not reflected by avoiding a product with a PAW. The self-control variable indicates that consumers with a more impulsive (low self-control) attitude are also less guided by a PAW when selecting products.

To sum up this descriptive analysis the following motivational variables are included in the final analytical model:

- The degree of severity of the allergic reaction:
  - mild
  - moderate
  - severe
- (Dis-)agreement with the following statements on shopping goals
  - I'm never willing to compromise quality for a lower price
  - I read labels and pay close attention to product information
  - I am extremely loyal to brands
  - I always try to choose the healthier alternative when selecting a product
- (Dis-)agreement with the following statements on personality traits
  - I much prefer doing things that pay off right away than in the future
  - Security is more important to me than excitement and adventure

5.2.3 Potential habitual drivers

Analysis of questions in the pre-experimental part about individual habits when shopping for muesli revealed the following impact on allergy affected consumers in the tasks:

- Consumers who did not buy muesli within the past 12 months were more likely to avoid the product with a PAW.
- Those who look for allergen information when purchasing muesli for the first time were also more likely to avoid products with a PAW.
- The habit of checking the ingredients list did not seem to have any influence on the choice tasks, whereas tending to check the country of origin seemed to distract slightly from the allergen information.
- When looking at general habits (not related to muesli shopping), the tendency to buy the same foods all the time seems to reduce the relevance of a PAW.
- The frequency of reading allergy information when shopping for food did not seem to have any impact on the choice behaviour.

Overall, there are no strong habitual drivers of choice identified in this descriptive analysis. Nevertheless it is recommended to include all these variables in the analytical model to confirm whether or not they have any impact.

5.2.4 Socio-demographic variables

The usual set of socio-demographical control variables were added to the analysis model, such as country, gender, age, education and income level as well as household composition. Body Mass Index was not included as it did not have any logical or statistical impact.

5.2.5 Treatments

Four different wordings of a PAW were tested across the three choice tasks to see whether they have a different effect. When looking at the choice behaviour of the affected consumers, there were only slight variations visible that are not statistically significant (see table below).

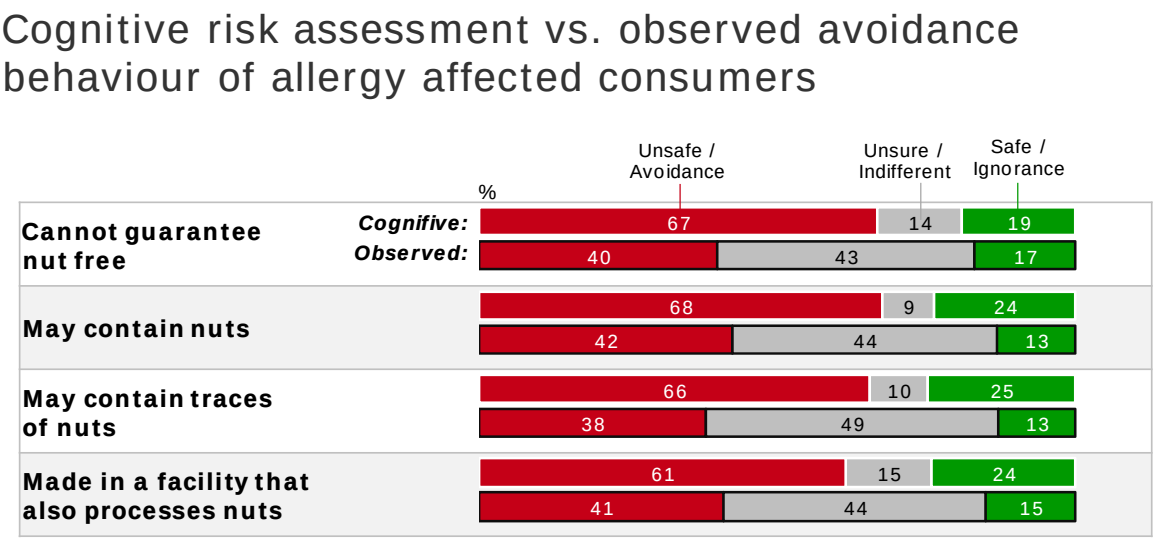
Table 53 PAW choice behaviour vs. treatments

Food split: PAW Allergy affected Choice Task 1 Base unweighted	**EU8 – Total affected** 596	**May contain nuts** 149	**May contain traces of nuts** 143	**Cannot guarantee nut free** 147	**Made in a facility …** 157
Product A (local with PAW)	28%	27%	26%	27%	31%
No difference to me	33%	31%	38%	31%	31%
Product B (foreign – no PAW)	**40%**	**42%**	**36%**	**42%**	**39%**
Total	100%	100%	100%	100%	100%
Food split: PAW Allergy affected Choice Task 2 Base unweighted	**EU8 – Total affected** 596	**May contain nuts** 149	**May contain traces of nuts** 143	**Cannot guarantee nut free** 147	**Made in a facility …** 157
Product C (local – no PAW)	**40%**	**42%**	**38%**	**40%**	**41%**
No difference to me	51%	50%	55%	46%	51%
Product D (local with PAW)	9%	8%	7%	14%	8%
Total	100%	100%	100%	100%	100%
Food split: PAW Allergy affected Choice Task 2 Base unweighted	**EU8 – Total affected** 596	**May contain nuts** 149	**May contain traces of nuts** 143	**Cannot guarantee nut free** 147	**Made in a facility …** 157
Product E (foreign with PAW)	7%	5%	6%	10%	6%
No difference to me	52%	52%	54%	53%	51%
Product F (foreign – no PAW)	**41%**	**43%**	**41%**	**38%**	**44%**
Total	100%	100%	100%	100%	100%
PAW AVOIDANCE SCORE (all tasks)	**40.5%**	**42.3%**	**38.3%**	**40.0%**	**41.3%**

The PAW avoidance score represents the average share of respondents choosing a product without a PAW across all three choice tasks. However, it should be noted that the differences in the overall score as well as within each task are too small to be statistically significant. When looking at the larger sample of the unaffected consumers the PAW avoidance level is generally higher (as outlined earlier) but the variations between the treatment splits are even smaller.

The following table summarises the comparison of the observed choice behaviour with the cognitive risk assessment (explained in Chapter 5.1) for each of the four tested PAW versions.

Figure 54 Cognitive risk assessment vs. observed avoidance behaviour



Cognitive risk assessment via Q40: Based on your understanding of the risk for someone with a nuts allergy, how safe would you consider muesli to be if it had the following information on the pack?

Observed behaviour via framed choice tasks: average choice behaviour across all three tasks (choice of product with or without PAW)

Base: EU8 – all respondents with food experiments that are affected by food allergy/intolerance (n = 596)

There are three key insights to be concluded from this overview:

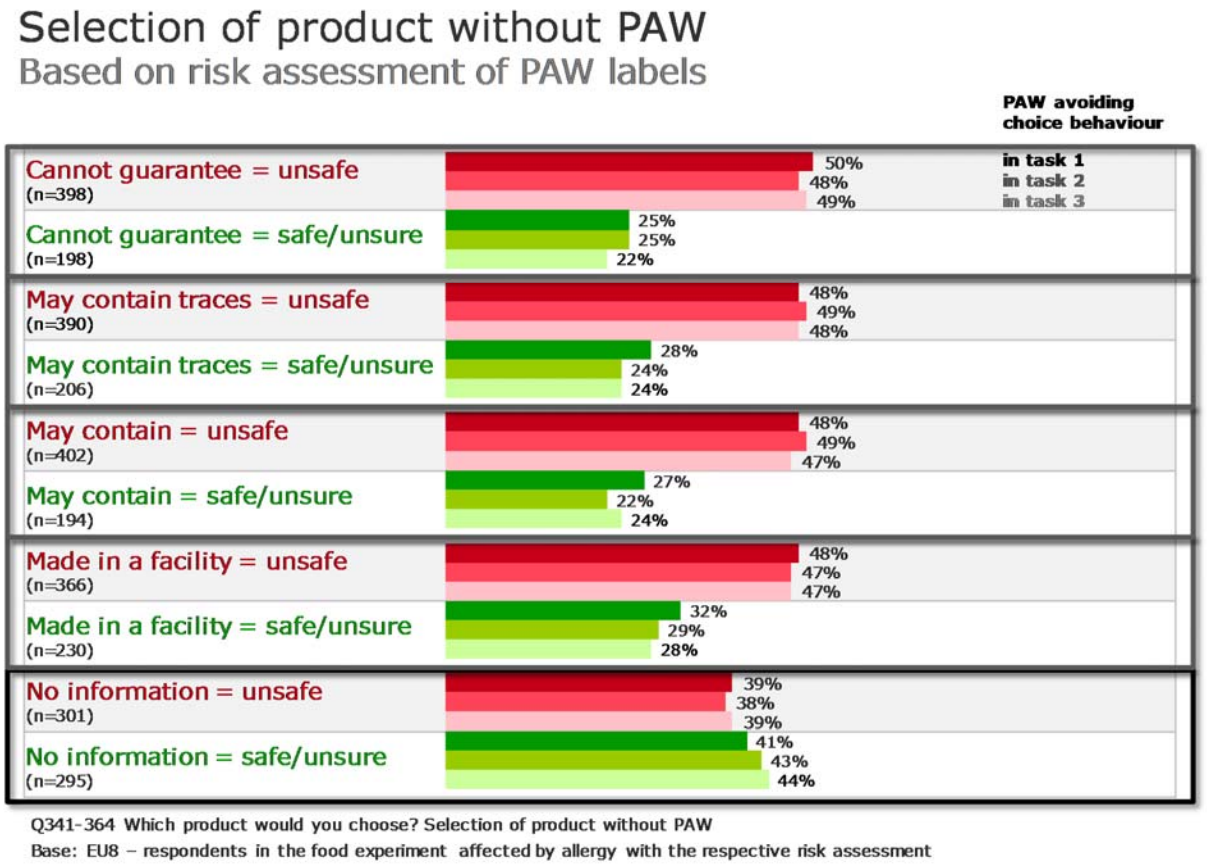
- Over 40% of affected consumers were not able to choose between a product with and without a PAW, while very few consumers admitted that they were unsure in the cognitive risk assessment.
- The cognitive ranking (with the lowest perceived risk level for 'Made in a facility') was not repeated in the observed behaviour. Products with a 'Made in a facility' warning were not chosen more often or avoided less often.
- These observations are typical when comparing the results of a joint evaluation mode (risk assessment) and a single evaluation mode (observed behaviour with treatment splits). According to behavioural theory, people tend to over-state the difference between options when viewing them simultaneously (as in a matrix question)

compared to when experiencing an option in isolation (as in treatment splits)[40]. Hence it is not surprising that the cognitive risk assessment delivered a more differentiated ranking of the PAW options than the observed behaviour.

Another question for the analysis is to consider whether or not everyone who said that they considered a PAW to be unsafe actually took choices which reflected this and avoided the products with a PAW in the experiment.

The table below shows the result of a cross-tabulation with the risk assessment as the base for the sample segmentation. Among allergy affected consumers who consider a 'Cannot guarantee' label as unsafe every other respondent also took a cautious approach and avoided this product in Task 1. This is a substantially higher PAW avoidance level compared with consumers who consider 'Cannot guarantee' as safe or who are unsure about its meaning.

Figure 55 Selection of product without PAW based on risk assessment of PAW labels



Q341-364 Which product would you choose? Selection of product without PAW
Base: EU8 – respondents in the food experiment affected by allergy with the respective risk assessment

[40] See Christopher K. Hsee and Jiao Zhang (2004): Distinction Bias: Misprediction and Mischoice Due to Joint Evaluation http://faculty.chicagobooth.edu/christopher.hsee/vita/Papers/DistinctionBias.pdf

This descriptive analysis indicates a high correlation between the risk assessment and the choice behaviour for each PAW option. Therefore these variables were included in the multivariate model although these assessments were collected after the experiments.

In summary, the descriptive analysis of the choice behaviour between different allergen and origin information scenarios reveals only small and not significant variations between the four tested treatments (the different PAW wordings).

5.3 Findings of multivariate analysis

In this section, we present the summary of results of the multivariate analysis conducted using binary logistic regression to identify the major determinants which influenced the choice of products without a PAW in the choice experiments. These apparently safe choices were defined as respondents choosing product B in Task 1, C in Task 2 and F in Task 3 (each without a PAW).

The first objective was to identify the drivers and barriers of cautious PAW avoiding choices. The second objective paid particular attention to the impact of the four PAW labels under evaluation in this study.

The presentation of results begins in Chapter 5.3.1 with the summary of results of the 'base model', i.e. not controlling for the potential effects of the treatments, but focussing on the main individual biases and barriers.

This is followed by Chapter 5.3.2 which adds the treatments to the base model to identify whether and which of the PAW options are effectively influencing the choice behaviour.

The detailed overview of statistical results is provided in the appendix, while the key results are presented in a more user-friendly chart format.

5.3.1 Main biases and barriers of PAW avoiding behaviour

The previous chapters have already discussed the potential variables included within the base model in detail. The selection was based on conceptual considerations and in-depth analysis of the bivariate associations between the variables as well as the dependent variable for the behavioural experiments.

Since the analysis of the three choice tasks is based on an identical set of variables, there is one base model for all three scenarios. The regression model for consumers affected by food allergy or intolerance is structured along the following dimensions:

- Awareness and accessing behaviour:
    - Zooming on specific food information in the experiment
- Beliefs and attitudes:
    - Allergic reaction (mild, moderate, severe)
    - Shopping goals (quality, health, brand, food information)
    - Self-control and risk-aversion
    - Risk assessment of allergen information (no information and PAW options)
- Habits:
    - Recent buying experience of muesli

    - Reading habits when shopping for muesli (allergen information, country of origin, ingredients list)
    - Pre-shopping habits (making a list, searching for deals, always buying the same foods)
    - Frequency of reading allergy information when shopping for food
- Context: Choice tasks 1/2/3
- Socio-demographics:
    - Age, gender, income, education, household composition, countries

The socio-demographic variables were selected according to their expected and/or actual impact on choosing products without a PAW in the choice experiments.

The base model is statistically significant and explains a reasonable portion of the variation in the dependent variable[41].

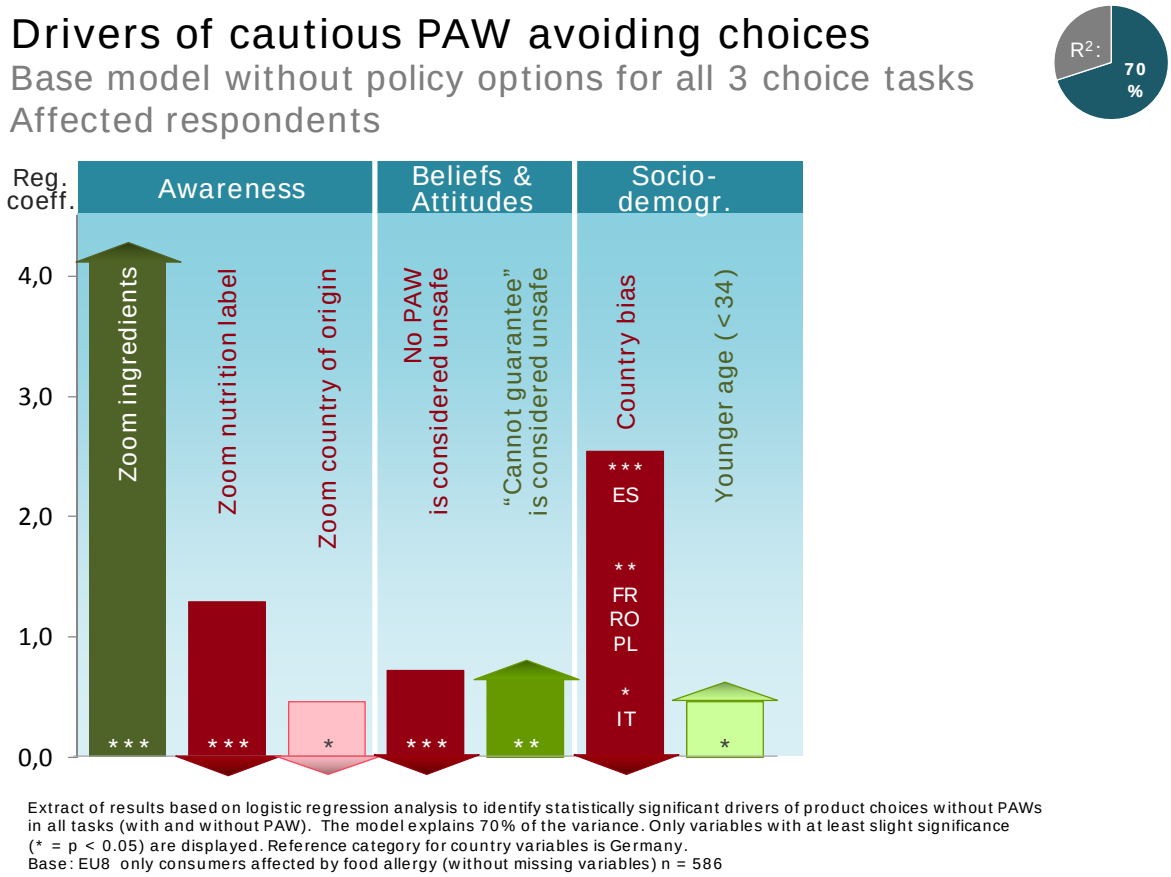
Base model for all choices in Task 1, 2 and 3

All choice tasks required a decision between a product with a PAW and one without. It was also possible to avoid any choice ("no difference to me").

The most relevant factors driving a cautious choice (i.e. selecting the product without a PAW) across all three tasks were mainly awareness variables and beliefs about risk levels associated with certain PAW terms as well as some socio-demographics.

[41] Binary logistical regression models are typically evaluated by Pseudo R^2 to assess the quality of the model by its explanatory power. This base model delivers an R^2 of 70% defined according to Nagelkerke.

Figure 56 Drivers of PAW avoiding choices without treatments



Extract of results based on logistic regression analysis to identify statistically significant drivers of product choices without PAWs in all tasks (with and without PAW). The model explains 70% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed. Reference category for country variables is Germany.
Base: EU8 only consumers affected by food allergy (without missing variables) n = 586

Awareness

By far the strongest influence on choosing products without a PAW was accessing the relevant food information that displayed the PAW. Zooming on the ingredients list of both products with and without the warning was a precondition for identifying the difference. If someone did not pay attention to this area, then a cautious choice was less likely.

Zooming on the irrelevant nutrition label clearly distracted consumers from accessing the more relevant area (ingredients and allergen information). The strength of this barrier on making cautious choices might have been influenced to some extent by the previous experiments on trans fats, where the nutrition facts were relevant for identifying differences in food information. However, it is not an unrealistic scenario that shoppers get confused looking for different food information on different types of product. The structured format of the nutrition label seemed to attract far more attention than the ingredients list in both food experiments.

The country of origin of the ingredients differed within and across the choice tasks. Consumers who zoomed on this label were also less likely to make a cautious choice and instead showed a preference for local ingredients. The attention given to the origin information was actually only significant in the first choice task, where a local product with a PAW was offered with the alternative of an imported product without a PAW. This result verifies the general assumption

for products like muesli that local ingredients are trusted more (even if they display a PAW) than imported ingredients.

Beliefs and attitudes

Among all beliefs and attitude variables, the only relevant factors that influenced a cautious choice of allergy affected consumers was the individual risk assessment of:

- The lack of any advisory allergen information, i.e. if no information was considered unsafe, then the product with a PAW was selected or it was stated that there was no difference between these products.
- 'Cannot guarantee', i.e. if this wording was considered unsafe, then the product without a PAW was preferred.

The risk assessments of all other PAW alternatives had no statistically significant effect.

Habits and Context

None of the tested habitual or contextual variables had any statistically relevant impact on the choices made by allergen affected consumers. The relevance observed in the descriptive analysis was neutralised in particular by the variables of the risk assessment.

Socio-demographics

Choosing to avoid the product with a PAW was also strongly influenced by cultural norms and to a lesser extent by age.

- Younger consumers were more likely to make cautious choices in comparison with middle-aged consumers.
- Consumers from Mediterranean countries as well as Eastern European countries were less likely to consider the PAW in their product choice. The base for measuring the country bias is Germany, which displayed an average choice behaviour across all tasks. Thus, the countries with a higher likelihood of choosing the products without a PAW were Finland and UK albeit not significantly higher than Germany.

5.3.2 Effectiveness of tested PAW options

To answer the final key question in this research on the most influential PAW alternative the tested treatments were added to the base model:

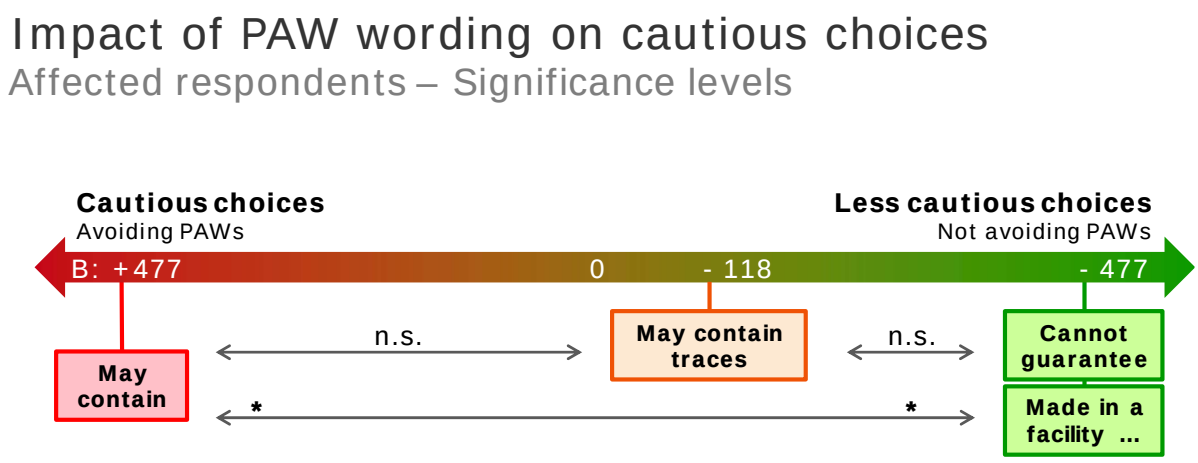
- Split 1: May contain nuts
- Split 2: May contain traces of nuts
- Split 3: Cannot guarantee nut free
- Split 4: Made in a facility that also processes nuts

Since none of the treatment versions were suitable for a control group and none stood out clearly enough in the descriptive analysis, the final model was selected after testing all possible options:

- When using split 1 'May contain' as a control group, then 'Cannot guarantee' and 'Made in a facility' becomes slightly significant in driving less cautious choices.
- When using split 2 'May contain traces' as a control group, then no other PAW version displays any significant impact.
- When using split 3 'Cannot guarantee' or 4 'Made in a facility' as a control group, then 'May contain' becomes slightly significant in driving more cautious choices.

As a result of running the regression model with these rotating control groups, the following ranking of the PAW options can be established based on their impact on the selection of products without a PAW in the choice experiments.

Figure 57 Impact of PAW wording on cautious choices

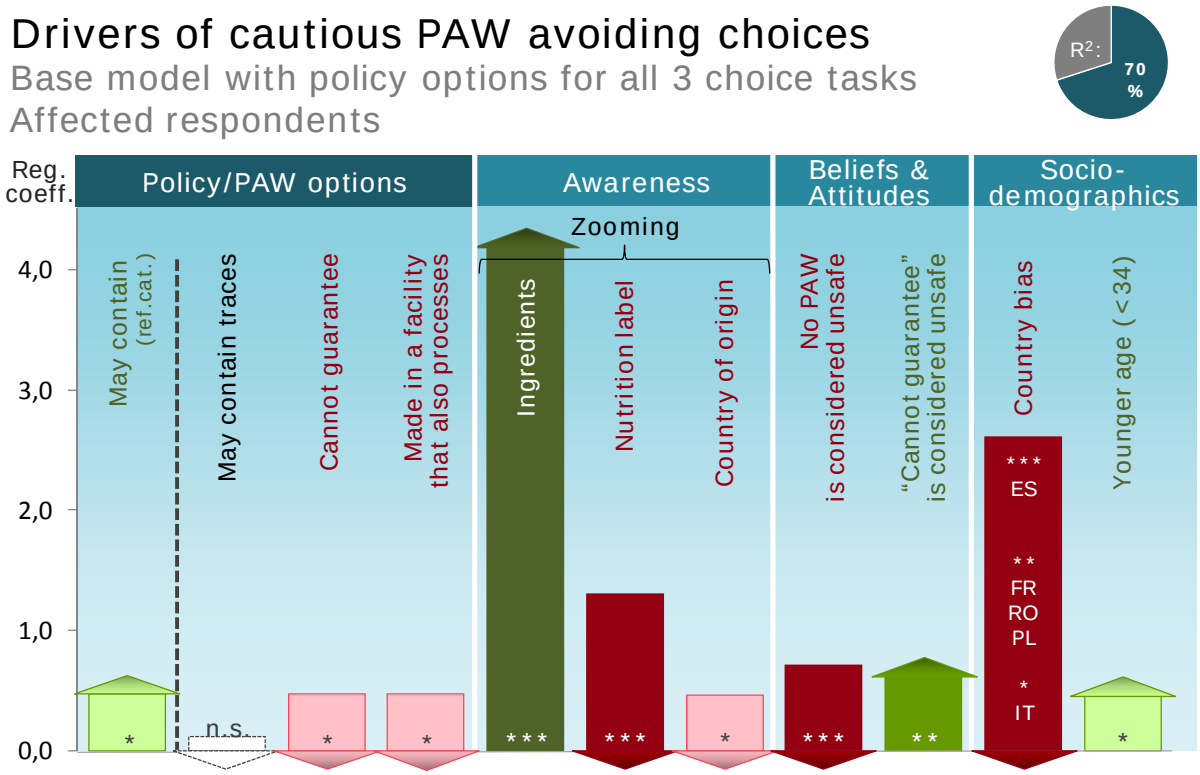


Extract of results based on logistic regression analysis with policy options to identify statistically significant drivers of cautious product choices in all three tasks. Base: EU8 – all respondents with food experiments that are affected by food allergy/intolerance (n = 596)

Split 1 with the wording 'May contain' seems to be the most suitable as a control group as all of the other PAW options have the tendency to create less cautious choices.

The following table presents the same structure of variables as used in the base model described earlier but with the treatments added. The explanatory power of the enhanced model does not increase, which indicates that the overall impact of the PAW wording is fairly low compared to the other variables.

Figure 58 Drivers of PAW avoiding choices with PAW options



Extract of results based on logistic regression analysis to identify statistically significant drivers of product choices without PAWs in all tasks (with and without PAW). The model explains 70% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed. Reference category for policy options is split 1 (may contain) and for country variables it is Germany.
Base: EU8 only consumers affected by food allergy (without missing variables) n = 586

The inclusion of the PAW options in the base model does not change the impact of any of the previously described factors. Looking at the ingredient information with the PAW and individual perceptions of the risk level of a PAW remained the key drivers of a cautious choice.

PAW options

The term 'May contain' is the only PAW wording which had any notable impact on people making more cautious choices. All other wordings either made people less likely to choose products without a PAW ('Cannot guarantee' and 'Made in a facility…) or had negligible influence on behaviour ('May contain traces of').

When comparing the choice behaviour with the cognitive risk assessment, then three out of the four PAW options displayed the same risk ranking:

- 'May contain' is the only wording that contributed to more cautious choices and also had the highest cognitive risk level.
- 'May contain traces' had a medium ranking in both evaluation formats without any significant differentiation compared with the other options.

- 'Made in a facility that also processes' contributed significantly less to cautious choices in comparison to 'May contain' and also had the lowest cognitive risk level.

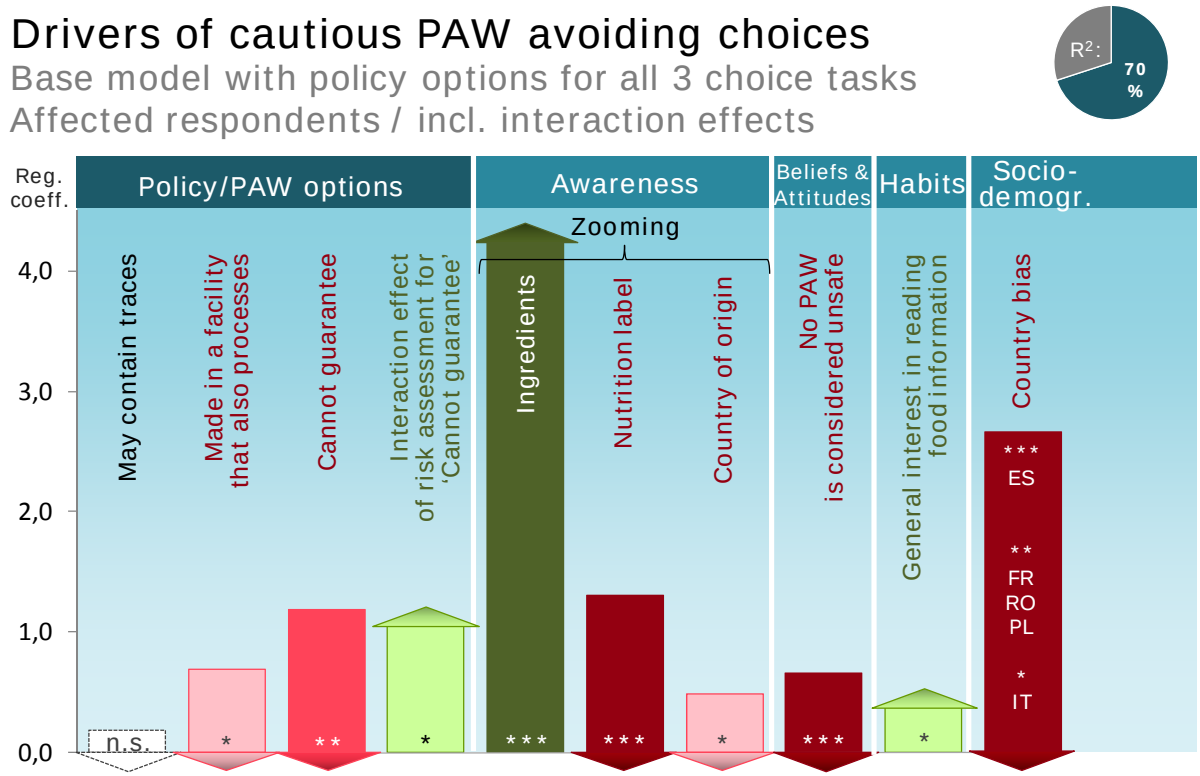
There was one evaluation that stood out in this comparison: 'Cannot guarantee' received the highest cognitive risk score (together with 'May contain') in the post experimental evaluation, where it was framed in a matrix question together with alternative allergen information. Hence, one would have expected to see this PAW wording having a similar impact on choice behaviour as 'May contain' whereas in fact it had a statistically relevant impact on driving less cautious choices.

This surprising result is also confirmed by the fact that conversely 'Cannot guarantee' was the only PAW where a low risk assessment increased the likelihood of cautious choices.

In order to find an explanation for this paradoxical evaluation, the previous model was enhanced with the interaction effects between the cognitive risk assessment and the treatment splits for each of the PAW options.

This analysis reveals that there was indeed a slightly significant interaction for the label 'Cannot guarantee' (see table below).

Figure 59 Drivers of PAW avoiding choices with PAW options and interaction effects



Extract of results based on logistic regression analysis to identify statistically significant drivers of product choices without PAWs in all tasks (with and without PAW). The model explains 70% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Reference category for policy options is split 1 (may contain) and for country variables it is Germany.
Base: EU8 only consumers affected by food allergy (without missing variables) n = 586

For the interpretation of this result it is important to remember that the participants conducted the cognitive risk assessment after the experiment. It is apparent that unlike the other treatments, the priming with the treatment 'Cannot guarantee' had a significant and strong influence on

a) Reducing the likelihood of cautious choices in a single evaluation scenario and at the same time

b) Increasing the cognitive risk level associated with the label in a joint evaluation mode with other labels.

This divergent impact is more understandable if one visualises the different framings of a PAW that has a negative wording as compared to a positive wording:

- 'Cannot guarantee' vs. 'no information' are both negative / similar and therefore lead to less cautious choices as compared to 'May contain' vs. 'no information'.
- If 'Cannot guarantee' is evaluated simultaneously with four positive wordings, then the reference framing was extended into the opposite direction (linguistically), which lead to the more risky evaluation.

The key factors which increase cautious (PAW avoiding) choices for allergy affected consumers included:

- Zooming on relevant ingredients label including a PAW and ignoring other food information,
- PAWs with the wording 'May contain',
- General interest in reading food information when shopping.

The elements which reduced the likelihood of making cautious choices were:

- Considering the lack of a PAW as unsafe with regards to any allergic reaction,
- PAWs with the wording 'Cannot guarantee' or 'Made in a facility that also processes',
- Preference for local ingredients, but only when considering a local product with a PAW and a foreign product without a PAW.
- Cultural biases – in particular allergy affected consumers in Spain, France, Romania, Poland and Italy were less likely to make PAW avoiding choices. They were less likely to access the ingredients list and also assigned lower risk levels to the PAWs in the cognitive assessment.

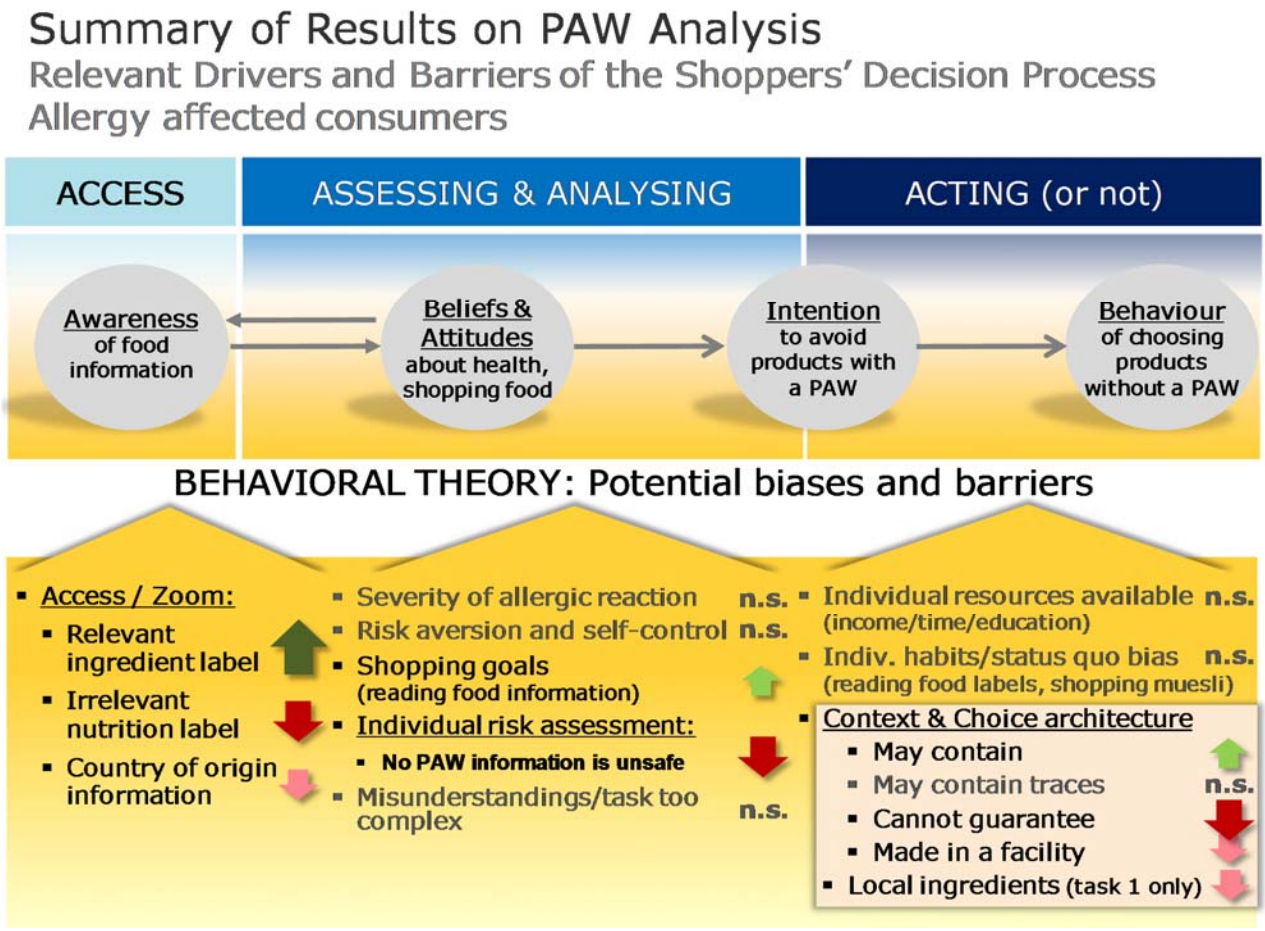
5.4 Conclusions regarding PAWs

Do consumers take a cautious approach? What are the main individual biases and elements restricting consumer choice?

Around 40% of allergy affected consumers made a cautious choice in each of the three choice tasks. To summarise the findings and conclusions of the experiment, the graph below can serve again as a conceptual guideline. It represents a simplified and idealised illustration of a comprehensive decision process. It covers the typical stages of a shoppers' decision process from accessing and assessing relevant food information to taking the final decision.

The identified individual elements as well as the tested PAW options are marked with symbols to indicate their direction and effectiveness of impact.

Figure 60 Summary of results on PAW analysis



1 **Cautious consumer choice (i.e. avoiding products with a PAW) is largely driven by a high issue salience (accessing relevant allergen information) as well as by the belief that a product without any PAW is a safer choice.**

Within the restricted scope of variables that it was possible to test in this multi-topic online survey, the following key findings were identified as significant biases and elements explaining why consumers make a cautious choice:

- The key driver of a cautious choice was **zooming on the ingredients list with or without a PAW**.
- **Zooming on the nutrition label** was a key barrier as it distracted attention from the PAW label. As in the other food experiment the nutrition label was accessed much more frequently than the ingredients list despite the task of shopping for someone who is allergic to a specific ingredient.
- **Zooming on the country of origin** presented a barrier only when the choice was between a local product with a PAW and an imported product without a PAW. In this

context consumers with a strong preference for local products were less likely to make a cautious choice.

- Consumers who believed that **no information given about nuts** on a product **was also unsafe** were less likely to avoid choosing products with a PAW.
- Finally, a **cultural/country bias** was observed. Consumers in Mediterranean and Eastern European countries were less likely to restrict their choices because of a PAW.

What level of risk is associated by consumers with different types of PAW wordings as well as with the absence of a PAW?

To identify the individual risk levels that consumers assigned to various versions of allergen information a cognitive risk assessment exercise was conducted after the experiments. The consumer understanding was collected by a matrix question presenting all statements simultaneously with a randomised order and a 5-point verbal scale, which was transferred into a mean risk score for the analysis.

The lack of any advisory allergen information was considered as less risky than most PAW options by the average affected consumer.

Only the wording 'Made in a facility' was rated at a similar lower risk level as if no information is given.

Around two thirds of the allergy affected consumers considered any of the presented PAWs as definitely or probably unsafe. The risk level was substantially higher for this affected segment compared to consumers without personal experience of food allergies or intolerances.

All PAW options were rated clearly as less risky than the label 'contains nuts' and also as more risky than 'no information'. The mean risk scores measured in this cognitive and joint evaluation mode by affected consumers were[42]:

a)	Contains nuts	4.0 ** (highest risk level)
b)	May contain nuts	3.8 (not significant to c, d)
c)	Cannot guarantee nut free	3.8 (not significant to b, d)
d)	May contain traces of nuts	3.7 (not significant to b, c)
e)	Made in a facility that also processes nuts	3.6 * (not significant to f)
f)	No information given about nuts	3.5 ** (lowest risk level)

[42] Based on the following scale: 5 = definitely unsafe, 4 = probably unsafe, 3 = not sure, 2 = probably safe, 1 = definitely safe

It should be noted, that the slightly higher risk level of 'Cannot guarantee' was also driven by the previous treatment in the experiments.

What is the impact of the tested PAW labels on making cautious choices?

To identify the most effective PAW in driving cautious choices (avoiding the product labelled with a PAW), the analysis looked at the impact of each tested wording across all choice tasks.

Overall, the impact of the PAW wording was only small.

Only '*May contain*' was effective in facilitating more cautious choices among allergy affected consumers.

'*Cannot guarantee*' was more effective at driving less cautious choices.

As indicated before, the ranking of the PAW options based on the cognitive risk assessment only partly matched the ranking based on the impact of these options in the observed behaviour[43]:

Based on model with(out) interaction effects:	Without	With
a) May contain nuts	+.477 *	(control group)
b) May contain traces of nuts	- .118 n. s.	- .187 n. s.
c) Made in a facility that also processes nuts	- .477 *	- .692 *
d) Cannot guarantee nut free	- .477 *	-1.190 **

The key difference was the divergent positioning of the label 'Cannot guarantee', which contributed to less cautious choices in the experiment with isolated treatments, but was rated high risk in the cognitive assessment in a simultaneous evaluation framing.

When controlling for this interaction effect of the 'Cannot guarantee' treatment, then its negative impact on cautious choices increases significantly. Hence, this label represents the PAW option that is most efficient in driving less cautious choices, while the label 'May contain' is most efficient in driving more cautious choices.

[43] Based on Beta values of the binary regression analysis which indicate the direction (+/-) and the strength of the influencing variable on the goal variable (cautious choice)

How can the choices be made easier for allergy affected consumers?

Making allergen information clearer in terms of the risk level the product represents will help to avoid misunderstandings by consumers.

The main policy goal is to identify whether allergy affected consumers have restricted choice due to misunderstanding the risk represented by PAWs. Dealing with this issue requires an understanding of the process of individual risk assessment and the level of trust in food information which the study shows can vary depending on the framing that is presented to consumers.

Cautious choices are more likely to be made by consumers who consider a product without a PAW as safer compared to a product with a PAW. This is a significant contributor to a restricted product choice.

If there was more clarity that there was no real difference in risk between a product with or without a PAW, then fewer consumers would restrict their choices. Alternatively, if there were common rules when to apply a PAW, in terms of the risk they represent together with a standardised wording and format to be used by all manufacturers then this also may help consumers make better informed choices.

6 EXPERIMENTAL 'LAB' FINDINGS ON ALCOHOL CONSUMPTION

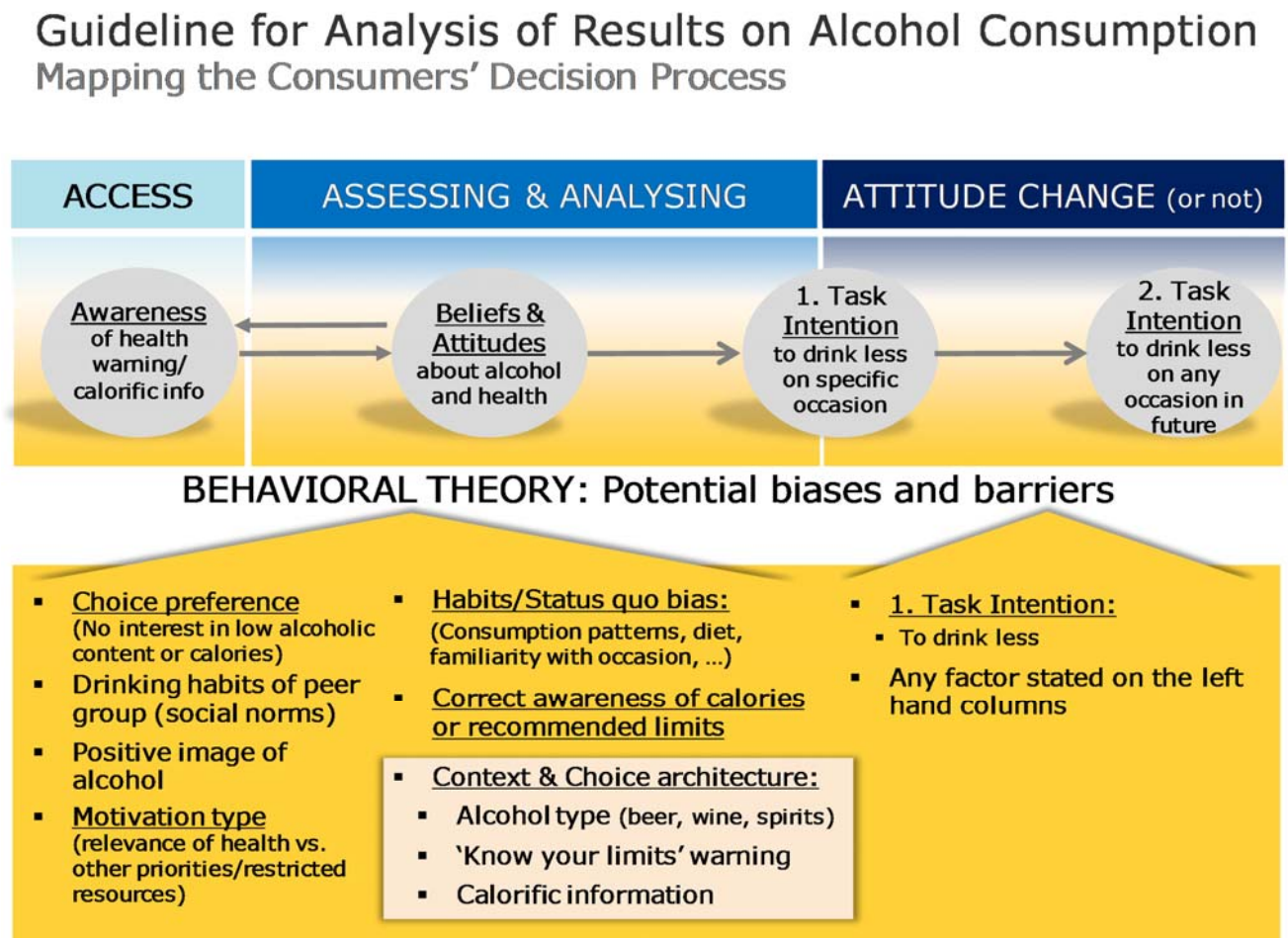
This section explains the key findings from the experiment on alcohol consumption to meet the following research objectives:

a) What are the main individual biases and external barriers that prevent consumers´ attitude drinking less?

b) What are the most effective treatments – i.e. the most appropriate information or health warning – to drive a positive attitude change?

To contextualise the findings of the research and to structure the analysis towards the ultimate objective of understanding the drivers and barriers of an attitude change process, we put forward a map of a simplified decision process (as explained in Chapter 4).

Figure 61 Guideline for analysis of results on alcohol consumption



Unlike the previous food shopping experiments the focus of this research concentrated on stated intentions (to drink less) rather than implemented behaviour[44]. As explained in chapter 3.5, a behavioural experiment that allowed observing actual drinking behaviour was not possible within an online survey. Moreover, there was no zooming functionality implemented to simulate the conscious awareness required for assessing new information. The insights from the food experiments about the relevance of reading new information are likely to be applicable also to the decision process of the alcohol consumption.

The main focus in this policy area was to understand the key drivers that influence the intention to drink less, which required that the participants were exposed to specific information (treatments).

The analysis presented here starts with a description of survey findings of the observed intention change in the choice tasks with suggestions for variables to be included in the statistical base model. The bivariate examination of potentially influencing variables is more or less structured along the graphical overview. This is supplemented by a descriptive overview of observed change of drinking intentions for the tested treatments.

Chapter 6.2 combines the discussed variables within a multivariate analysis to answer the key questions about what are the statistically significant barriers and motivators for the intention to drink less on a specific occasion as well as at any occasion in future.

6.1 Observed choice behaviour

The first choice task required the decision whether one would drink less, the same or more alcohol at the specified occasion (at a friends´ party) in comparison to the volume that they said they would normally drink before the treatment (with information on calories or limits).

The second choice task requested a decision with the same answer options[45] but now geared towards any typical drinking occasion in the future.

[44] According to the more detailed stages of change model by DiClemente and Prochaska (1998) the analysis above covers only the first two stages of pre-contemplation (i.e. not yet considering change) and contemplation (considering change but not taking action). This excludes the stages of preparation (concrete planning to change) and action (making changes in one's behaviour).

[45] The answer options are: 1: I would drink less 2: I would drink about the same 3: I would drink more and 8: Don't know. There were two differences between the tasks. In choice 1 the answer option 2 was supplemented by the concrete volume stated before the treatment as a reminder. This was not required in Task 2. The option "Don't know" was not shown from the beginning in Task 1 (only if the respondent tried to skip the decision). This explains the lower DK rate in Task 1.

Table 62 Observed choice behaviour in alcohol tasks 1 and 2

Alcohol split: EU8 – Total Base unweighted	**Choice Task 1** specific occasion 4 040	**Choice Task 2** any occasion in future 4 040
Less	**17.4%**	**17.4%**
Same	79.9%	76.3%
More	2.6%	2.9%
Don't know	0.1%	3.4%
Total	100%	100%

Both decision scenarios received the same share of participants with the intention to drink less (17.4%). This observation suggests that those who answered with "less" in Task 1 are identical with those who said "less" in Task 2. This assumption is true for two thirds of the participants as can be seen in the table below.

Table 63 Intention to drink less on specific occasion vs. any occasion in future

Alcohol split: Task 1 vs. Task 2 EU8 – Total Base unweighted		**Task 1:** intention to drink less on specific occasion				
		EU8 – Total 4 040	**Less** 700	**Same** 3231	**More** 106	**DK** 3
Task 2: intention to drink less at any occasion in future	**Less**	**17.4%**	**65.1%**	**7.5%**	**3.8%**	**33.8%**
	Same	76.3%	30.7%	87.4%	43.7%	32.4%
	More	2.9%	1.1%	1.9%	44.1%	-
	Don't know	3.4%	3.1%	3.2%	8.4%	33.9%
Total		100%	100%	100%	100%	100%

Apparently the intention to drink less – based on the new information in the treatments – in the specific scenario of Task 1 is already a good predictor of the general intention to drink less in future. However, around a third of consumers who would drink less at the party would not commit to drinking less at any occasion in future. Likewise, 65% of consumers who would drink less in future did not indicate the same intention for the specified occasion.

Both tasks were intended to measure attitude change in two different contexts or framings, which obviously was understood by the participants. Therefore, it makes sense to look at the potential drivers for each choice scenario in parallel.

Another differentiation of the choice scenario was applied by using three categories of alcoholic drinks. The participants in the alcohol split were divided into three groups and presented an experiment either with beer, wine or spirits (whiskey or vodka). The alcohol type was randomly assigned among the respondents who drank this category within the last 12 months.

There is a slightly higher variance in the answer behaviour in Task 1 as compared with Task 2. Participants in the wine experiment seemed to be more likely to commit to drink less in both scenarios, while those in the spirits experiment were somewhat less likely to reduce their drinking volume on that specific occasion.

Table 64 Observed choice behaviour in Task 1 vs. alcohol category

Alcohol split: Choice Task 1 Base unweighted	**EU8 – Total alcohol split** 4 040	**Beer** 1351	**Wine** 1342	**Spirits** 1347
Less	**17.4%**	**16.3%**	**20.2%**	**15.6%**
Same	79.9%	81.3%	78.6%	79.9%
More	2.6%	2.3%	1.1%	4.4%
Don't know	0.1%	0.1%	0.1%	0.1%
Total	100%	100%	100%	100%

Table 65 Observed choice behaviour in Task 2 vs. alcohol category

Alcohol split: Choice Task 2 Base unweighted	**EU8 – Total alcohol split** 4 040	**Beer** 1351	**Wine** 1342	**Spirits** 1347
Less	**17.4%**	**16.4%**	**19.6%**	**16.2%**
Same	76.3%	78.3%	74.9%	75.8%
More	2.9%	2.4%	1.8%	4.4%
Don't know	3.4%	2.9%	3.7%	3.5%
Total	100%	100%	100%	100%

The rationale for this answer behaviour may become clearer through the analysis in the following chapters.

6.1.1 Potential beliefs and attitude drivers

Individual beliefs and attitudes about alcohol, choice preferences, the relevance of health goals, as well as the drinking habits of the relevant peer group can all be assumed to be potential drivers of alcohol consumption. Data on these issues were collected both before and after the experiments.

The analysis in the table below indicates a strong relevance of social norms or peer group behaviour for the intention to drink less. Consumers who strongly disagreed with the statement that "alcohol is commonly drunk among the people they spend most of their time with" were far more likely to drink less on the specific occasion or in general in future. This refers to the hypothesis that most alcohol consumers are social drinkers, who orientate themselves towards their personal network (peer group, e.g. friends, family, colleagues).

At the other end of the scale, consumers who spend their time with people who commonly drink alcohol were far less likely to declare that they would reduce their drinking behaviour.

Figure 66 Intention to drink less vs. image and peer group behaviour

Base: EU8 – respondents in the alcohol experiment with the respective attitude in Q72

A similar correlation with a lower significance can be observed between the intention to drink less and the overall image of alcohol. Again, respondents who saw more disadvantages for society (and thereby had a more negative image) were more likely to say they would drink less alcohol.

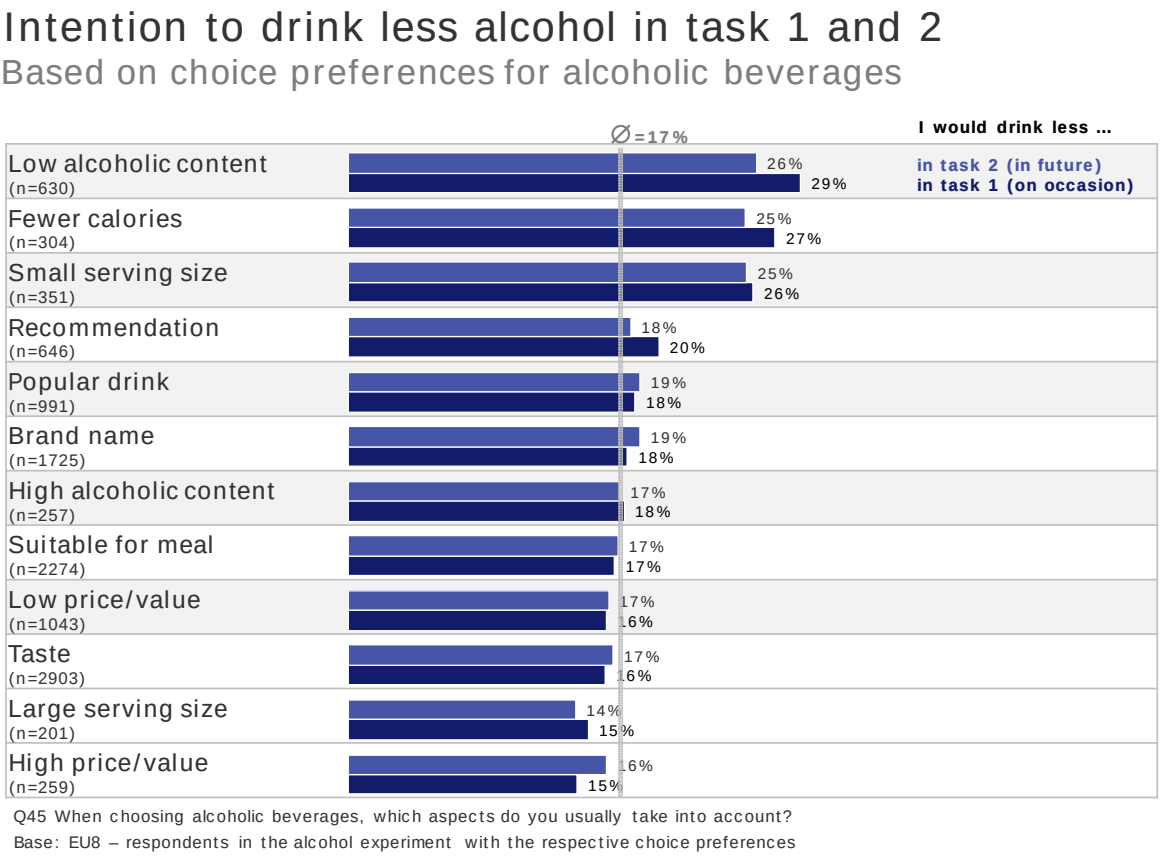
Hence, both variables (peer group behaviour and alcohol image) will be included in the final analytical model.

Another interesting set of variables are the different choice preferences when choosing an alcoholic beverage. Whether the focus is on price, taste, alcoholic content or serving size, etc. these individual preferences may also represent a barrier or a motivation to reduce alcohol consumption.

The descriptive analysis in the table below demonstrates that there are three potential motivators that are more likely to foster a healthy attitude change:

- Low alcoholic content
- Fewer calories
- Small serving size

Figure 67 Intention to drink less vs. choice preferences



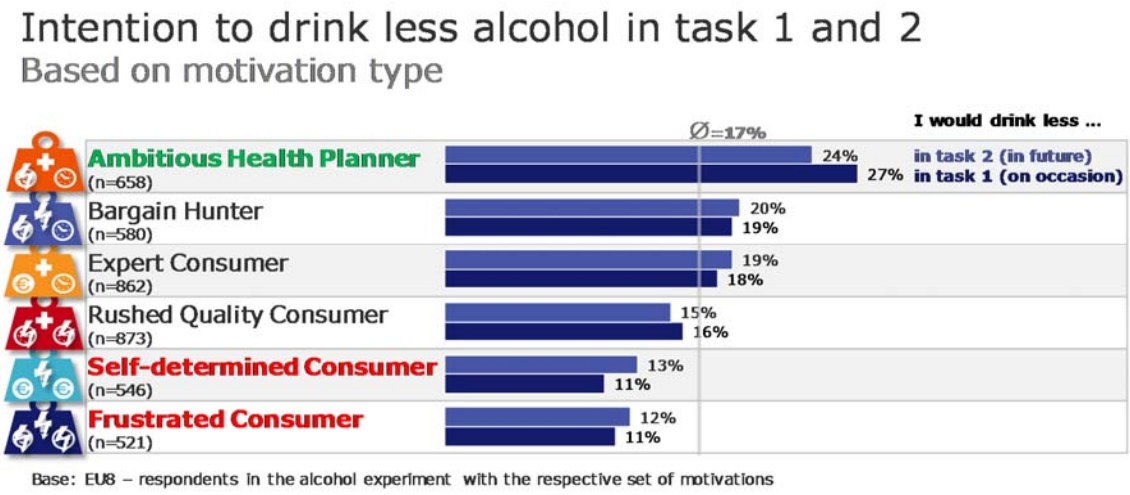
The final model will include these three variables as well as their complementary attributes (high alcoholic content, large serving size) since they can logically be expected to also have an influencing role in the experiment. All other preferences were skipped after confirming their lack of relevance in the multivariate model.

Another motivator for drinking less alcohol can be the general relevance of health (vs. other priorities). Indeed, shoppers who agreed that they always try to choose the healthier

alternative when selecting a product were more likely to reduce their drinking volume (19%) than those who disagreed (11/12%).

Although this variable originally related to goals when shopping for food it seems to also influence attitude change about alcohol consumption. Hence, we also looked into the motivation types and realised that these motivational mind-sets also help to explain attitude change in this experiment. Three of the six types stand out in the table below.

Figure 68 Intention to drink less vs. motivation type



The **Ambitious Health Planner** displayed the highest share of reduced alcohol consumption in both decision scenarios. When looking at the typical drinking patterns of this segment, this is easily explained as their peers do not commonly drink either, their drinking volume is the lowest of all types as well as their experience with consuming too much alcohol. This type selects drinks most often by low alcoholic content, small serving size and fewer calories. On the other hand the Health Planner has the lowest self-control across all types, which may indicate that the goal to drink less in the future might be inflated by an overconfidence bias.

At the other end of the ranking the **Frustrated** and the **Self-Determined Consumer** were the types with the lowest positive attitude change. Drinking alcohol was most common among their social network for both types and also the experience of having had too much alcohol was most often stated amongst these two segments.

The Frustrated Shopper has neither enough money, nor time for shopping nor interest in health issues. This is the youngest consumer segment with an above average alcohol consumption, low risk aversion and average self-control who only watch out for a low price when selecting a drink.

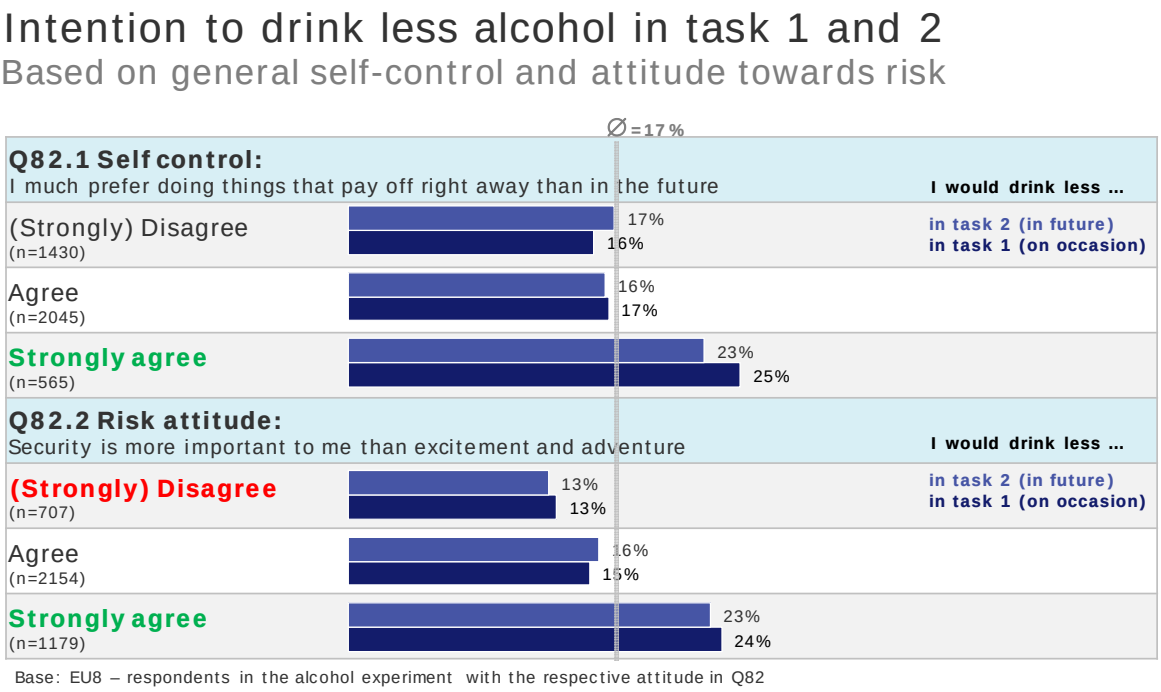
The Self-Determined Shopper has enough monetary resources and lacks interest in health issues. He (there are less women in this group) displayed the highest average drinking volumes across all types, is most risk-taking with the highest self-control. His main selection criterion for alcohol is taste.

As already indicated in the profile of the segments above, there are two further attitude dimensions, which may also directly influence the willingness to drink less alcohol: self-control and risk attitude.

The answer pattern observed between self-control and the intention to drink less indicates that respondents with a very low self-control were more likely to intend to drink less. However it is likely to assume that these positive intentions are less likely to be implemented compared with respondents with higher self-control. In other words: two thirds of consumers who intend to drink less were also characterised by a low self-control.

Consumers who value security more than excitement and adventure were more aware of the disadvantages of drinking alcohol. Therefore, makes sense that security orientation was also an influence on the intention to reduce unhealthy alcohol consumption as indicated in the table below.

Figure 69 Intention to drink less vs. self-control and risk attitude



In summary the following attitudinal variables were identified for the final analytical model:

- Alcohol image and drinking habit of peer group (social norms)
    - (Dis-)Agreement with the statement "Drinking alcohol is common among the people I spend most of my time with"
    - (Dis-)Agreement with the statement "Overall, alcohol consumption has more advantages than disadvantages for our society"
- Choice preferences when choosing alcoholic beverages (only relevant criteria)
    - Low and high alcoholic content
    - Small and large serving size

    - Fewer calories
- Motivation types
    - health goals and also money and time resources
- Interest in reading food information
    - (Dis-)Agreement with the statement "I read labels and pay close attention to product information"
- Risk aversion and self-control
    - (Dis-)Agreement with the statement "I much prefer doing things that pay off right away than in the future"
    - (Dis-)Agreement with the statement "Security is more important to me than excitement and adventure"

6.1.2 Potential habitual drivers

Questions in the pre-experimental survey asked about individual habits when drinking specific types of alcohol. An initial descriptive analysis indicates that the following habitual barriers seem to correlate with the intention of drinking less in both tasks:

- High frequency of drinking, i.e. more than once a week (13.6%/15.5%)
- High drinking volume on the most recent occasion, i.e. 7 or more glasses (9.5%/11.6%)
- High drinking volume in experiment situation before treatment, i.e. 7 or more glasses (9.2%/12.4%)
- Having drunk a wide variety of alcoholic drinks within the past 12 months, i.e. 4 or 5 categories (14.9%/14.6%)

On the other hand, a positive attitude change was more often observed amongst consumers

- Who follow a weight loss programme (23.8%/24.2%)
- Without any experience of consuming too much alcohol (21.7%/20.5%)

All these variables above form part of the analytical model.

In addition the analysis also includes familiarity with the experimental situation of 'a party at a friend's home' for drinking alcohol. Only around half of participants were familiar with drinking the specific alcohol category at such an occasion. Although the bivariate analysis did not indicate any correlation with the intention to drink less, it is a logical control variable.

6.1.3 Socio-demographic variables

The same set of socio-demographic variables used in the previous experiments has also been included in this analysis.

The only difference is the change of the reference country. Spain represented the European average in both choice tasks.

6.1.4 Treatments

Since the attitude change towards drinking less alcohol had to be measured directly by stated preference the effectiveness of treatments could only be compared directly. The table below shows a slightly higher commitment to drink less after the treatment "Know your limits" compared with the treatment with calorific information. This deviation between both treatments is only slightly significant in Task 1.

Table 70 Choice behaviour in Task 1 vs. treatments

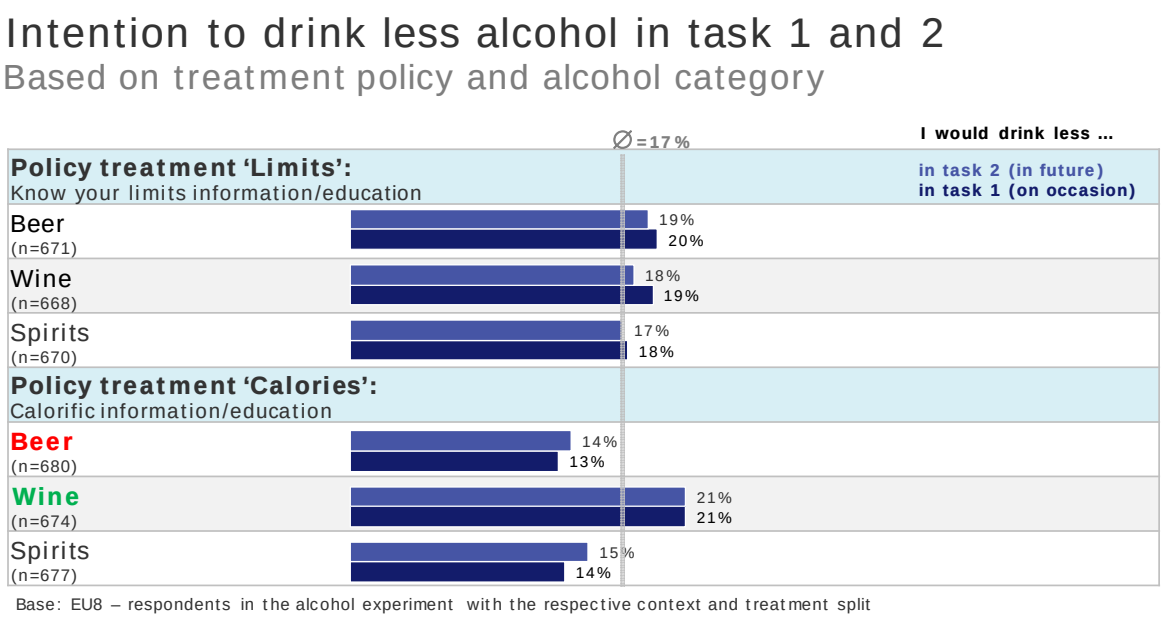
Alcohol split: Choice Task 1 Base unweighted	EU8 – Total alcohol split 4 040	Calories treatment 2031	Limits treatment 2009
Less	**17.4%**	**16.0%**	**18.8%**
Same	79.9%	82.0%	77.8%
More	2.6%	1.9%	3.4%
Don't know	0.1%	0.1%	-
Total	100%	100%	100%

Table 71 Choice behaviour in Task 2 vs. treatments

Alcohol split: Choice Task 2 Base unweighted	EU8 – Total alcohol split 4 040	Calories treatment 2031	Limits treatment 2009
Less	**17.4%**	**16.8%**	**18.1%**
Same	76.3%	77.2%	75.5%
More	2.9%	2.6%	3.2%
Don't know	3.4%	3.4%	3.3%
Total	100%	100%	100%

The next step was to look at the more detailed treatment splits, i.e. whether the limits or calorific treatment achieved different levels of attitude change in different alcohol categories. The table below presents only very slight deviations for the calorific treatments. Participants in the experiments with a treatment about calories for wine responded more often with a positive attitude change compared with participants in experiments for beer and spirits.

Figure 72 Intention to drink less vs. alcohol category and treatments



Base: EU8 – respondents in the alcohol experiment with the respective context and treatment split

There are three hypotheses that could potentially bias and explain why the calories treatment on wine had a higher impact:

A. Framing effects of the education treatment

B. Information was more surprising for wine drinkers

C. Wine drinkers are more susceptible to calories treatment

Hypothesis A: Framing effects of the education treatment

While the education (knowledge test) on 'limits' was identical with the middle option being the correct answer across all types of drinks, the education on 'calories' varied as follows:

- Calories for beer were presented with a higher reference level, i.e. pizza had more.
- Calories for wine were presented with a lower reference level, i.e. chocolate had less.
- Calories for whiskey and vodka were presented with an equal reference level, i.e. nuts had about the same.

Hence, the calorific education of wine had a more negative framing "Wine has more calories than chocolate" than the other drinks. Negativity is a very common and strong bias observed in many behavioural experiments. According to behavioural theory, people tend to weigh negative information more heavily than positive information[46]. Such a negativity bias could be one rationale for this observation.

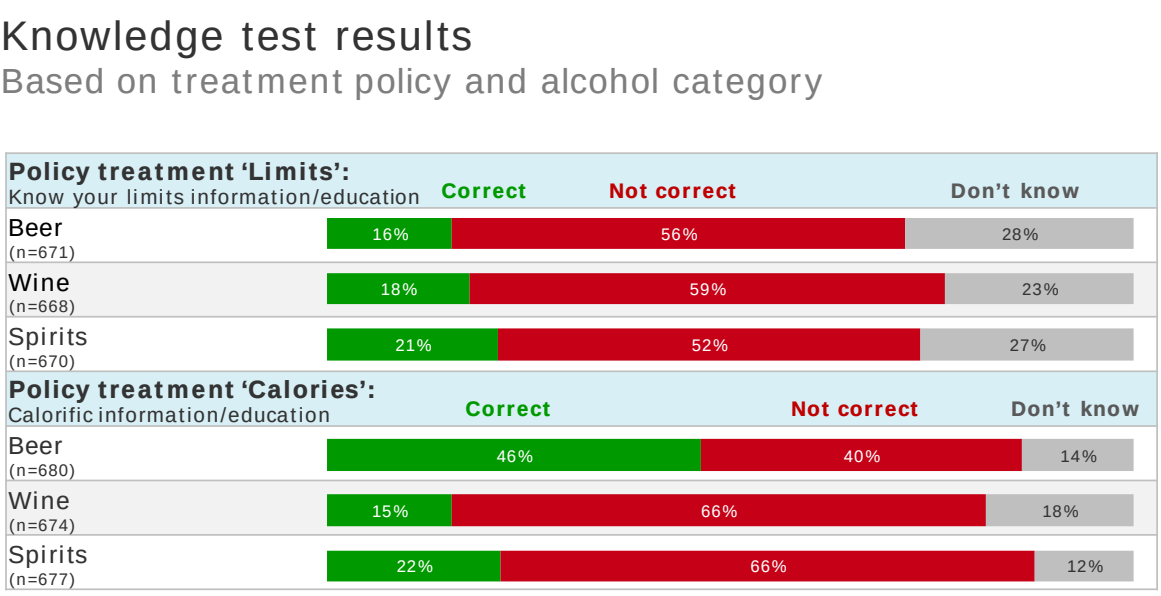
Hypothesis B: Information was more surprising for wine drinkers

[46] David E. Kanouse: Explaining negativity biases in evaluation an choice behaviour: theory and research, in Advances in Consumer Research Volume 11, 1984

Another potential explanation could be the effect of the information being unexpected, which tends to make an education treatment more effective[47]. Participants who were told that their initial choice was wrong might have paid more attention to the treatment information, which was a required condition (although not sufficient on its own) for having any impact at all on attitude change.

The analysis of the feedback results of the knowledge test in the table below shows a generally higher DK rate for the 'limits' treatment than for the 'calories' treatment. Obviously the respondents found it more difficult to answer the test on 'know your limits', which on average had significantly fewer correct answers (18%) than the calories test (28%).

Figure 73 Knowledge test results vs. alcohol category and treatments



Base: EU8 – respondents in the alcohol experiment with the respective context and treatment split

However, the only significant differentiation in terms of a more or less surprising feedback can be observed with the calories treatment split for beer. Almost half chose the correct answer "beer has fewer calories than pizza". Hence, this group was less often surprised by the feedback (education treatment), which may explain the slightly lower willingness to drink less beer.

On the other hand, the proportion of wine drinkers that would have been surprised by the fact that wine has more calories than chocolate (66%) is similar to that spirits drinkers, whose attitude change was more comparable to beer than to wine.

This descriptive analysis as well as a test of interaction effects in the multivariate analysis shows that there is no surprise effect with impact on attitude change.

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47 Daniel Kahneman 2011: Thinking fast and slow; Charles Stangor and David McMillan, 1992: Memory for expectancy-congruent and expectancy-incongruent information: a review of the social and social developmental literatures

Hypothesis C: Wine drinkers are more susceptible to calories treatment

If wine drinkers paid more attention to calories compared with drinkers of other alcoholic beverages, this could explain the higher proportion who would drink less wine after the education on calories.

However, neither the descriptive analysis nor the multivariate analysis confirmed a significant interdependency. The choice preference for 'fewer calories' was almost identical as was whether they followed a weight loss programme. There was a slightly higher share of women among wine drinkers. Again, this interdependency does not have a statistically significant effect on the ultimate goal to drink less. Likewise the higher share of men who drank spirits had no significant effect on the intention to drink less[48]

Table 74 Susceptibility towards calories treatment vs. alcohol category

Alcohol split: Base unweighted	**Beer drinkers** 3433	**Wine drinkers** 3550	**Spirits drinkers** 2127
Diet / Weight loss programme (habit)	13.5%	13.8%	12.9%
Fewer calories (choice preference)	7.6%	7.6%	6.2%
Women (gender)	53.7%	**57.6%**	**48.5%**

Hence, the context-treatment variation in the experiment was neither due to the fact of drinking only a specific type of alcohol (e.g. wine drinkers) nor the surprise effect of the education treatment. The only explanation left is the negative framing of the calories treatment for wine that may have impacted the positive attitude change.

In summary, the descriptive analysis about the attitude change to drink less alcohol indicated only a slight impact of treatments:

- 'Limits' treatment had a slightly higher impact than calories in the first scenario across all alcohol types.
- 'Calories' treatment on wine drinkers had the relative highest impact compared to all other alcohol types and treatments due to its negative framing.

6.2 Findings of multivariate analysis

In this section, we present the summary results of the multivariate analysis conducted, using binary logistic regression to identify the major determinants which influenced a positive

[48] This was tested by adding the combinations of drinking wine and the female variable as well as drinking spirits and the male variable to the base model of the multivariate analysis.

attitude change in the alcohol experiment. Positive attitude change is defined as respondents claiming that they would drink less in each decision scenario.

The first objective was to identify the drivers and barriers of healthy choices. The second objective paid particular attention to the potential effects of the treatments under evaluation in this study.

The presentation of the results begins in Chapter 6.2.1 with the summary of results of what we refer to as the 'base model', i.e. not controlling for the potential effects of treatments, but focussing on the main individual biases and barriers.

This is followed by Chapter 6.2.2 which adds the treatments to the base model to identify the drivers and barriers that impact positive attitude change of consumers after each treatment.

As outlined for the previous experiments, the detailed overview of statistical results will be provided in the appendix, while the key results are presented in a more user-friendly chart format.

6.2.1 Main biases and barriers on alcohol consumption

The previous chapters have already discussed the potential variables included within the multivariate base model in detail. The selection was based on conceptual considerations and in-depth analysis of the bivariate associations between the variables considered as well as the dependent variable for the experiments.

The analysis begins with the first decision scenario (attitude change in specific occasion), which represents a more short-term or preliminary decision which logically has a strong influence on the second decision for the more general and long-term scenario. Therefore, the model for the second longer term decision will cover all variables as outlined for the first decision plus the goal variable of the first decision (intention to drink less at the party).

All models are structured in the same way covering the following four dimensions:

- Context:
    - Whether the decision was about beer or wine or spirits
- Motives and goals:
    - Common peer group drinking
    - Positive image of alcohol (has more advantages)
    - Choice preferences for drinks (low or high alcoholic content, small or large serving size, low calories)
    - Consumer motivation types (based on interest in health and resources of money and time)
    - General interest in food information
    - Risk attitude and self-control
- Habits
    - Following a weight loss programme
    - Number of different types of alcohol consumed within past 12 months

  - Familiarity of the specific occasion (a friend's party) when drinking the respective alcohol type
  - Frequency of drinking the respective alcohol type
  - Volume of drinking the respective alcohol type at last occasion in reality (vol0)
  - Volume of drinking the respective alcohol type on a given occasion (friends´ party) without treatment (vol1)
- Socio-demographics:
  - Age, gender, income, education, household composition, body mass index, countries

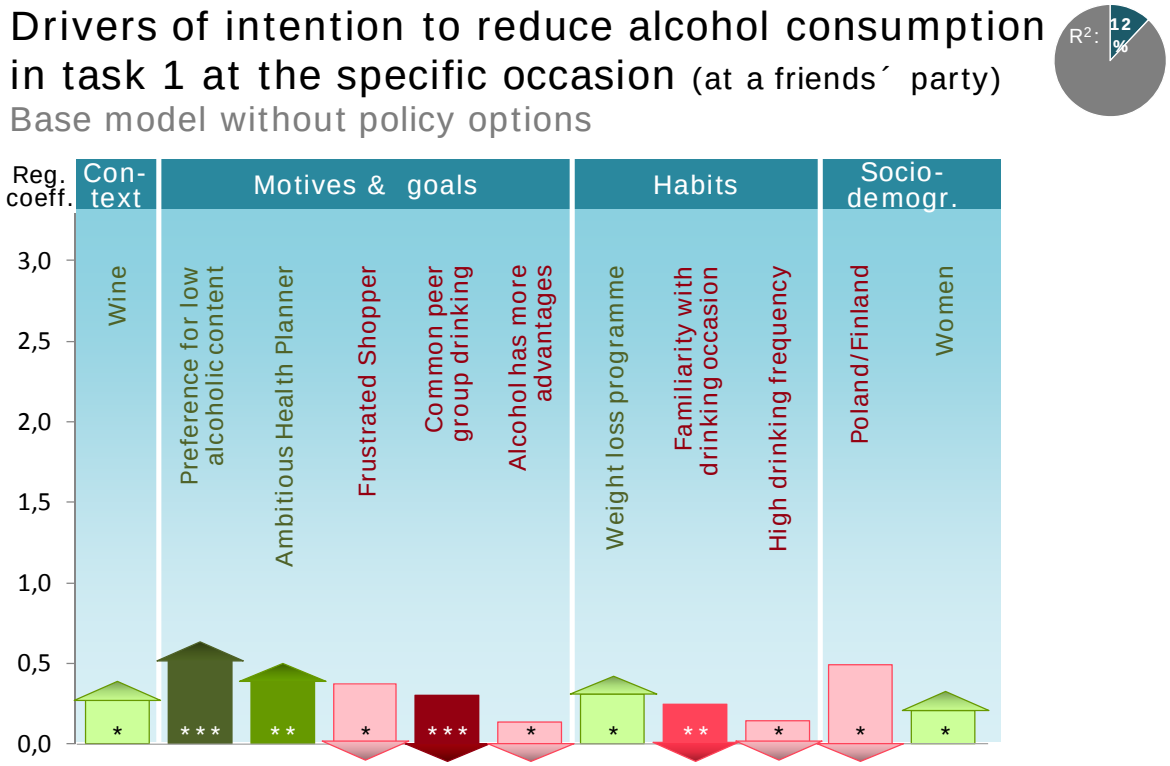
Both base models are statistically significant and explain a reasonable portion of the variation in the dependent variable. Task 1 explains 12%, Task 2 about 42% with strong significance levels well below 0.001.

Base model for decision scenario 1

The first task required the decision whether to change the intended amount of alcohol they would consume as the specific occasion of a friends´ party after an education treatment.

The most relevant factors driving a positive attitude change were motives and goals, followed by habits and to a lower extent the context of the alcohol category as well as some socio-demographics.

Figure 75 Drivers of choice behaviour in alcohol Task 1 without treatments



Extract of results based on logistic regression analysis to identify statistically significant drivers of intention to reduce alcohol consumption in task 1.
Reference category for context (alcohol type) is "Spirits" which delivered the lowest rate for the intention to drink less.
The model explains 12% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: EU8 (without missing variables) n = 3 967

Motives & goals

The strongest motive that influenced the intention to drink less was the preference of choosing a drink with only low alcohol content. This attitude stands out from all other choice preferences such as small serving size or low calories, which were not significant. Consumers who try to avoid high alcoholic content were more prepared to further reduce their alcohol consumption in general without controlling for any education treatment.

The other motivational driver is the typical mind-set of an Ambitious Health Planner. This type is highly interested in making healthy choices, but s/he often lacks money and self-control to implement the positive resolutions. In contrast to this segment, the Frustrated Consumer was less likely to reduce alcohol drinking at the party.

The strongest barrier was peer group drinking behaviour. Since most drinking occasions are social, it makes sense that the attitudes and behaviours of the individually relevant peer group have such a strong impact.

If the consumer had a positive image about alcohol in general (advantages outweigh disadvantages to society), this also presented a slight barrier to reducing alcohol consumption.

The attitude towards risk as well as the variable on self-control did not have any impact on the willingness to reduce alcohol in that specific occasion.

Habits

There were three factors with a significant influence – one driver and two barriers.

Consumers who said that they currently follow a weight loss programme were more likely to commit to drink less.

In contrast, the familiarity with the drinking occasion (friend's party) as well as a high frequency of drinking the respective type of alcohol represented a barrier to positive attitude change.

No impact was seen for the reference measures such as the previously stated drinking volume before the treatment or the habitual drinking volume. This is actually a surprise, since the descriptive analysis indicated that consumers with a higher referential volume (7+ drinks) were also less likely to reduce their high drinking volumes. Obviously, controlling for other factors reduced the impact of high drinking volumes. Likewise the experience of having drunk too much alcohol before was no predictor for the intention to drink less.

Context / Alcohol categories

Of all of the three alcohol categories, consumers in the spirits experiment revealed the lowest rate of reducing their alcohol drinking. If spirits is used as a reference category, then wine is the only tested alcohol type that represented a slightly significant driver of positive attitude change. This means, that wine drinkers are somewhat more likely to intend to drink less on that given occasion after an education treatment[49].

Socio-demographics

The intention to drink less was also slightly influenced by additional cultural norms and a gender effect:

- Women were more likely than men to change their mind and drink less in Task 1
- Finish and Polish consumers were less likely to reduce their drinking volume in Task 1
    - When running the analysis per country, it becomes obvious that in Finland the reference base for the pre-treatment drinking volume presents a significant hurdle. The higher the initially stated drinking volume, the lower the motivation to reduce this amount. This country specific barrier can be explained by the high costs and regulations for alcohol in Scandinavian markets. On the one hand this leads to a low drinking frequency but on the other hand to uncompromisingly high volumes on drinking occasions such as at a party.
    - The analysis for Poland did not reveal any new influencing variable, which means that this specific cultural barrier was not captured by the survey.

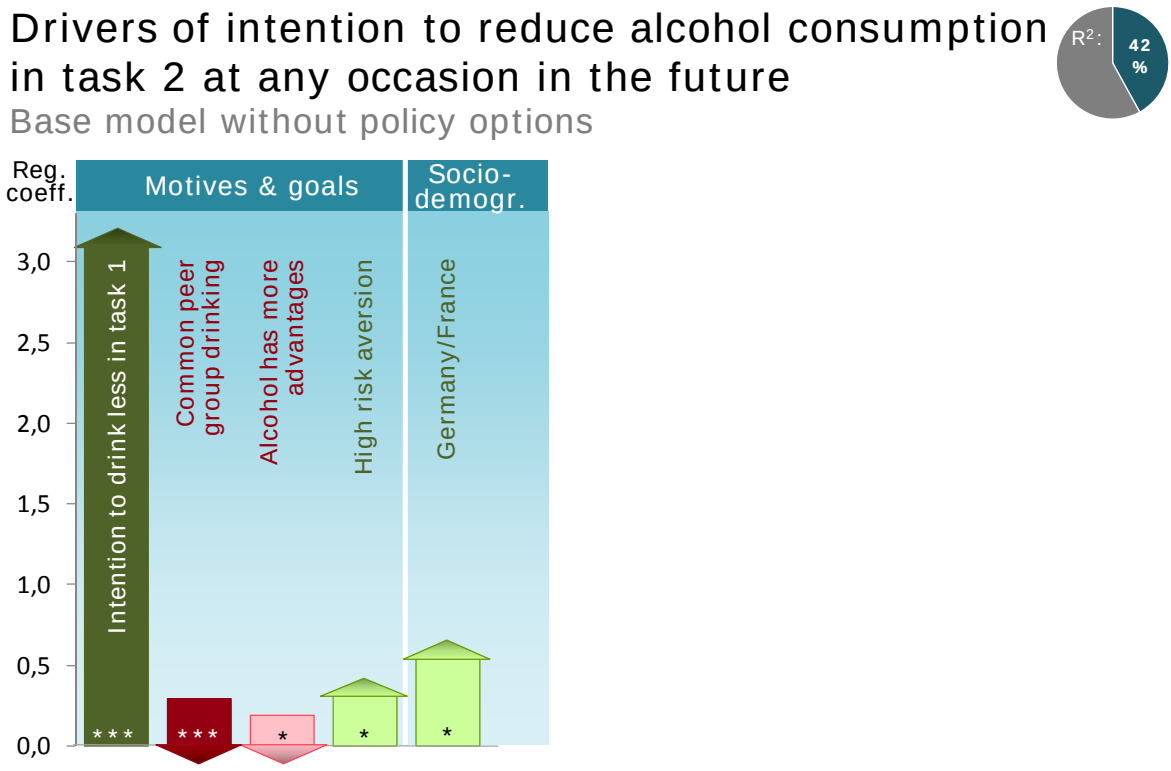
Base model for decision scenario 2

[49] This ultimate outcome does not change if the reference category changes. When using beer as a reference point, then wine is again a slightly significant and positive driver. When using wine as a reference point, then both beer and spirits both have a negative influence, but the negative impact of beer is stronger and more significant than the impact of spirits.

The second task required a decision as to whether one would drink less in future irrespective of the occasion discussed before, but based on the same educational treatment as in Task 1.

The most relevant factors driving a positive and more long-term attitude change were primarily based on motives and goals and a small country bias, which altogether explained 42% of the variance.

Figure 76 Drivers of choice behaviour in alcohol Task 2 without treatments



Extract of results based on logistic regression analysis to identify statistically significant drivers of intention to reduce alcohol consumption in task 2. The model explains 42% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed. Base: EU8 (without missing variables) n = 3 967

Motives & goals

Not surprisingly, the overwhelming predictor of the long-term decision was the answer given in the previous task. This outcome indicates that merely asking people about their drinking behaviour and intentions may prompt a significant proportion to at least plan to reduce their drinking. A possible explanation is that increasing self-awareness may be a motivating factor in changing drinking patterns[50]. Whether these intentions are implemented into sustainable behaviour remains to be subject to further field research.

[50] Carlo DiClemente et.al. (1999): Motivation for change and alcoholism treatment

Peer group drinking and positive image of alcohol affect both short term and long term intentions

A new additional driver in Task 2 was the high level of risk aversion of consumers.

Socio-demographics

Germany and France were countries with a higher likelihood for a positive and long-term attitude change. All other tested socio-demographic factors had no impact in this context.

6.2.2 Effectiveness of tested treatments on alcohol consumption

To measure the impact of the treatments, these were added to the base model. There are again different ways of including these variables, either as treatment splits in combination with the alcohol type as presented in the previous chapters:

- Split 1: Beer with calories
- Split 2: Beer with limits
- Split 3: Wine with calories
- Split 4: Wine with limits
- Split 5/7: Spirits with calories
- Split 6/8: Spirits with limits

Alternatively the treatments can be presented as aggregated stimuli:

- Calories treatment
- Limits treatment

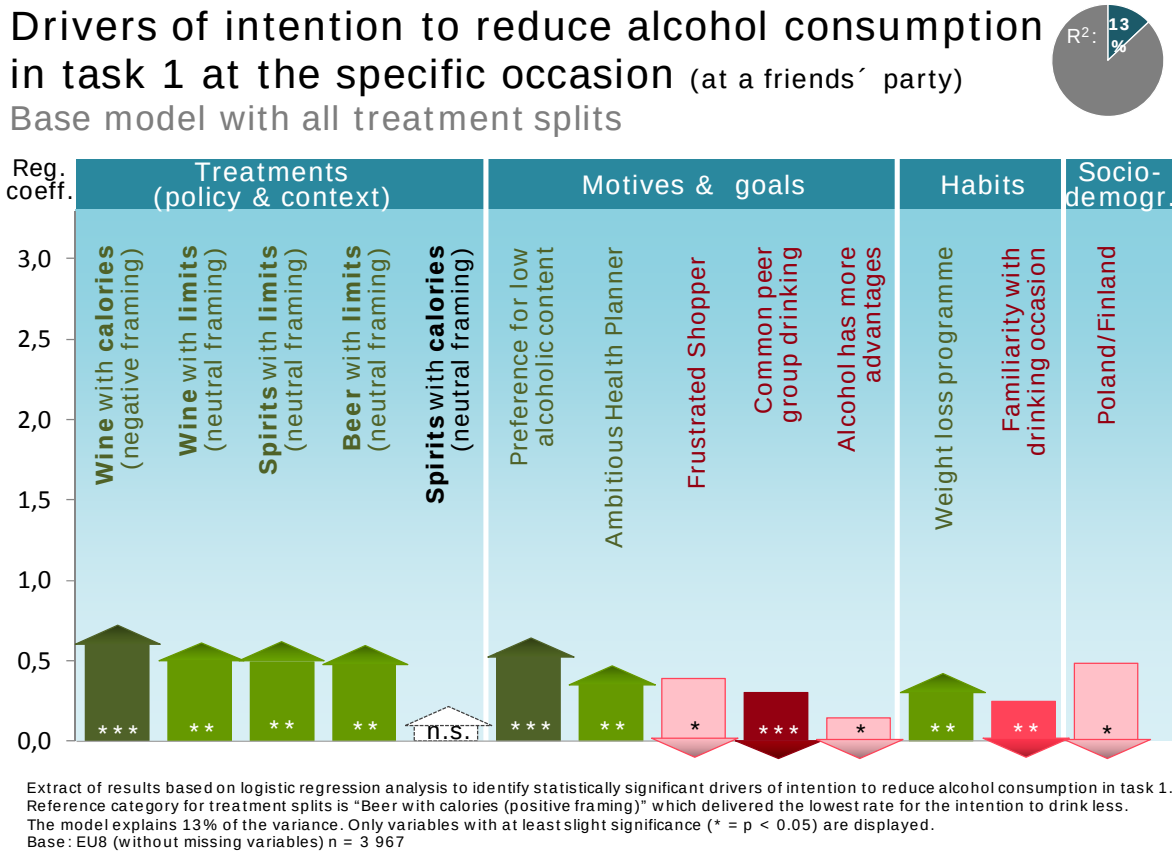
Which are separate to the context stimuli:

- Beer
- Wine
- Spirits

Both options deliver almost identical results for the individual drivers and barriers as documented in the chapter before. The combination with the 6 treatment splits delivers more detailed insights on the effectiveness than the aggregated stimuli version. Overall the "Know your limits" treatment was slightly more effective than the treatment with calories, but this was also due to the differentiated framing of calories, which is not visible if added to the base model in an aggregated manner. Therefore, the first version with the treatment splits was used in the following analysis.

The explanatory power of the enhanced model is only slightly higher (13% instead of 12%) in Task 1 and it does not increase at all in Task 2.

Figure 77 Drivers of choice behaviour in alcohol Task 1 with treatments



The inclusion of the treatments into the base model changes the impact of only three of the variables discussed earlier:

- A higher significance level can be observed for amongst those following a weight loss programme, no doubt as a result of the calorific treatment.
- Gender and the high frequency of drinking no longer have any impact. The treatments obviously reduced the female bias by making the health disadvantages of alcohol somewhat clearer to both men and women with high and low frequencies of drinking.

Treatment options

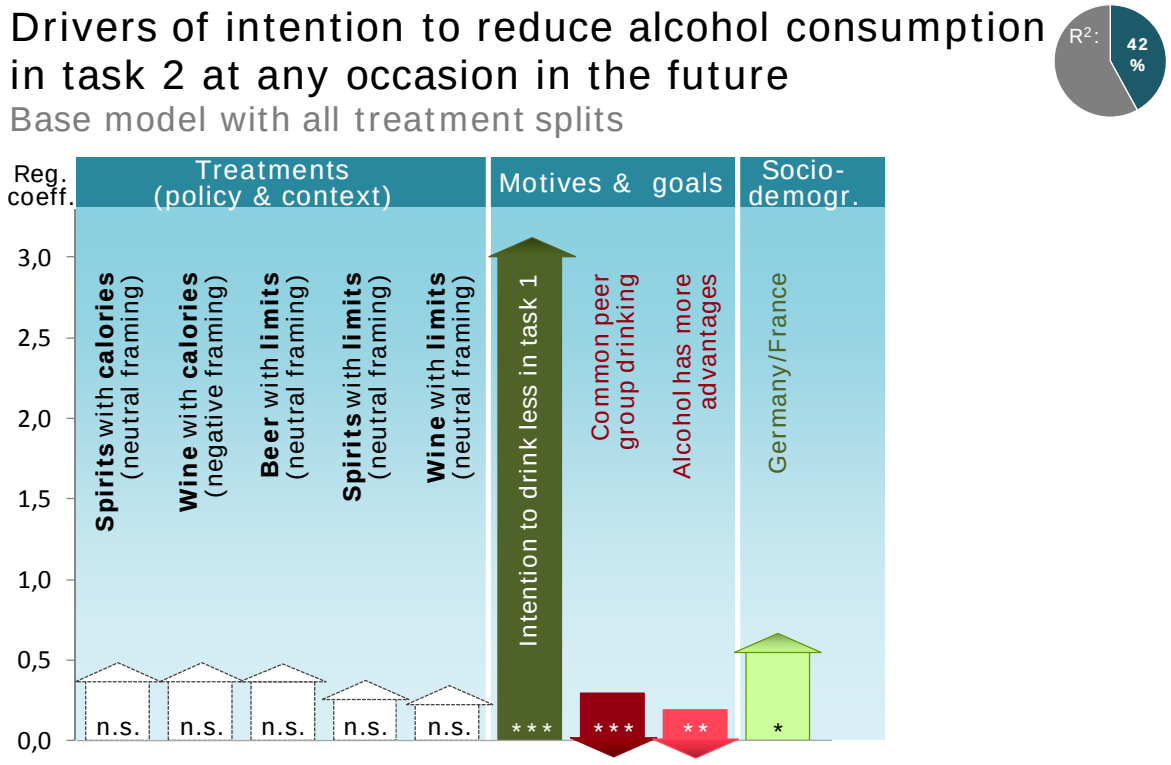
The key driver of the intention to drink less in Task 1 was the negative framing of calorific information for wine. This was the strongest influencing factor compared with all other treatment splits.

The reference point for this analysis was the split with the lowest rate of positive attitude change (beer with calories in a positive framing). Compared against this benchmark, four of the five other treatment splits had a positive and significant impact on the goal variable. The winning combination of 'wine with a negative framing of calories' was followed by the treatments on 'know your limits', all showing a similar strength and significance. The

treatment on spirits with a neutral framing of calories did not have any significant impact at all.

In Task 2, the impact of the additional treatments is negligible as can be seen in the table below.

Figure 78 Drivers of choice behaviour in alcohol Task 2 with treatments



Extract of results based on logistic regression analysis to identify statistically significant drivers of intention to reduce alcohol consumption in task 2.
Reference category for treatment splits is "Beer with calories (positive framing)" which delivered the lowest rate for the intention to drink less.
The model explains 42% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: EU8 (without missing variables) n = 3 967

Regardless of whether the model includes the treatments or not, there were robust results for most variables presented in the base model already. Only one change among the previously explained variables was observed - high risk aversion no longer influenced the intention to drink less in future if exposed to any treatment.

Treatments

In this second decision scenario all treatment options lost their significance in making any positive impact on a more long-term decision to reduce alcohol.

The treatment of wine with calorific education seemed to be the winning combination in the bivariate analysis also in Task 2, but the statistical model shows that this effect was not significant.

Overall, none of the tested treatments fostered a positive attitude change for any occasion in the future.

In summary, these are the main drivers and barriers of the intention to reduce alcohol consumption:

The key drivers are

- Preference for low alcoholic content
- Motivations of an Ambitious Health Planner, who is eager to make healthy choices, who takes enough time to read food information. This risk-averse type prefers doing things that pay off immediately rather than in the future.
- Following a weight loss programme

Significant barriers are

- Peer group drinking habits
- Positive alcohol image
- Familiarity with the drinking occasion
- Motivations of a Frustrated Consumer, who is not at all interested in health issues, who does not invest any time in reading food information. This risk-taking type only watches out for low prices when choosing alcoholic drinks.

Further cultural biases of lower significance are

- Consumers in Poland and Finland were least likely to commit drinking less in the specific occasion (Task 1)
- Consumers in Germany and France were most likely to commit drinking less at any occasion in future (Task 2)

This summary emphasises the importance of motivations, social norms and habits on attitude change in relation to alcohol consumption. Obviously these informative or educational nudges (as tested in this survey) mostly influenced those who were already following health goals. Consumers who are not interested in health issues either in general or when consuming alcohol will ignore health warnings as well as calorific information.

The conclusions based on these findings are outlined in the following chapter.

6.3 Conclusions regarding alcohol consumption

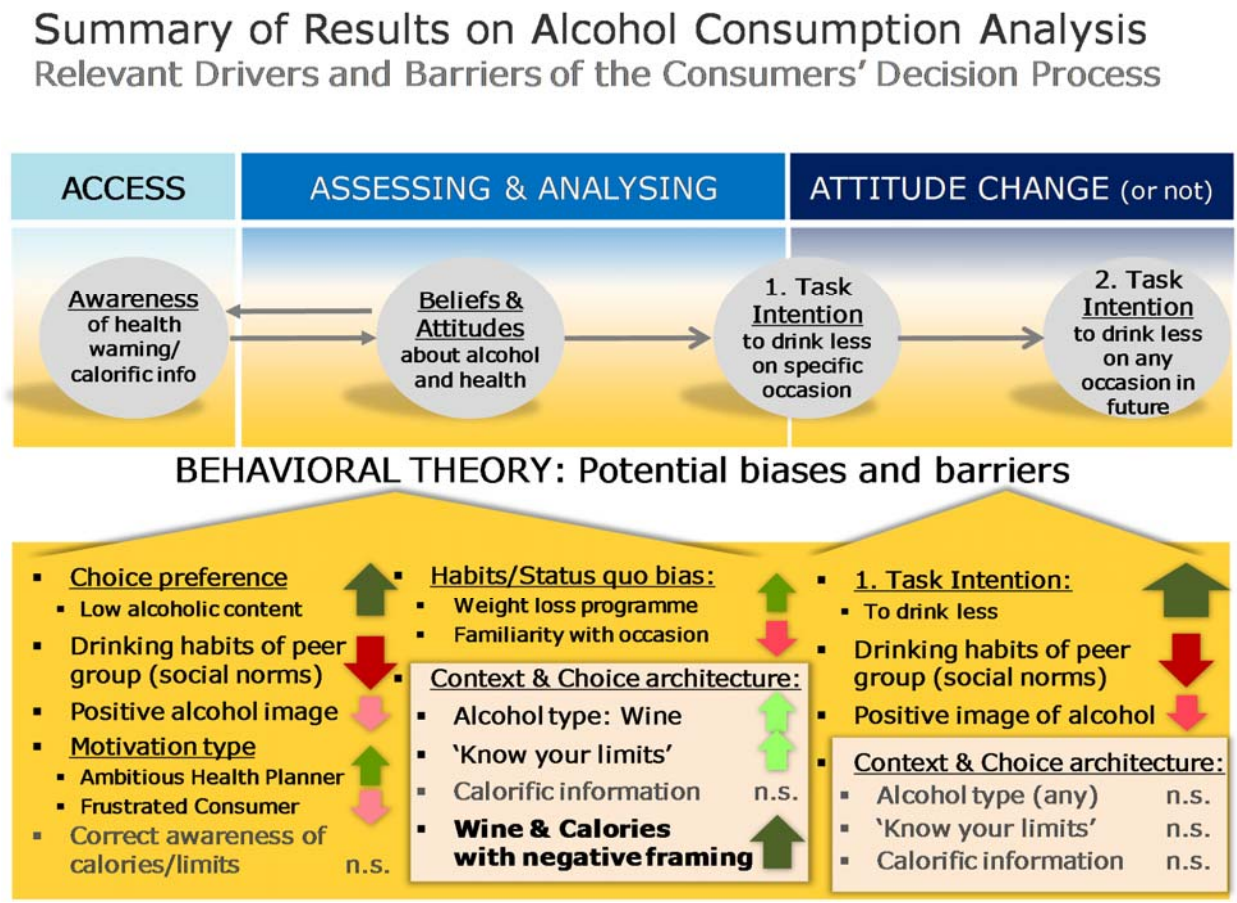
For the summary of findings and conclusions of the behavioural study the graph below can serve again as a conceptual guideline. It represents a simplified and idealised illustration of a comprehensive decision process.

This scheme covers the typical stages of a consumers' decision process from accessing and assessing relevant food information, which then results into the intention to drink less on a specific occasion or not.

This first decision scenario for a concrete drinking occasion was followed by a second decision scenario for a more general and long-term attitude change, to drink less on any occasion in future.

The identified individual biases and barriers as well as the tested treatments are marked with symbols to indicate their direction and effectiveness of impact.

Figure 79 Summary of results on alcohol consumption analysis



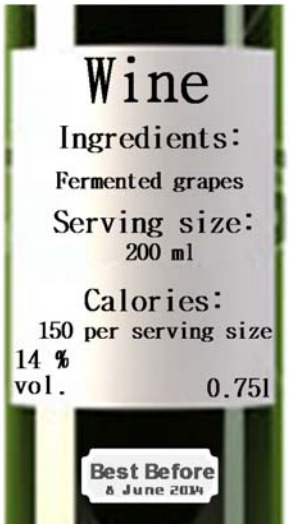
1 **The evidence from this study confirms that the motivation to drink less strongly depends on the individual relevance of 'healthy drinking' as well as the drinking habits and attitudes of peers.**

Within the restricted scope of variables that were possible to test in this multi-topic online survey, the following key findings were identified as significant biases or barriers that explain consumers´ intentions to drink less alcohol in the specified choice situation:

- The key motivation to reduce the drinking volume were **healthy preferences and habits**, such as the preference of choosing drinks with lower alcoholic content and following a weight loss programme.
- The key hurdle to intending to drink less was the **social acceptance and relevance of alcohol** among peers. As most drinking occasions are social (i.e. with friends or family), one's own drinking intentions are highly correlated to the drinking habits of the peer group.
- Consumers, who generally watch out for healthy alternatives and take time to read any food information like the '**Ambitious Health Planner**', were more likely to state a positive attitude change, since their social milieu also drinks less alcohol.
- **Frustrated Consumers**, who are not at all interested in health issues and very often have experience of consuming too much alcohol, were also less likely to reduce their drinking intentions. This is in line with the peer group for this type which typically was also more likely to drink alcohol.
- A **positive image perception of alcohol** represented a hurdle for some consumers as well as the **familiarity with the drinking occasion**. Consumers with experience of drinking the respective alcohol type in a similar situation were less likely to intend to reduce their drinking.
- Consumers, who drank alcohol **more frequently**, were also less likely to reduce their drinking volume. Overall, the drinking frequency had more impact than the amount normally drunk. The psychological and social barriers were higher for those who frequently drank than for those who drank only occasionally high volumes.
- In addition to these barriers described above a **gender and cultural/country bias** was observed. While women were more likely to want a healthy lifestyle, consumers in Finland and Poland faced additional local barriers.

How does the additional information and education about the CALORIFIC CONTENT of an alcoholic drink encourage consumers to drink less?

When looking at the sample split with the calorific treatment only, it is possible to identify the drivers of the attitude change based on this new type of food information, which **nudged 16% of consumers** to plan to reduce their alcohol consumption on the specified occasion.



Education and information about CALORIES affected consumers with distinct health goals – in particular those who check for low alcoholic content and fewer calories.

The calorific treatment was more effective:

- Among women
- Among consumers in France
- In relation to wine drinkers
- If presented with a negative framing, e.g. 'Wine has more calories than chocolate'

The calories treatment was less effective among consumers:

- Who were not interested in any health issues
- Whose peers commonly drank alcohol
- Who saw more advantages than disadvantages of alcohol for society

How does the additional information and education about the RECOMMENDED LIMITS of an alcoholic drink encourage consumers to drink less?

When looking at the sample split with the 'Know your limits' treatment only, it is possible to identify the drivers of the attitude change based on this type of food information, which **nudged 19% of consumers** into reducing their planned alcohol consumption on the specified occasion.

3 **Education and information about 'KNOW YOUR LIMITS' influenced consumers with a more general preference for low alcoholic content, and seemed to reach a slightly wider audience than the calorific treatment.**

The limits treatment was more effective among consumers with a lower level of full-time education. This indicates that the ultimate message of 'Know your limits' is well understood and motivating in particular for consumers with a presumable lower cognitive capacity.

At the same time the limits treatment was less effective among consumers:

- That were self-determined in their choices and not interested in health issues
- Whose peers commonly drank alcohol
- Who were familiar with the drinking scenario
- In UK and Germany[51]
- In households with children

? **Which conclusions can be drawn from the evidence collected on the treatments effectiveness in motivating consumers to drink less alcohol at the specific occasion?**

Both treatments together had minimal impact on motivation as they explained only 1% of the variance for claiming to drink less in Task 1 (in addition to the previously described factors). Even despite the forced exposure in this experimental design, the immediate impact of these information-based measures was still small.

[51] The low impact in these two countries might be due to the fact that this campaign has already been launched there and therefore may lack the novelty factor. However, this cannot be verified, since the questionnaire did not include any awareness parameters of this campaign.

Having said this, the alcohol warning 'Know your limits' was slightly more effective than the calories treatment because addressing low alcohol content targeted more consumers intuitive preferences than calories. In a pre-treatment question participants were asked which aspects they usually take into account when choosing alcoholic beverages: Among thirteen choice preferences presented …

- Only 8% mentioned 'low calories' (although 15% in the calories split were on a diet),
- 'Low alcoholic content' was mentioned by 14% of participants in the limits split.

It is clear that these pre-treatment preferences were likely to be influenced by the fact that currently consumers are not usually presented with calorific information but with alcoholic content on alcoholic beverages.

Whether the cognitive relevance of calorific information would increase if this information were to become more widely available on alcoholic drinks might be indicated by looking at a similar post-treatment question. Respondents were asked about the ideal information to be provided on alcoholic drinks in the future. Among the given list with again thirteen different answer options (topics)[52]:

- 49% of participants with the calories treatment expected information on 'calories' for alcoholic drinks and
- 46% of participants with the limits treatment expected 'daily unit guidelines/ recommended maximum limits' to make more informed choices in the future.

The leap from 8% before to 49% after the calorific treatment indicates at least a significantly higher 'recall' effectiveness than from 14% to 46% for the limits treatment. This does indeed suggest its impact will increase once this type of information is available in reality.

It should be noted that the attention given to food information in a real shopping or consumption scenario is always lower than the stated relevance in a survey. The 17% of respondents, who claimed that they would reduce their alcohol consumption, were also influenced by the fact that asking about the intention to do something generally delivers answers that are more conscious, considered and rational. Stated preferences like these are expected to be somewhat inflated by a typical overconfidence bias.

When looking at all tested treatments, the combination of a negative framing[53] of the education on calories for wine displayed the highest effectiveness with 21% of consumers intending to drink less. On the other hand the least effective treatment was the positive framing[54] of the education on calories for beer which resulted in only 13% of consumers planning to reduce their alcohol consumption.

This leads to a final important aspect when comparing the effectiveness between both treatments: the consistency of the impact across different alcohol categories. The limits treatment delivered consistent results across all categories (19% with +/-1%points) which mirrors the homogeneous framing of the treatment.

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[52] The question as well as the answer options is not exactly comparable with the pre-treatment version, which was designed not to influence the experiments.

[53] Wine has more calories than chocolate.

[54] Beer has less calories than pizza.

In contrast to that the educational part of the calories treatment varied with different framings, which were fully or partly responsible for the varying impact of this treatment (16% with +5/-3%points). Whether a negatively framed education on calories would have had a higher impact for beer and spirits as it had for wine requires further evidence.

While the 'Know your limits' treatment was slightly more effective than the calorific treatment, the combination of a negative framing of calories for wine achieved the highest impact. Further empirical evidence is required to identify the optimal treatment and context combination.

Moving on from the analysis of the first choice task to the more general and long-term second decision to drink less in the future:

What factors impact the more general and long-term motivation to drink less alcohol?

Overall, the willingness to reduce alcohol consumption on any occasion reached the same level as for the specific occasion (17%).

As expected the second decision was heavily influenced by the first decision. Two thirds of all respondents who were motivated to drink less in the concrete scenario of a friend's party also intended to drink less in the future.

None of the treatment exerted any significant influence on this second decision. Instead the analysis reveals that social norms and alcohol image impact the second decision again and in addition to their impact in the first task. These two barriers are the recommended starting points to be reduced for achieving a more effective motivation and behaviour change:

- Peer group drinking
- Positive image of alcohol (has more advantages than disadvantages)

In addition to these barriers one smaller motivational and two cultural drivers can be observed:

- Consumers with a high security-orientation are more open to reduce their drinking.
- In Germany and France consumers were also more motivated by local drivers beyond the overall reported drivers to drink less. While in France the additional motivation originated from consumers who are still studying or who focus on low alcoholic content, the positive attitude change in Germany was strongly driven by a preference for lower calories and the opportunity to reduce high habitual drinking levels.

The general motivation to drink less in future is not driven by a one-time exposure to new information on calories or recommended limits. Key barriers to overcome are peer group drinking and positive alcohol image.

7 FINDINGS ON DATE MARKING AND FOOD WASTE

This section explains the findings of four questions placed in study addressing the subject of food waste:

Do consumer misunderstandings of the 'best before' label contribute to avoidable food waste in private households or do consumers throw food away (consciously) for quality concerns?

7.1 Knowledge test and claimed behaviour

To answer this research question, first a knowledge test was conducted for the two most commonly used expiry labels 'best before' and 'use by'. Following this, participants were asked whether they ever consumed outdated food and whether they threw away food before the 'best before' date.

The knowledge test started with the 'best before' label for all respondents in order to receive an unbiased answer on the question "What information is shown on this label?" with several answer options and the following results:

Table 80 Knowledge test results of best before by country

EXPIRY DATES Knowledge test 'best before' Base unweighted	**EU8 – Total** 8 076	**Fin-land** 1 004	**UK** 1027	**Italy** 1005	**Spain** 1002	**Ger-many** 1005	**Poland** 1003	**France** 1010	**Roma-nia** 1023
Correct: highest quality	46.2%	**69.3%**	**65.7%**	**54.2%**	52.3%	44.1%	**35.8%**	**35.3%**	**12.6%**
False: safe to eat/drink	36.8%	**11.7%**	**20.8%**	32.1%	31.8%	30.1%	**52.4%**	39.1%	**76.8%**
False: Must be sold	11.3%	17.9%	9.5%	8.6%	9.1%	15.0%	5.9%	18.1%	6.0%
None of these/ Don't know	5.7%	1.1%	3.9%	5.1%	6.8%	10.9%	5.9%	7.6%	4.6%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 81 Knowledge test results of best before by sociodemographics

EXPIRY DATES Knowledge test **'best before'** Base unweighted	**EU8 – Total** 8 076	**Male** 3 280	**Female** 4 796	**Age 18 - 24** 942	**Age 25 - 34** 1 423	**Age 35 - 44** 1 454	**Age 45 - 54** 1 368	**Age 55+** 2 889
Correct: highest quality	46.2%	46.7%	45.8%	41.4%	46.6%	49.2%	48.2%	45.1%
False: safe to eat/drink	36.8%	36.6%	37.0%	**45.4%**	40.7%	35.5%	34.1%	34.0%
False: Must be sold	11.3%	11.8%	10.9%	9.2%	8.0%	9.0%	11.2%	14.7%
None of these/ Don't know	5.7%	4.9%	6.3%	3.9%	4.6%	6.3%	6.5%	6.2%
Total	100%	100%	100%	100%	100%	100%	100%	100%

The empirical evidence confirms previous assumptions that

- **A majority of 54% of European household shoppers were not able to identify the correct interpretation of 'best before' as a quality related date.**
- **The most common misunderstanding (37%) confused the 'best before' date with the safety related 'use by' date.**

While 46% correctly interpreted the 'best before' date as the last day of highest quality, 11% mistook 'best before' for 'sold by', and 6% had either no idea or another interpretation in mind.

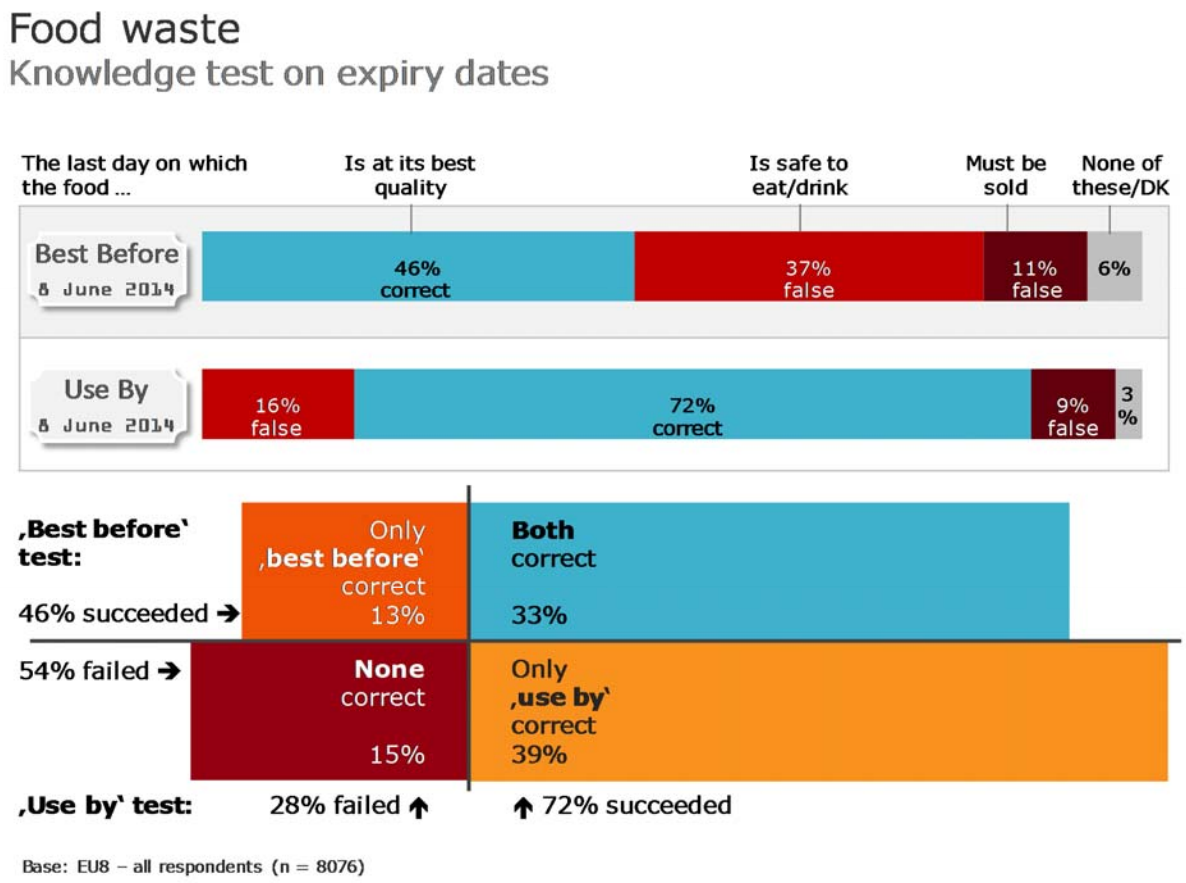
The crucial misunderstanding for 37% of participants was the belief that food is not safe anymore past the 'best before' date. It was highest among the following groups:

- In Eastern European member states like Romania (77%) and Poland (52%)
- Among Ambitious Health Planners (47%), who are interested in health and quality issues and take time reading food information.
- Among younger consumers aged under 24 (45%)

When looking at the results of the knowledge test for the 'use by' date a significantly higher proportion of correct answers (72%) is observed. However, this is at least partly due to a

learning effect from the previous evaluation[55]. Only 16% incorrectly associated the 'use by' label with the quality aspect.

Figure 82 Knowledge test on expiry dates



Overall, 33% consumers were able to identify the correct explanation for both labels. Four in ten participants (39%) failed the knowledge test on 'best before' but succeeded in the second 'use by' test.

A more detailed cross-analysis of both knowledge tests reveals a slight tendency of respondents to assign identical interpretations for both expiry dates (see table below). This is true in particular for those who selected the 'safety' explanation.

[55] Since the focus of this research was on food waste, the question order was fixed this way (also blocking respondents from going back and changing previous answers) in order to achieve an unbiased answer behaviour for the more crucial 'best before' test.

Among the 37% who interpreted that 'best before' indicates the food is safe to eat until this date, 83.5% assigned the same explanation to 'use by'. Only 8.8% understood both labels differently.

Table 83 Knowledge test results of best before vs. use by

EXPIRY DATES Knowledge test **'Use by' date** Base unweighted	**EU8 – Total** 8 076	**Knowledge test on ‚best before' date**			
		Correct: highest quality 3 732	**False:** safe to eat/drink 2 976	**False:** Must be sold 908	None of these/ Don't know 460
False: highest quality	16.2%	**22.0%**	8.8%	17.0%	16.0%
Correct: safe to eat/drink	72.1%	**72.1%**	**83.5%**	49.0%	43.4%
False: Must be sold	8.9%	5.4%	6.1%	**32.6%**	7.4%
None of these/ Don't know	2.8%	0.5%	1.5%	1.3%	**33.2%**
Total	100%	100%	100%	100%	100%

This answer pattern for both knowledge tests indicates that consumers tend to use the same (safety) interpretation when confronted with either label version. One possible explanation is that many consumers have a fixed perception of the meaning of an expiry date – no matter with which wording it is presented.

In summary, the knowledge tests revealed a widespread misinterpretation of expiry dates by consumers, which can be assumed to increase avoidable food waste.

This was further explored in subsequent questions which captured two complementing behaviours:

- **Consumption of outdated products** kept in a fridge[56]:

  15% said that they had never consumed or cooked food that had passed the 'best before date. 37% had done so, up to a maximum of two days beyond the date.

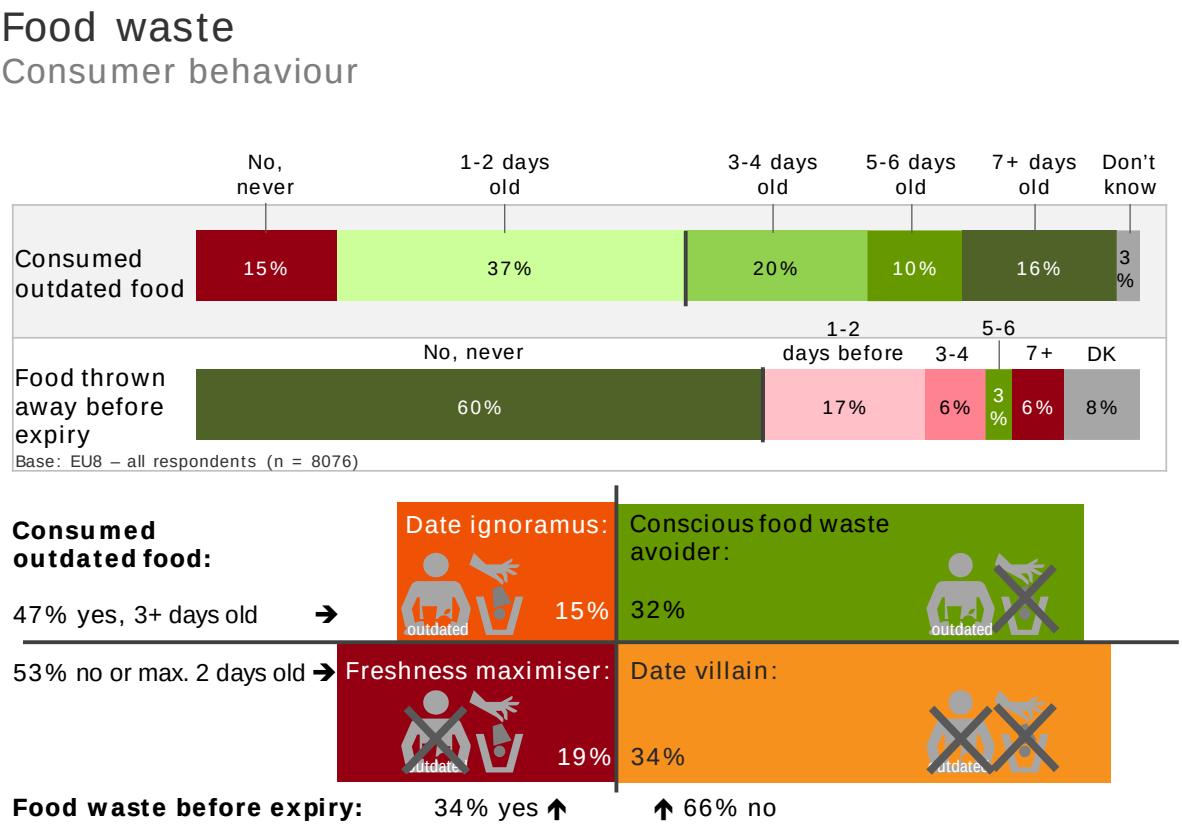
[56] Q76: Thinking about products that you keep in a fridge, have you ever eaten or cooked a product when it was past its 'best before' date? If yes, what is the longest period after the 'best before' date?

- **Throwing food away** earlier than the best before date[57]:

  32% said that they had thrown away a product before it had passed the 'best before' date.

Consuming outdated food showed a much higher differentiation than throwing food away earlier than the best before date suggesting that both questions measure different aspects of food waste behaviour, which can be explained by the segmentation explained below.

Figure 84 Food waste consumer behaviour



Again the cross-analysis of both questions reveals meaningful segments regarding the relevance of the 'best before' date for consumer behaviour:

- **The conscious food waste avoider** (32%) has never thrown away food before the 'best before' date and has no problem eating significantly outdated food (3 days beyond or older). These consumers are obviously more aware that the 'best before' date is not related to safety.

[57] Q77: Have you ever thrown away a product that had not passed the best before date? If yes, what is the earliest period before the 'best before' date when you have thrown something away?

- **The date villain** (34%) has never thrown away food before the 'best before' date but at the same time avoids consuming outdated food. For this segment the 'best before' date exudes a strong signal to discard food.
- **The freshness maximiser** (19%) has thrown food away even before its expiry date and avoids consuming outdated food. This type of consumer obviously tries to maximise the freshness of food by preferring to throw food away than eat something that is not fresh anymore.
- **The date ignoramus** (15%) has thrown food away before its expiry date but has no problem eating outdated food. Such inconsistent behaviour can only be explained by the ignorance of expiry dates. Obviously there are other parameters (than 'best before' dates) relevant for the decision between edible or spoilable.

Among these four segments the most promising target groups for an education treatment seem to be the date villain and the freshness maximiser, i.e. consumers who avoid eating outdated food. As one would expect, there was a significant higher share among these two behavioural segments of consumers who believed the 'best before date' represents a safety limit (see table below).

Table 85 Food waste behaviour type vs. 'best before' awareness

FOOD WASTE		**Behaviour type**			
Knowledge test **Best before** Base unweighted	**EU8 – Total** 8 076	**Conscious food waste avoider** 2 324	**Date villain** 2 481	**Freshness maximiser** 1 397	**Date ignoramus** 1 117
Is at its highest quality	46.2%	**55.9%**	43.4%	34.0%	**49.6%**
Is safe to eat / drink	36.8%	24.3%	**42.5%**	**52.7%**	31.5%
Must be sold	11.3%	13.9%	9.1%	9.2%	13.6%
None of these / Don't know	5.7%	5.9%	5.0%	4.1%	5.3%
Total	100%	100%	100%	100%	100%

So far, this descriptive analysis indicates that – all other things being equal -misunderstanding of the 'best before' date is likely to foster throwing food away once the "best before" date has passed over, but not before that date.[58]

7.2 Findings of multivariate analysis

For validating the hypothesis we conducted a multivariate analysis using binary logistic regression to identify the major determinants[59] of (claimed) consumer behaviour which creates avoidable food waste. We present the summary of the results of two regression models: one for the consumption of outdated food and one for the throwing away of food which is not outdated.

Both models are structured in the same way, covering the following four dimensions:

- Awareness
    - Incorrectly thinking that 'best before' is related to safety
    - Incorrectly thinking that 'use by' is related to quality
- Motives and attitudes
    - Shopper types
    - Risk-aversion
    - Self-control
- Habits
    - Checking expiry dates when shopping for crisps or muesli
    - Either "not consuming outdated food" or "throwing away not outdated food"
- Socio-demographics
    - Age, gender, income, education, household composition, body mass index, countries

All variables were selected according to their expected and/or actual impact on the (claimed) food waste behaviour.

Both models are statistically significant and explain a reasonable proportion of the variation in the dependent variable.

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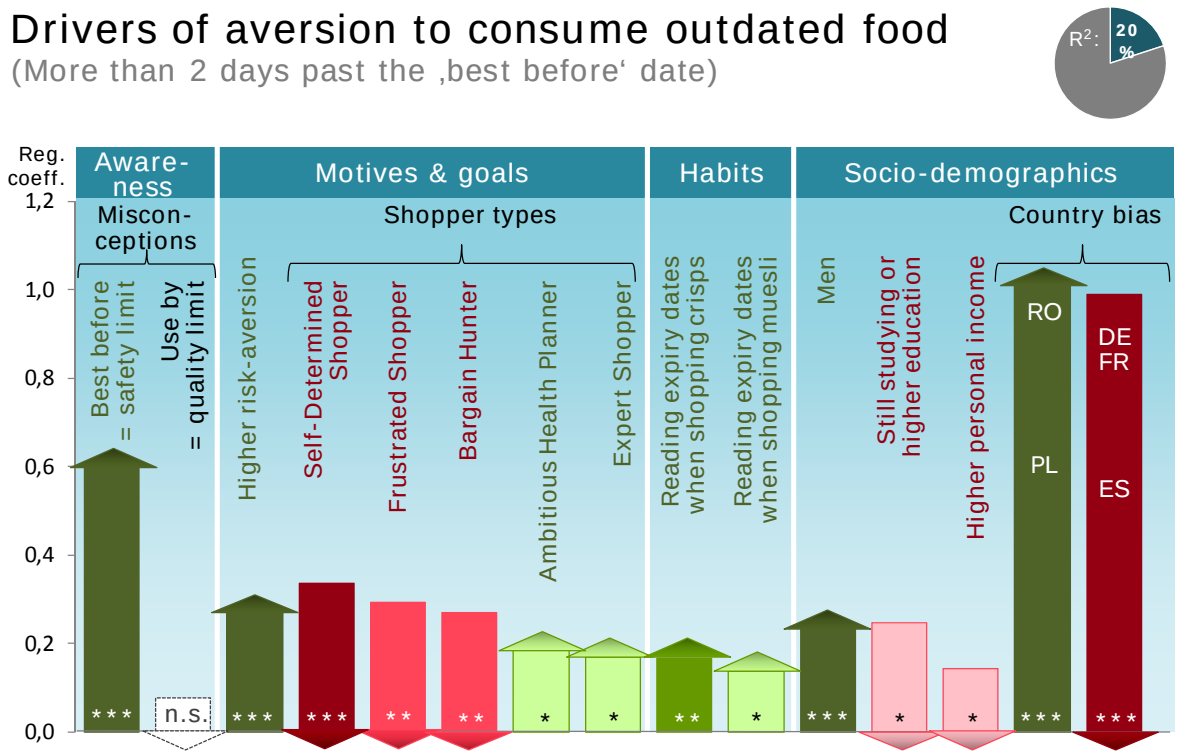
[58] The share of misunderstanding the best before date as a safety limit is significantly higher among consumers who would never consume outdated food, such as the date villain and the freshness maximiser (as indicated in the table before).

[59] As this topic was only one among many others in the survey, we certainly did not cover all relevant factors that impact food waste behaviour. Moreover, there was no space for creating experiments on this topic, which would have reduced an expected overconfidence bias.

Base model for outdated food

The most relevant factors driving consumer waste of food past its 'best before' date were awareness variables, motives and attitudes, socio-demographics and, to a lesser extent, habitual bias.

Figure 86 Drivers of aversion to consume outdated food



Extract of results based on logistic regression analysis to identify statistically significant drivers of NOT consuming food with a 'best before' date older than 2 days. Reference category for countries is UK and for shopper types it is the rushed quality shopper. The model explains 20% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed. Base: EU8 (without missing variables) n = 7 717

Awareness

Consumers, who believed that the 'best before' label represents a 'safe to eat/drink' limit were significantly more likely to claim to not consume outdated food. The interpretation of the 'use by' date had no impact at all.

The empirical evidence shows that the misconception of the 'best before' date as a safety limit is one of the strongest factors which drive consumers to throw away outdated food.

Motives & goals

People who were more security conscious also had a strong impact on the decision to throw away outdated food. This goes hand in hand with the previously stated misconception. Consumers who said that they were generally cautious in their way of life were more likely to watch out for any indicators (like any expiry date) that may affect their safety and well-being.

The impact of the shopper types indicated the relevance of quality and health in contrast to time and money. All three types who lacked interest in quality and healthy products (bargain hunter, frustrated shopper, self-determined shopper) were also less inclined to throw away outdated food, whereas the other types (health planner, expert shopper) who highly value quality and health aspects were more likely to avoid eating outdated food.

Habits

The habit of checking the expiry date – when shopping for products such as crisps or muesli – suggests that this information is highly relevant to these consumers. Therefore it is not surprising that these people are less likely to consume outdated food.

The tendency to throw away food which is not out of date does not have any influence on whether people throw away food which actually is past its expiry date.

Socio-demographics

Men are less likely to consume outdated food than women.

Students, individuals with a higher level of education and/or with a higher personal income are slightly more likely to consume outdated food.

However, the strongest impact on the decision to reject or consume outdated food was a country or cultural bias[60]:

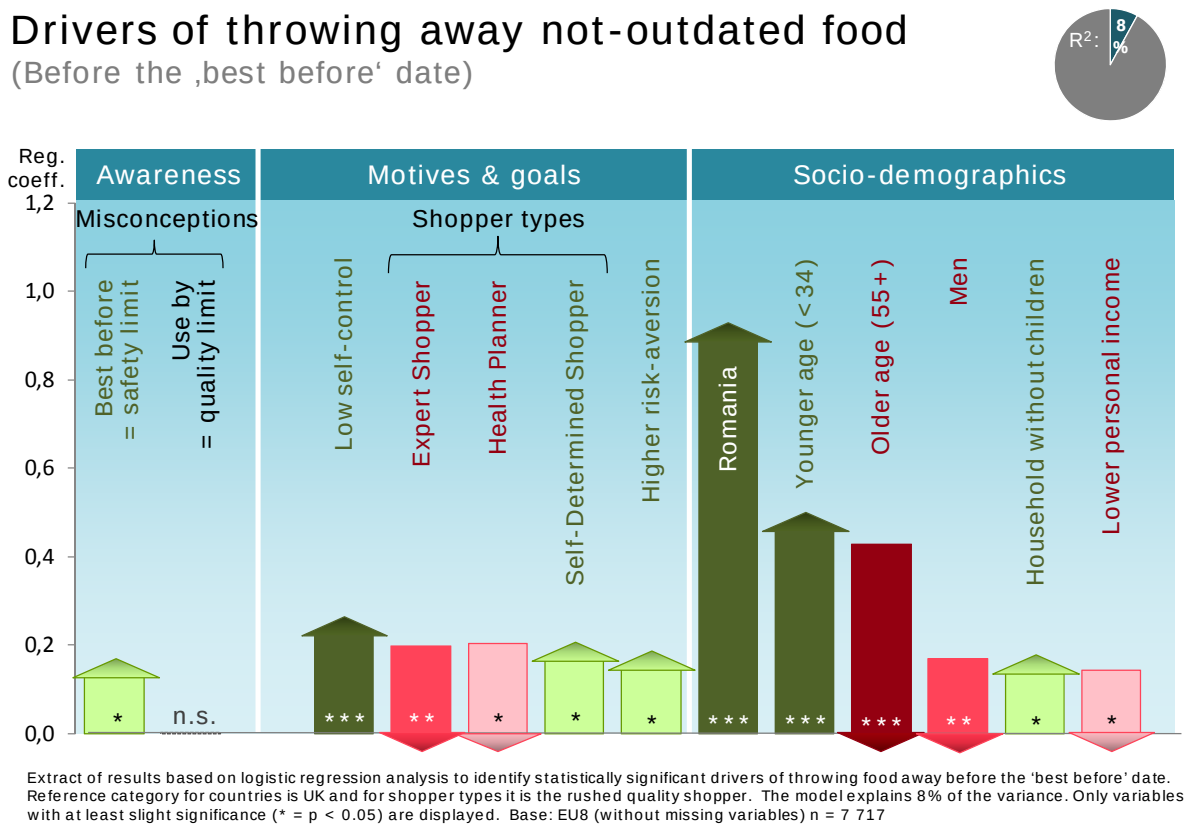
- Shoppers in Eastern European countries like Romania and Poland are most likely to avoid outdated food;
- By comparison, the majority of shoppers in Germany, France and Spain have no problem with the consumption of outdated food.

Base model for not-outdated food

The most relevant factors driving food waste before its 'best before' date were predominantly socio-demographical and motivational variables and only to a lesser extent awareness of the expiry date. No habitual drivers were identified among the tested variables.

[60] The reference country for this analysis is the UK, which displays an average behaviour regarding food waste among all countries researched.

Figure 87 Drivers of throwing away not-outdated food



Extract of results based on logistic regression analysis to identify statistically significant drivers of throwing food away before the 'best before' date. Reference category for countries is UK and for shopper types it is the rushed quality shopper. The model explains 8% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed. Base: EU8 (without missing variables) n = 7 717

<u>Awareness</u>

Consumers, who believed that the 'best before' label represented a 'safe to eat/drink' limit were only slightly more likely to claim to throw away food not out of date. The interpretation of the 'use by' date had no impact at all.

<u>Motives & goals</u>

Unlike the previous model, being more security conscious showed only a slight impact on the decision. Instead, low self-control was more likely to drive food wastage. This indicates a more impulsive behavioural pattern driven more by short-term emotions than by long-term goals.

This finding was complemented by the motivation of the relevant shopper types. The more strategic shoppers, who take time to carefully identify the best quality and healthy products, were significantly less likely to throw away food still safe to eat. The Self-Determined Shopper who is not at all interested in information on quality and health aspects was more likely to discard unexpired food. The conclusion is that there must be further subjective reasons (not captured in this study) in addition to the safety issue to explain this specific food waste behaviour.

<u>Socio-demographics</u>

Wasting food before it reached the 'best before' date was most often seen among:

- Consumers in Romania,
- Younger consumers;
- Women;
- Households without children.

It was least likely among consumers with a very low income.

In summary, the data indicates that different food waste scenarios are influenced by different sets of variables. The misconception of the 'best before' date as a safety limit was only a strong driver of wasting food past that date – but not before.

Further empirical evidence is required to

- Explore further reasons why consumers throw away food before and/or after the expiry date;
- Better understand the strong country biases, which might be due to varying social norms, differences in climate or storage equipment, cultural cooking or consumption habits, specific food categories, etc.
- Test whether any information and/or education is effective enough to change at least the intention to reduce food waste.

There are various potential treatments which may reduce the impact of the current misconception of the 'best before' date – such as the following suggestions:

- Information based measure
    - Different wordings of the term 'best before' in each language
- Educational intervention
    - Education on the meaning of 'best before'
    - Raising awareness of the disadvantages of wasting food
- Choice architecture
    - Offering only the date until when it is safe to eat (no quality related dates)
    - Offering two dates: manufacturing date and last date when it is safe to consume
    - Offering two dates: best quality and safe to consume

Behavioural theory would suggest that changes in the choice architecture will have the highest impact, while the pure rewording of the 'best before' date is likely to be inefficient. However, this has yet to be tested.

8 DESIGN OF STORE EXPERIMENTS ON TRANS FAT

Following the analysis of the multi-topic multi-country study, the next step was further investigation of consumer choices on trans fat issues in a more realistic offline shopping environment.

The fieldwork was conducted in nine comparable supermarkets of a large retailer chain in Germany in July 2014.

8.1 Updated research objectives for TFA experiments

The online survey provided a range of insights on how consumers react when confronted with different TFA information in laboratory choice tasks (see Chapter 4).

The experiments based on the product category of crisps indicated that consumers tend to react solely to TFA-related information on the nutrition facts label but not in the ingredients list. While they performed well in avoiding TFA based on the nutrition information in a simple task, consumers faced difficulties when needing to balance between the amounts of TFA and saturates in a more complex choice situation. Only the combined treatment with an education created an overall positive effect on making healthy choices.

The purpose of the follow-up research was to test whether these findings can be extrapolated to other product categories with different choice architectures in the more natural offline environment of a supermarket.

The key questions for the offline experiments were as follows:

a) Do consumers access food information while shopping in a bricks and mortar supermarket?

b) How do consumers react, when presented with trans fat information? Will the transparency of TFA amounts lead to more or less healthy product choices at the point of sale?

c) Are shoppers able to identify a healthier product?

While the first research question was based on the observation of natural consumer behaviour at the shelf when selecting products, the latter questions required the controlling of specific context and treatment variables for a meaningful analysis:

- Two treatment scenarios vs. control group, i.e.
  - Does the TFA amount on the nutrition panel decrease or increase good choices?
  - Does the education treatment improve the impact of the display of the TFA amount?
- Two task designs, i.e.
  - Task 1: Does TFA transparency foster healthy choices when the product with no/less TFA is healthier than the alternative?
  - Task 2: Does TFA transparency hinder healthy choices when the product with more TFA is healthier than the alternative?
- Three product categories (choice architecture), i.e.

- Yoghurt/Dessert (Task 1: milk with some TFA and more saturates vs. soy without TFA but more sugar / Task 2: slightly more TFA vs. significantly more sugar and more saturates)
- Frozen pizza (Task 1: more TFA and saturates vs. a little more salt / Task 2: slightly more TFA vs. more salt and saturates)
- Biscuits (Task 1: more TFA and saturates vs. more sugar / Task 2: slightly more TFA vs. more sugar and saturates)

8.2 Overview of experimental design considerations

Since the experimental setting of the preceding multi-country study was driven by the more economical online collection of large samples in many countries, the second research step focused on purchase decisions in a more natural field environment of an 'offline' supermarket.

The reading behaviour of food information at a supermarket shelf can be expected to be very different to the 'zooming' behaviour of consumers in an online choice task. As outlined in Chapter 2.1.3 most choices in supermarkets are made by habitually choosing the same products without reading food information at the point of sale.

Therefore, a pure field experiment by manipulating the TFA information on the real products would have delivered a very small sample of shoppers who noticed the relevant information in the shopping process. Moreover, the manipulation of real products would have required an arbitrary allocation of real brands to a higher or lower trans fat amount, as the real TFA content is unknown to us.

These were the main reasons why in this research step the experimental setting again was a more controlled laboratory type by observing the decision making between mock-up products at a stand located in a supermarket.[61]

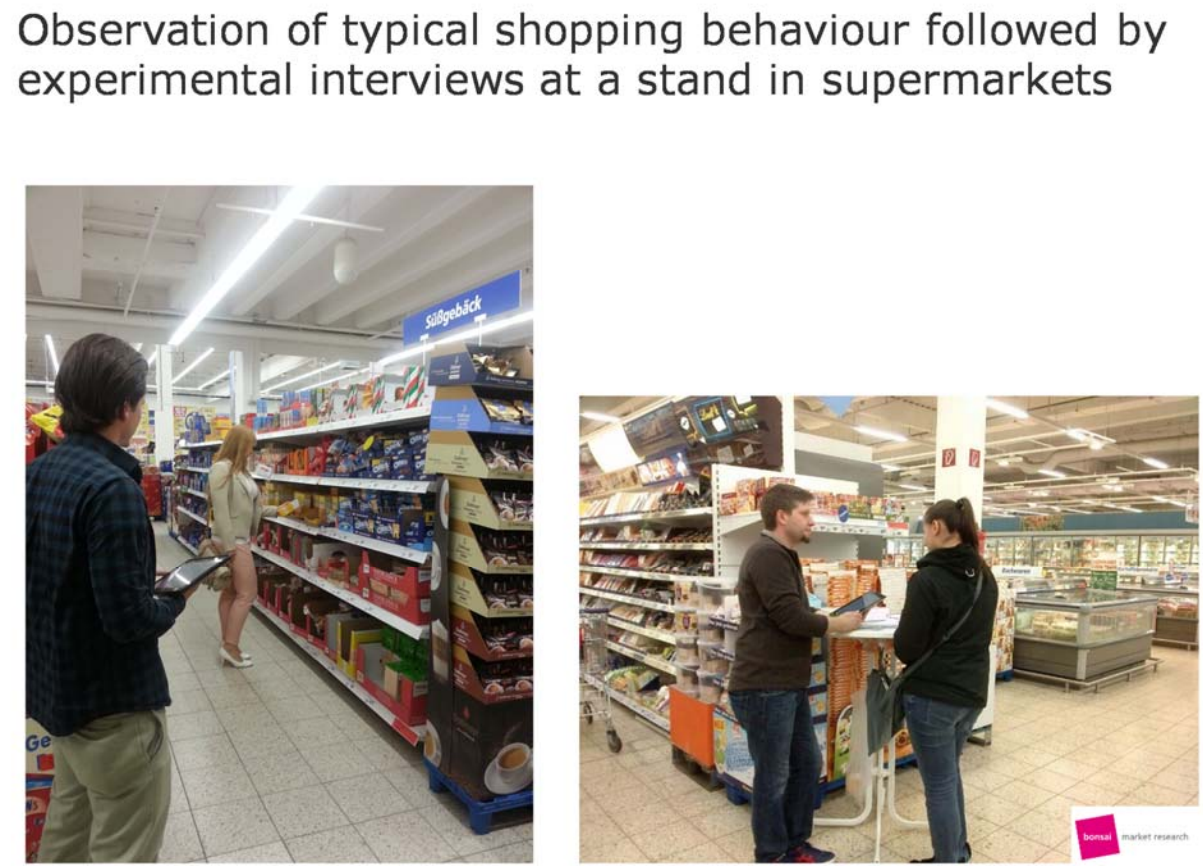
The process of this in-store research was designed as follows:

1. Customers were observed while interacting with the product category (real stakes without manipulation). The main purpose of the observation was to provide data on the reading behaviour at the shelf and to identify shoppers for recruitment to the experiment.
2. Shoppers who put at least one product in their basket were contacted after leaving the category area and screened for eligibility to the experiments.
3. Eligible shoppers who were willing to participate were guided to the experimental stand where another interviewer took over.
4. Initial questions covered shopping goals and the type of food information that was looked for (if any reading was observed previously).
5. The interviewer introduced the experimental task and presented the mock-up products and noted the observations of the participants' reading and decision process.

[61] A similar experimental setting at stands in supermarkets was conducted by Sheena Iyengar (2000): When choice is demotivating http://www.columbia.edu/~ss957/articles/Choice_is_Demotivating.pdf

6. Following the experiments the respondent received a detailed feedback on his/her decisions, and the interviewer took notes on the reactions to this feedback.
7. All participants who completed the experiments received a shopping voucher as an incentive.

Figure 88 Images of the data collection process in supermarkets



As in the online research, the offline experiments also excluded any differentiation by brand or price. Participants were asked to assume that the presented mock-up products are new offers from their favourite brands at the typical price that they normally pay.

In contrast to the online lab experiments, the offline 'field & lab' experiments in this section were conducted

- in a real supermarket;
- with more realistic tangible products which contained more detailed food information;
- with shoppers who performed the same shopping decision in real life moments before the experiment;
- by linking the observation data on the real reading behaviour at the shelves with the questionnaire routing and the interview data.

8.3 Product categories tested

The product categories selected for this experiment were **yoghurt, frozen pizza and biscuits**. This choice was based on the following criteria:

- Relevance to the policy area:
  Naturally occurring TFA can be found in fat-containing dairy products like cheese, yoghurt, butter, as well as meat and meat products from ruminant animals, such as cows, goat, and sheep.
  Industrially produced TFA may be found in processed foods where PHO is added as ingredient or where PHO is used during processing (e.g., frying) such as in prepacked biscuits, cakes, croissants, crisps, popcorn, chocolate products, fried potato products, margarines, pastries, etc.
- Relevance to consumers:
  The selected categories had to be popular enough to achieve a reasonable sample size within the time frame.

The selected range of product categories covered both trans fat types - 'natural' and 'industrial'. Yoghurt contains only natural TFA, in biscuits TFA can occur naturally when butter is used as ingredient or come from industrial origin if PHO is used as ingredient and frozen pizza usually contains natural TFA from cheese and may in addition contain industrially produced TFA in case PHO is used as ingredient.

The reason why yoghurt was chosen for testing is that it is a product with a healthy image, with only small variations in the level of trans fat but higher levels saturates and potentially sugar. Moreover, it was tested whether the display of trans fat information would deter consumers to switch to alternative (soy) products instead.

Frozen pizza was selected to test higher variations of trans fat vs. salt and saturates. Biscuits were selected to test higher variations of trans fat vs. sugar and saturates.

All categories are commonly purchased by consumers in German supermarkets. Only biscuits had a slower turnover in the summer time, which required an extension of field work.

The mock-up products for these categories were developed by a professional packaging supplier to represent a typical product in a neutral 'black & white' format.

Figure 89 Product images

8.4 Treatment splits for TFA transparency

The next dimension to be considered was the design of treatment stimuli and the number of treatment splits to be tested. To examine the impact of possible treatments the following stimuli were developed to test their effectiveness on driving healthy choices:

- Control group: Nutrition facts panel containing no TFA information. The only indicator for industrial TFA was the presence of PHO in the ingredients list.
- Treatment 2: Nutrition facts panel with additional information on TFA amounts.
- Treatment 3: Same as Treatment 2 plus an education intervention explaining about an overall healthy diet and the fat types (presented as a nutrition guideline).

Additional TFA information on nutrition label

Since consumers will be confronted with a new terminology (partially hydrogenated oil – PHO) in ingredients list from 2014, it was another goal to find out whether the term is understood properly. If so, does it foster healthy choices even if it does not provide exact information on the amount of TFA?

The alternative scenario was to provide concrete TFA amounts as is common in other countries outside the EU (see example below):

Figure 90 Example without TFA (control group) and with TFA (treatments 2 / 3)

Average nutrition information per 100g	
Energy	965 kJ / 216 kcal
Protein	9,0 g
Carbohydrates	27,5 g
of which Sugar	2,7 g
Fat	9,4 g
of which Saturates	3,9 g
Salt	1,2 g

Average nutrition information per 100g	
Energy	965 kJ / 216 kcal
Protein	9,0 g
Carbohydrates	27,5 g
of which Sugar	2,7 g
Fat	9,4 g
of which Saturates	3,9 g
of which Trans fats	1,3 g
Salt	1,2 g

The key question is whether the additional and more concrete TFA information actually helps consumers to make healthier choices or whether it is in fact misleading and counter-productively causes overreactions.

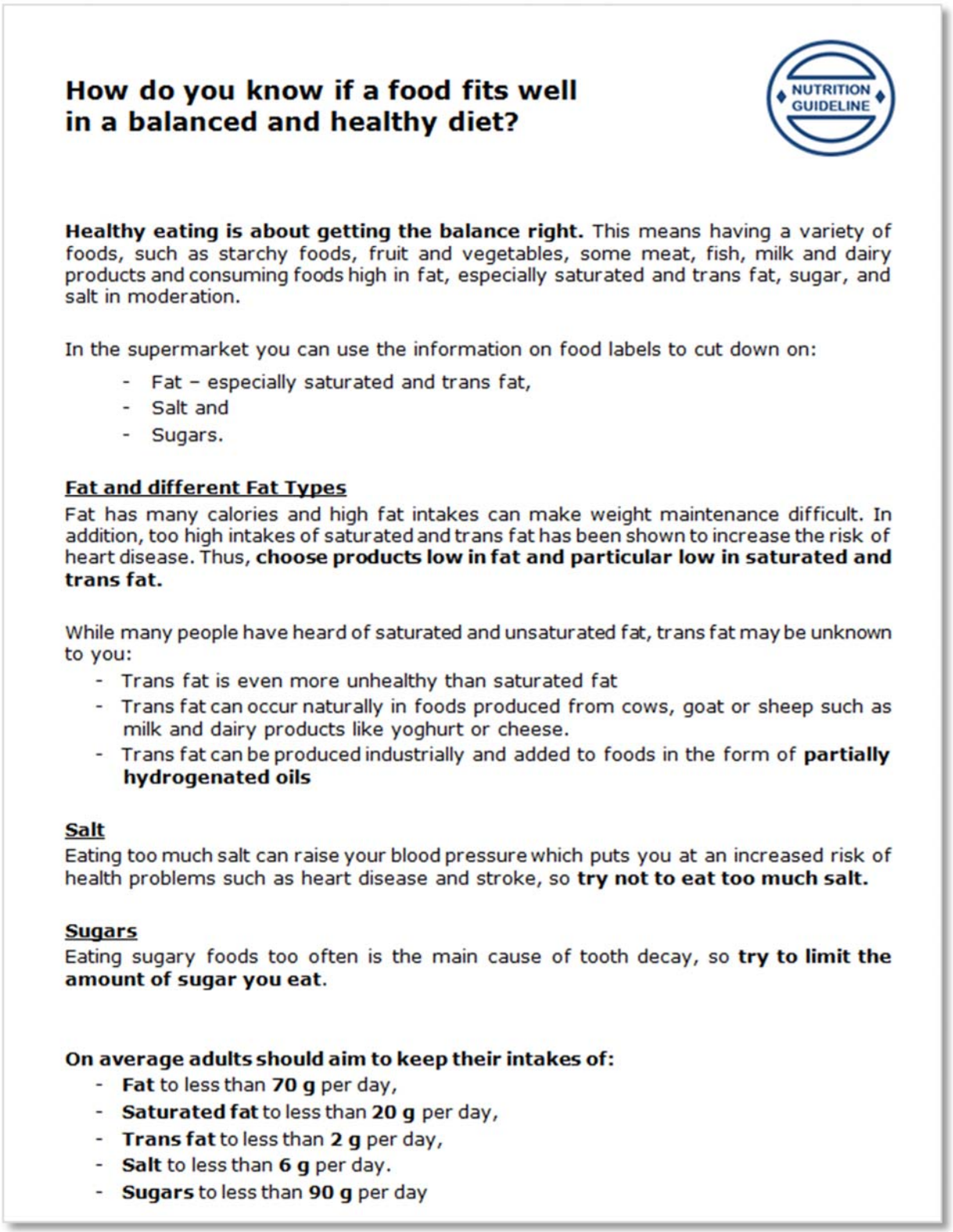
Education intervention explaining all fat types

It was expected that a large share of consumers would have only little or no awareness of specific fat terms such as TFA and PHO. As a consequence an additional treatment was developed[62] to simulate an educational intervention for one third of the participants. This was to help analyse whether an objective explanation of this rather complex topic to consumers helps increase healthy choices.

While the treatments with TFA information were embedded into each choice task, the education treatment (see figure below) was presented once before the first task, when asked to identify the healthier product.

[62] The content of this treatment was developed with the aim to balance the need for a short, targeted and easy-to-understand leaflet to be quickly read and understood by participants with ensuring an existing evidence base and a comprehensive education of a balanced diet.

Figure 91 Education treatment for TFA field experiment



How do you know if a food fits well in a balanced and healthy diet?

NUTRITION GUIDELINE

Healthy eating is about getting the balance right. This means having a variety of foods, such as starchy foods, fruit and vegetables, some meat, fish, milk and dairy products and consuming foods high in fat, especially saturated and trans fat, sugar, and salt in moderation.

In the supermarket you can use the information on food labels to cut down on:

- Fat – especially saturated and trans fat,
- Salt and
- Sugars.

Fat and different Fat Types

Fat has many calories and high fat intakes can make weight maintenance difficult. In addition, too high intakes of saturated and trans fat has been shown to increase the risk of heart disease. Thus, **choose products low in fat and particular low in saturated and trans fat.**

While many people have heard of saturated and unsaturated fat, trans fat may be unknown to you:

- Trans fat is even more unhealthy than saturated fat
- Trans fat can occur naturally in foods produced from cows, goat or sheep such as milk and dairy products like yoghurt or cheese.
- Trans fat can be produced industrially and added to foods in the form of **partially hydrogenated oils**

Salt

Eating too much salt can raise your blood pressure which puts you at an increased risk of health problems such as heart disease and stroke, so **try not to eat too much salt.**

Sugars

Eating sugary foods too often is the main cause of tooth decay, so **try to limit the amount of sugar you eat**.

On average adults should aim to keep their intakes of:

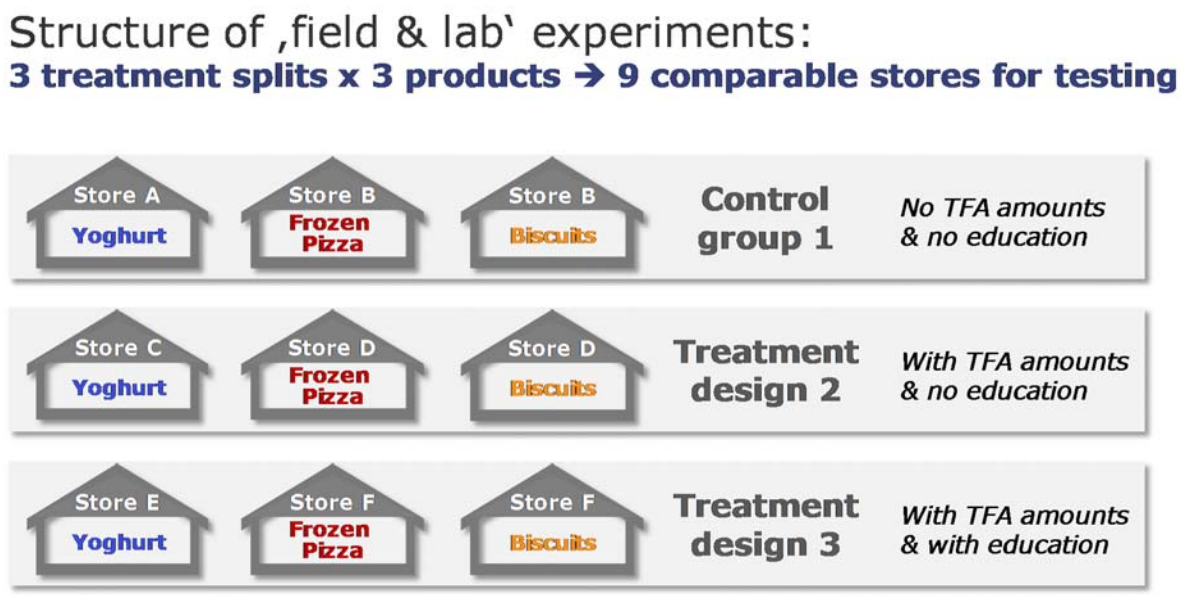
- **Fat** to less than **70 g** per day,
- **Saturated fat** to less than **20 g** per day,
- **Trans fat** to less than **2 g** per day,
- **Salt** to less than **6 g** per day.
- **Sugars** to less than **90 g** per day

The interviewers were requested to neither influence the reading time of respondents nor discuss any questions they might have. After its initial presentation the respondents were allowed to use and read the guideline again, if they wanted.

8.5 Selection of markets and respondent screening

The definition of three product categories and three different treatment scenarios required the selection of nine separate but comparable stores.

Figure 92 Store segmentation



Hence, co-operation with a large retailer chain was required to select nine stores that shared the following criteria:

- Organisational membership: all stores belonged to the same retailer brand "*real,-*"
- Outlet size: all stores were of a comparable size and turnover (+/- 10%)
- Equality of sales volume within the test category: same turnover (+/- 10%)
- Equality of competitive environment: same products on the shelves of the test categories
- Geographical region and urbanity: similar customer structure as all stores are located in the outskirts of larger cities in the North of Germany

For a reasonably robust analysis approximately 200 experimental interviews per store/split were targeted and achieved. The overall gross number of observations at the shelves varied between two and three times the net achieved sample depending on the recruitment rate in each market.

Table 93 Sample sizes per split

#	Category	TFA amounts	Education	Observations	Interviews
Split 1	**Yoghurt**	No	No	383	200
Split 2	**Yoghurt**	Yes	No	501	202
Split 3	**Yoghurt**	Yes	Yes	574	201
Split 4	**Frozen Pizza**	No	No	598	211
Split 5	**Frozen Pizza**	Yes	No	372	201
Split 6	**Frozen Pizza**	Yes	Yes	615	203
Split 7	**Biscuits**	No	No	473	202
Split 8	**Biscuits**	Yes	No	663	239
Split 9	**Biscuits**	Yes	Yes	662	192
Total sample				**4 841**	**1 851**

While the gross sample of 4841 shopper observations allows us to further understand typical consumer reading behaviour at the shelves, the core analysis of the experimental design is based on the net sample of 1851 respondents.

Between the observation and the experiments a thorough screening process was conducted to make sure that the net sample included the envisaged target group features. Below is an overview of the screening process from gross to net sample:

Table 94 Overview of screen out process

Sample	Definition
4 841	All observed shoppers who interact with the relevant test category
-236	Screen out of non-buyers (Q10)
-2 247	Not willing to participate in survey (Q15)
-8	Screen out of <16 year old shoppers (Q18)
-31	Screen out of only low fat shoppers (Q19)
-12	Screen out of previous participants (Q20)
-456	Not willing to participate in full interview (Q21)
= 1 851	Respondents with complete experiments and interview data

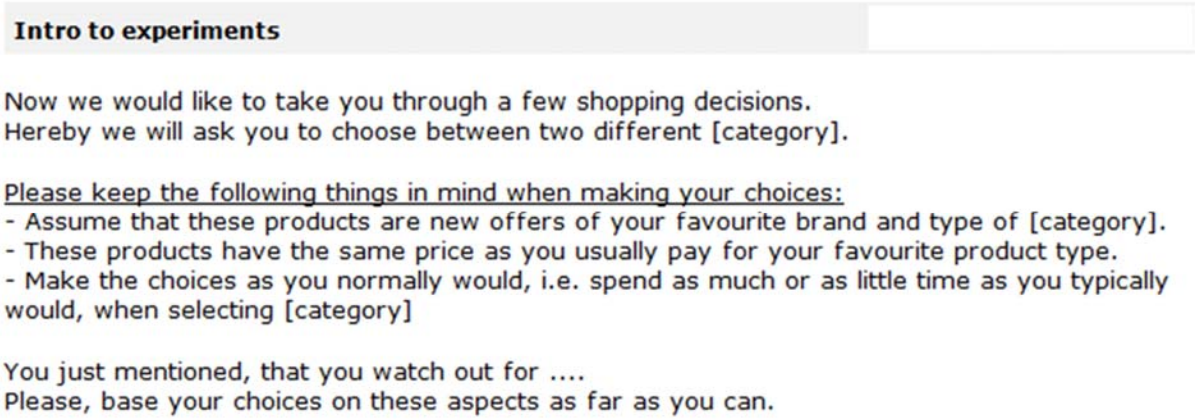
The target sample included only shoppers aged 16 and older who selected at least one non-diet product of the observed category. The exclusion of "diet" shoppers was due to the fact that the experiments involved products with high variation of fat levels, which would have been too hypothetical for these shoppers.

8.6 Framing of TFA experiments

The experiments were embedded within an interview following the screening process. The interviewer at the stand asked about the previous observation as to whether food information was read at the shelf or not.

All questions asked before the experiment were carefully selected and worded in order to achieve unbiased choices in the experiment. The introduction to the choice tasks (see figure below) presented reminders of reading and selection habits. Moreover, it explained how to overcome the lack of brand and price information, which normally represents a key choice feature for consumers. Each respondent had to imagine that the presented mock-up products came from their individually favoured brand at the usual price.

Figure 95 Introduction to TFA experiments



The purpose of the framing with these reminders was to help respondents imagine a more realistic and individual choice situation, to allow more realistic observations of choice behaviour in the experiment.

8.7 Choice tasks and choice characteristics

The experimental design reflected two subsequent choice sets in order to answer the two different research objectives:

a) How consumers react, when presented with trans fat information?

b) Are shoppers able to identify a healthier product?

The first objective required the observation of initial – often less conscious – choices that are as unbiased as possible also in terms of health goals. Only if shoppers care about selecting a healthier product is it likely that they will search for relevant food information. Hence, this set

of choice tasks was positioned at the beginning of the experiment without any prior education treatment or consideration of the healthiness of individual nutrition elements. It should be kept in mind that the experimental task with its controlled variation of specific features was more likely to automatically draw the attention of attentive consumers towards a healthy choice. However, the framing of the choice tasks nudged more the habitual behaviour which can be expected to achieve more realistic choices.

The questions in the initial choice set were:

- "Which [product] would you choose – A or B or both or none of them?"
- "Which [product] would you choose – X or Y or both or none of them?"

Following the initial choices, the respondent was asked to reflect on the healthiness of the key nutrition elements based on his/her current knowledge. According to the previous research step, the correct perception of healthiness of saturates and trans fats was a significant prerequisite of the ability to identify a healthy product.

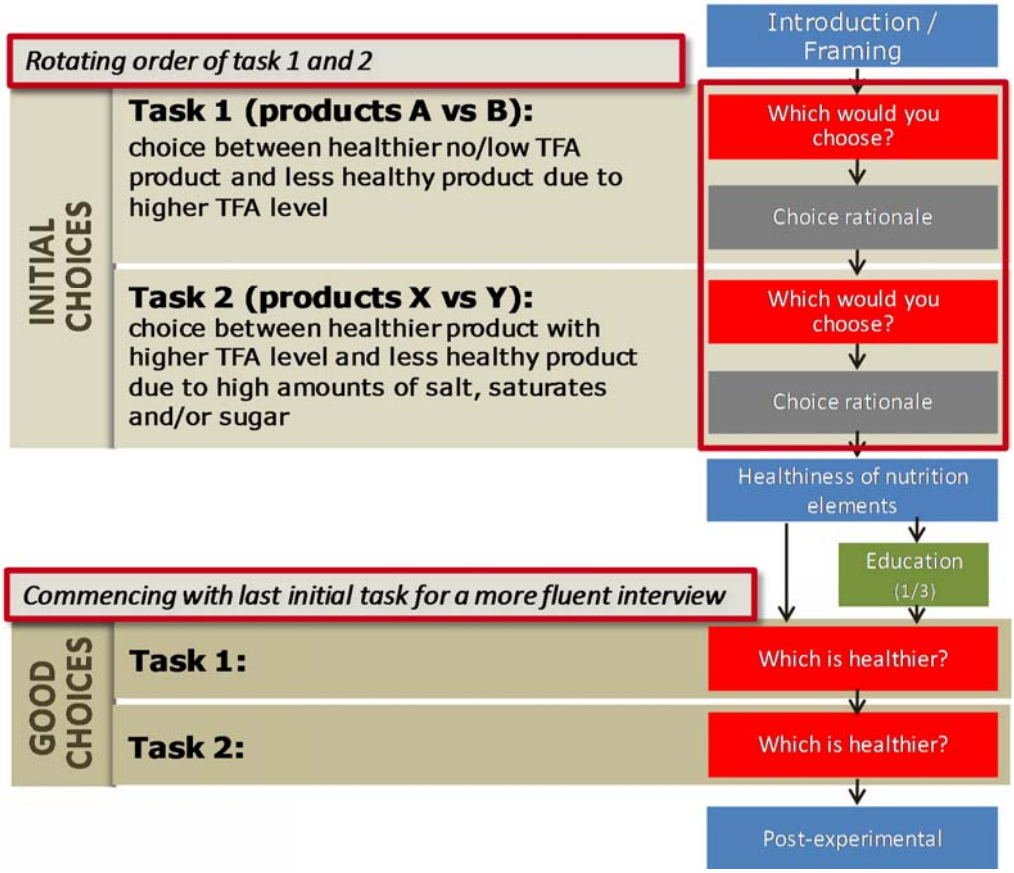
Before introducing the final choice set, one third of the respondents received the education treatment in the format of a nutrition guideline.

Subsequently, the participants were asked to make 'good choices':

- "Which [product] is healthier – A or B or are they both equally healthy or equally unhealthy?"
- "Which [product] is healthier – X or Y or are they both equally healthy or equally unhealthy?"

In contrast to the initial choices this set of questions reflected more cognitive decisions in particular for consumers who less used to looking out for healthy choices. The preceding assessment of the healthiness of nutrition elements provided a balanced framing for all respondents. Even those, who already made their initial choices consciously towards a health goal, had the opportunity to double check the food labels again after this deliberative exercise.

Figure 96 Overview of TFA experiments flow for respondents



With this experimental design, the impact of the education treatment can only be measured in the latter choice set and not for the initial choices. This limitation is acceptable, as the key purpose of the education is to help consumers to identify healthy products. To measure the impact of education treatments on more habitual initial choices would require a more long-term field experiment.

The following guidelines were established to develop the choice architecture details:

- Presentation of pairwise choices with one product clearly superior than the other from a nutritional perspective.
- Each choice set (initial and good choices) consisted of two tasks to cover two different choice settings:
  - Task 1 presented as healthier choice product (B) without or with significantly less TFA than the alternative ⇨ noticing and understanding the TFA content was critical for a correct decision and therefore TFA transparency was expected to increase healthy choices in this setting.
  - Task 2 presented as healthier choice product (X) with slightly more TFA than the alternative
    ⇨ for a correct choice, TFA information needed to be ignored or participants needed to understand that the difference in TFA contents did not outweigh the

high amounts of other unhealthy nutrients . TFA transparency was expected to decrease the number of healthy choices in this setting.

- Products did not have more variations than absolutely necessary
- Products contained roughly realistic amounts and combinations of nutrition elements

Of course, in reality people also choose between products that are equally healthy or unhealthy options. However, such choices do not call for interventions of this type (transparency measures only make sense if there is an opportunity for consumers to identify a healthier alternative). The descriptions of Task 1 and 2 covered the key situations, where consumers may make bad choices because of misunderstanding or ignorance.

When creating quasi field experiments there is a temptation to include as many variations as possible to simulate the complexity of a real life decision. On the other hand, the observation of choice behaviour also requires an objective reasoning and interpretation. The more variations the less we can determine what really triggered the choice.

In contrast to the previous online experiments, there was now one additional variable in each product (either sugar or salt), which competed with the variation of saturates and trans fats. The purpose of this additional dimension was to compare the relative impact of these nutrition elements on the choices.

Figure 97 Choice architecture of TFA experiments

	Product	Task rule	Superiority	TFA (g)	SF (g)	Fat (g)	Sugar (g)	Salt (g)	other
TASK 1	**Dessert A**	more TFA	less healthy	**0,2**	**1,7**	2,5	**7,3**	0,1	**Cow milk**
	Dessert B	less TFA	healthier	**0**	**0,4**	2,5	**9,0**	0,1	**Soy milk**
	Pizza A	more TFA	less healthy	**1,3**	**3,9**	9,4	2,7	**1,2**	-
	Pizza B	less TFA	healthier	**0,2**	**3,0**	9,4	2,7	**1,6**	-
	Biscuit A	more TFA	less healthy	**3,2**	**7,1**	13,3	**28,2**	0,2	-
	Biscuit B	less TFA	healthier	**0,2**	**5,0**	13,3	**40,9**	0,2	-
TASK 2	**Yoghurt X**	more TFA	healthier	**0,4**	**5,6**	10,0	**6,6**	0,1	Cream
	Yoghurt Y	less TFA	less healthy	**0,2**	**6,9**	10,0	**17,9**	0,1	Cream
	Pizza X	more TFA	healthier	**1,4**	**4,4**	11,2	2,6	**0,8**	-
	Pizza Y	less TFA	less healthy	**1,2**	**5,6**	11,2	2,6	**1,8**	-
	Biscuit X	more TFA	healthier	**2,5**	**10,1**	25,0	**18,2**	0,2	-
	Biscuit Y	less TFA	less healthy	**2,3**	**12,6**	25,0	**26,9**	0,2	-

In Task 1 product A in all categories was designed to be less healthy than product B because of more trans fat and slightly more saturated fat, and slightly lower sugar or salt content than product B. However, without knowing that TFA is a very unhealthy ingredient product A appeared to be the healthier option. This is a scenario, where – in an ideal world with rational consumers - more transparency about TFA should increase better choices.

The lowest transparency level was simulated in the control group without any information on TFA amounts and without any education treatment. The only way to identify significant levels of TFA was the presence of partially hydrogenated oil in the ingredients list.

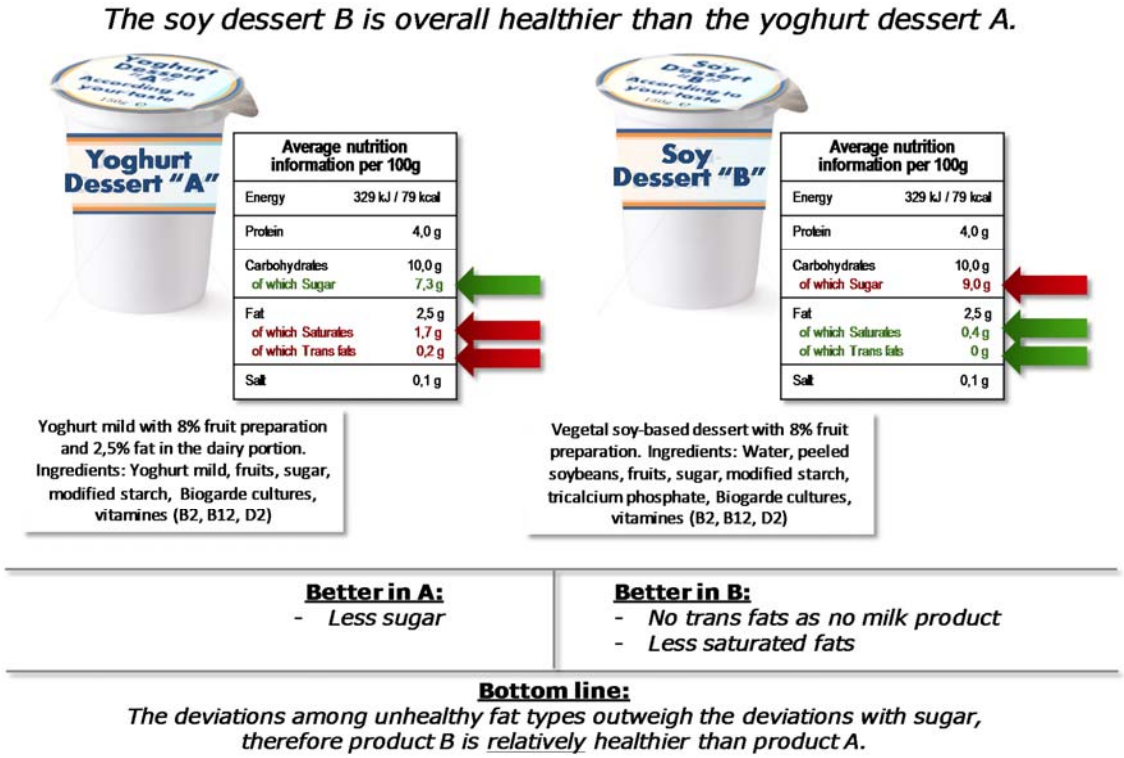
The fact that 'natural' trans fats are generally not listed in the ingredients list required an additional distinction in the yoghurt category in Task 1. The ingredients differed by cow milk vs. soy milk[63]. This design also allowed testing whether consumers confronted with low TFA amounts on a yoghurt carton would actually switch to soy alternatives without TFA.

In Task 2 product Y in all categories was designed to be less healthy than product X despite a slightly lower TFA content. The significantly higher amount of sugar or salt in combination with somewhat more saturates in product Y outweighed the small variations in TFA levels. The purpose of this scenario was to test whether consumers overreact when they are confronted with the presence of TFA and forget about other unhealthy ingredients.

After each of the four choices, the respondents were asked why they chose this product and what type of food information they were looking for when making their choice.

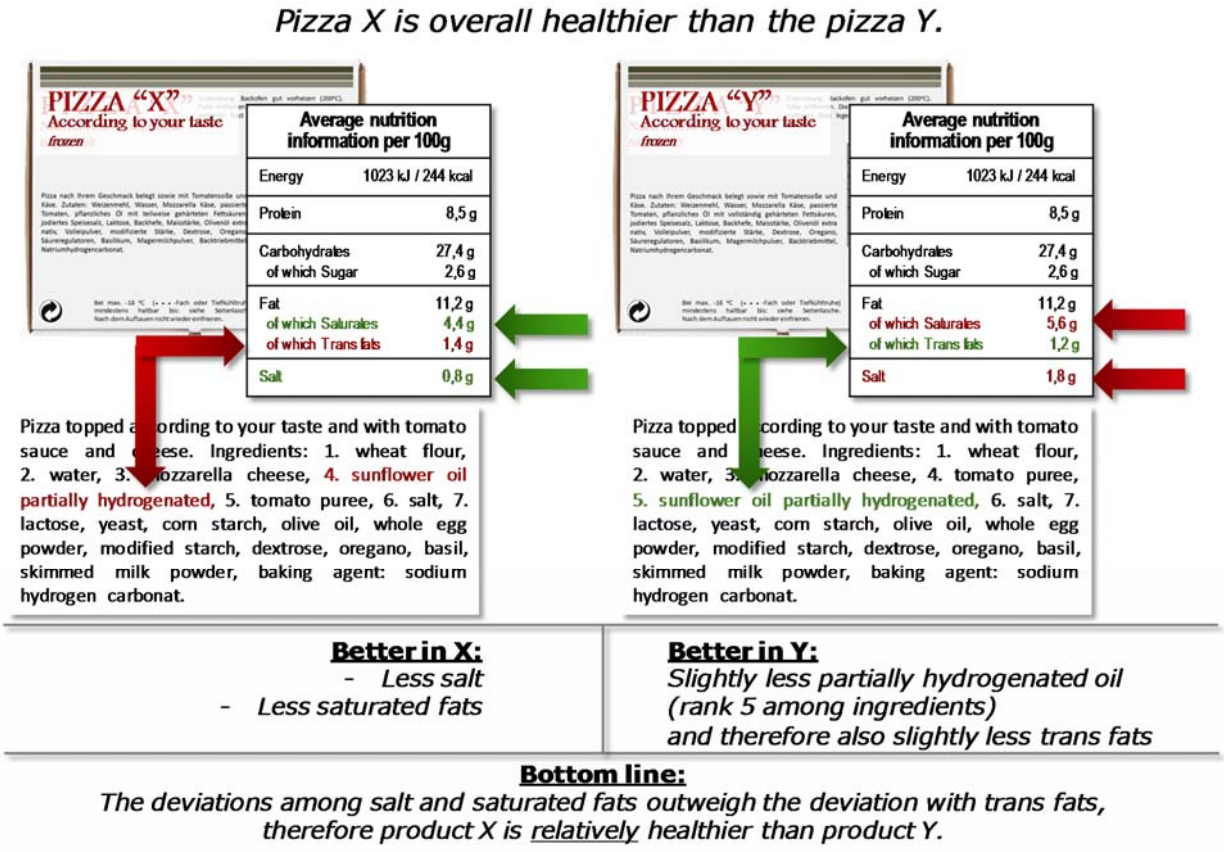
Eventually, the experimental part of the interview was finalised by giving the respondents feedback on the healthiness of the four different products through a verbal and visual explanation (see examples below).

Figure 98 Feedback with choice characteristics of yoghurt category in Task 1



[63] Since the natural TFA content of cow milk usually does not vary very much for making differentiated choices, soy milk would be an alternative to avoid any TFA at all.

Figure 99 Feedback with choice characteristics of pizza category in Task 2



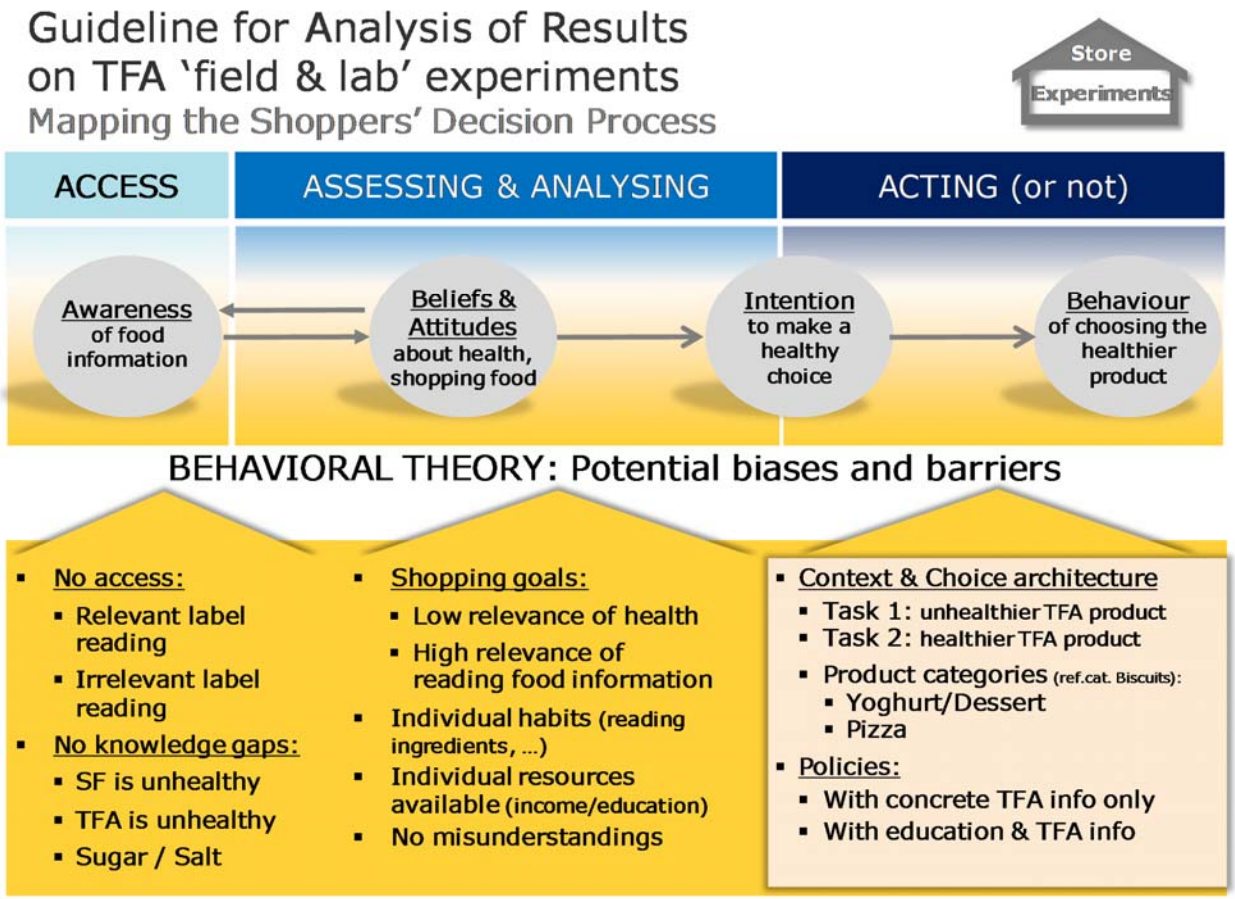
The interview at the stand was concluded with some questions on how consumers reacted to the disclosure of TFA information and which treatments they would prefer.

9 FINDINGS ON STORE EXPERIMENTS REGARDING TRANS FATS

This section explains the most important findings of the follow-up TFA experiments conducted on the premises of selected supermarkets in Germany.

Again we present the data in a structured way based on a simplified map of a shopper's decision process, which includes the potential drivers and barriers as identified in the previous research plus some new variables.

Figure 100 Guideline for analysis of results on store experiments



The ultimate objective is to identify the drivers and barriers of making healthy food choices and whether more transparency on TFA amounts has any significant impact.

The analysis starts with a description of the observation of consumers´ shopping and reading behaviour at the shelf in Chapter 9.1. This section focusses on the observed reading behaviour when selecting yoghurt, pizza and biscuits in a supermarket. In addition, this section describes the subjective consumer preferences, collected after the experiments.

Chapter 9.2 covers the disaggregated findings of the observed decision behaviour in the initial choice tasks with suggestions for variables to be included in the statistical base model. The

disaggregated findings of the more conscious identification of healthy products follows in Chapter 9.3.

Chapter 9.4 combines the discussed variables through a multivariate analysis to answer the key questions about what are the statistically relevant drivers and barriers of choosing or identifying the healthy products and whether the transparency of TFA amounts impacts these choices in a positive or a negative way.

Chapter 9.5 summarises the key insights and discusses the main conclusions.

9.1 Observed choice behaviour at the shelf and stated preferences

This section briefly describes the extent to which consumers read food information when selecting products at the shelf.

The vast majority were so-called 'grab & go buyers', who quickly or habitually made a purchase decision without reading anything. Less than a quarter of all observed shoppers (who selected at least one product within the monitored categories) actually read the food information. This is in line with the empirical evidence of multiple previous shopper surveys conducted by TNS in European supermarkets.

The likelihood to read food information varied between product categories:

- Products with a healthier image such as yoghurt were more likely to be read.
- Products from a freezer compartment such as pizza attracted fewer readers.

Table 101 Shopping and reading behaviour at the shelf

Shelf behaviour of observed shoppers: Base unweighted	**All categories** 4841	**Yoghurt** 1458	**Frozen pizza** 1585	**Biscuits** 1798
- Reading buyers	**23%**	34%	10%	24%
- Grab & go buyers	**73%**	62%	87%	68%
All buyers	**95%**	97%	96%	93%
Non-buyers	**5%**	3%	4%	7%
Total shoppers with at least one product interaction	**100%**	100%	100%	100%

There was no significant gender difference in reading behaviour. Older shoppers (approximately 55 years or older) were somewhat more likely to read food information at the shelf.

Reading food information clearly takes more time than just "grab & go" shopping. The average duration of the shopping/selection process at the shelf takes twice the time (63 seconds) for readers than for non-readers (36 seconds).

Table 102 Average duration of shopping processes at the shelf

Average duration of observed shopping processes (seconds): Base unweighted	**All categories** 4841	**Yoghurt** 1458	**Frozen pizza** 1585	**Biscuits** 1798
- Reading buyers	**63 sec.**	58 sec.	57 sec.	69 sec.
- Grab & go buyers	**36 sec.**	41 sec.	32 sec.	38 sec.
All buyers	**43 sec.**	47 sec.	35 sec.	46 sec.
Non-buyers	**52 sec.**	40 sec.	45 sec.	60 sec.
Total shoppers	**43 sec.**	47 sec.	35 sec.	47 sec.

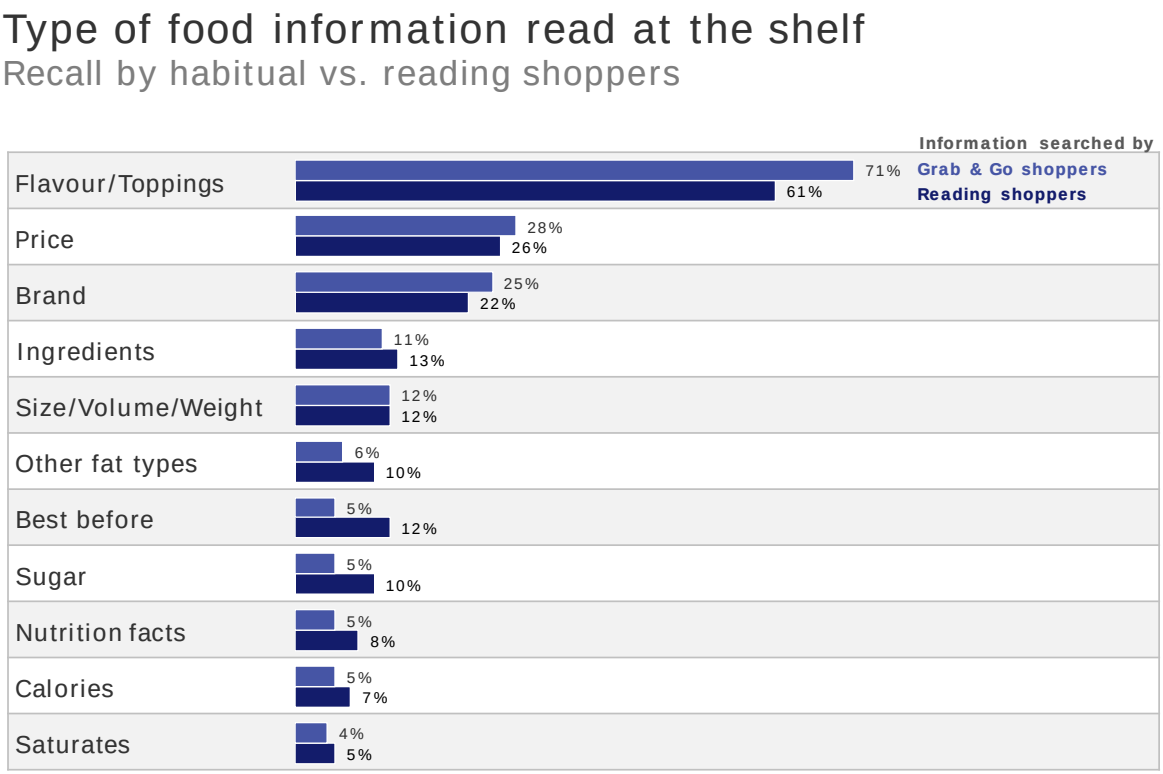
The readers of biscuit food information took longer on average (69 seconds) than readers of other products. The fact that "grab & go" shoppers of yoghurt took more time than in the other categories can be explained by the wider range of products in this category.

The typical package formats of the product categories also determined the ease of access for food information.

- Almost all reading yoghurt shoppers looked at the information printed on the top, while only a minority also looked at other areas, where the ingredients and nutrition panels are normally located.
- Frozen pizza is typically stored in a way where the upper side serves as a 'front panel' which attracts the most attention. Detailed ingredients and nutrition facts are mostly printed on the back panel which was used only by about one third of the readers.
- Biscuits come in differently shaped packaging and attracted more careful readers who searched information on several sides. Overall, there was only one shopper in the biscuits category who actually used a smartphone to scan a bar or QR code for more information.

Participants in the experiment were asked about the type of information they normally look for. The three most relevant factors were flavour, price and brand. These were particularly important for habitual shoppers who did not read information at the shelf. These consumers were also less interested in nutrition elements such as sugar or other fat types.

Figure 103 Type of food information read at the shelf



Q25: So today, when selecting your [category] you were reading something. What specific type of information did you actually look up? Base: respondents, who read at the shelf (n=454) – open answers with precodes

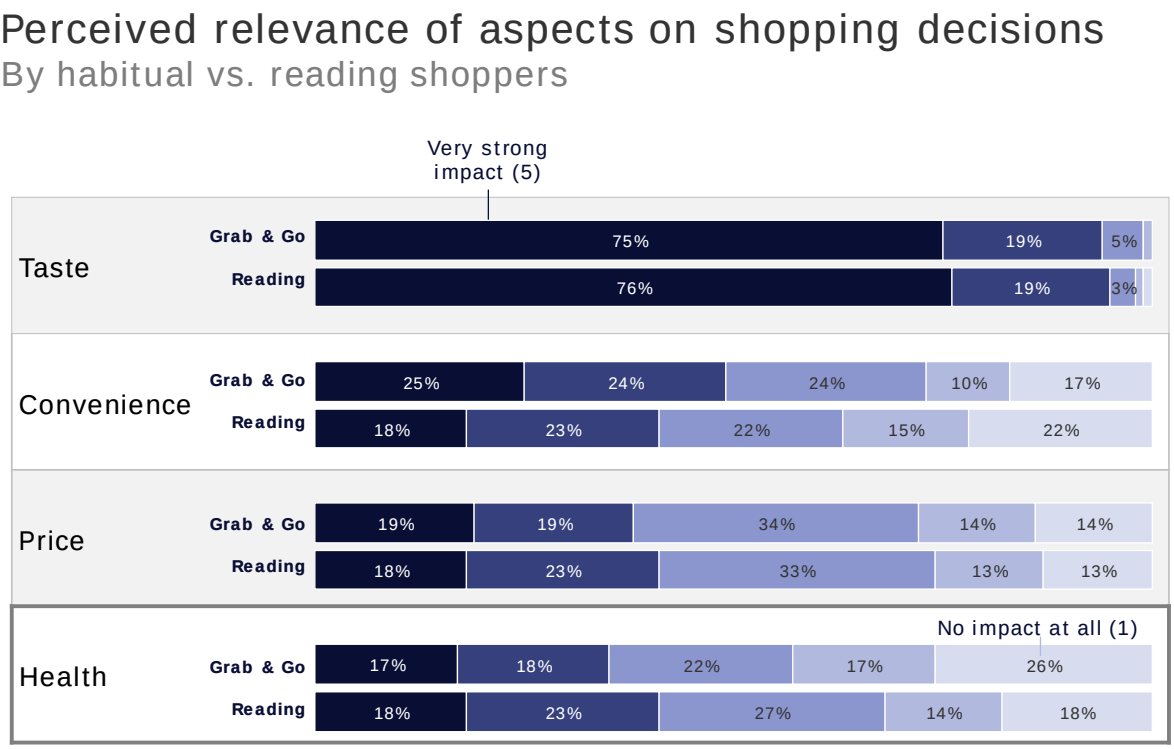
Q26: Today when you selected [category] you were not reading any specific product information. What kind of information would you normally be reading, if your favourite brand or product type would not have been available?
Base: all respondents, who did not read at the shelf (n=1397) – open answers with precodes

The product category also influences the type of information looked for. Details on saturates or other fat types were relevant in particular for yoghurt shoppers (18%). Information on sugar was checked by one in ten of those choosing yoghurt or biscuits. Pizza shoppers had almost no interest in any nutrition elements. Almost nobody searched for salt or sodium information.

This search pattern for food information correlated with specific shopping goals. For the average consumer health aspects were less important than other factors such as taste, convenience and price. A notable difference between 'grab & go' and reading shoppers was in the relevance of

- Convenience, which was more important to 'grab & go' shoppers,
- Health, which was more important to reading shoppers.

Figure 104 Relevance of shopping goals



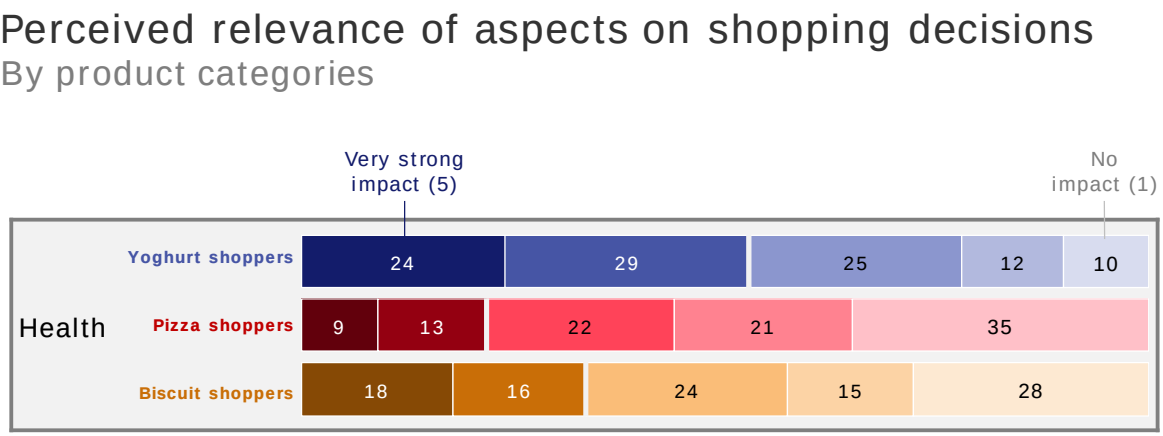
Q27: How much of an impact do the following aspects usualy have on your decision to buy [category]? Please use a scale where 1 means 'no impact at all' and 5 means 'a very strong impact'.

Base: all respondents – yoghurt split (n=603), pizza split (n=615), biscuit split (n=633)

This suggests that consumers who care about the healthiness of their food are also more likely to spend time reading food information when shopping. Indeed, 18% of shoppers who stated a (very) strong impact of health aspects on their decisions were also most likely to consider reading food information as important for making right choices.

Another perspective on shopping goals is the comparison of shoppers of different product categories. As one may have expected, yoghurt shoppers regarded health aspects as more important than pizza or biscuit shoppers. This reinforces the previous assumption that yoghurt is more often subject to a conscious decision towards a healthy diet than the other two categories.

Figure 105 Relevance of health goal by product categories



Q27: How much of an impact do the following aspects usualy have on your decision to buy [category]? Please use a scale where 1 means 'no impact at all' and 5 means 'a very strong impact'.

Base: all respondents – yoghurt split (n=603), pizza split (n=615), biscuit split (n=633)

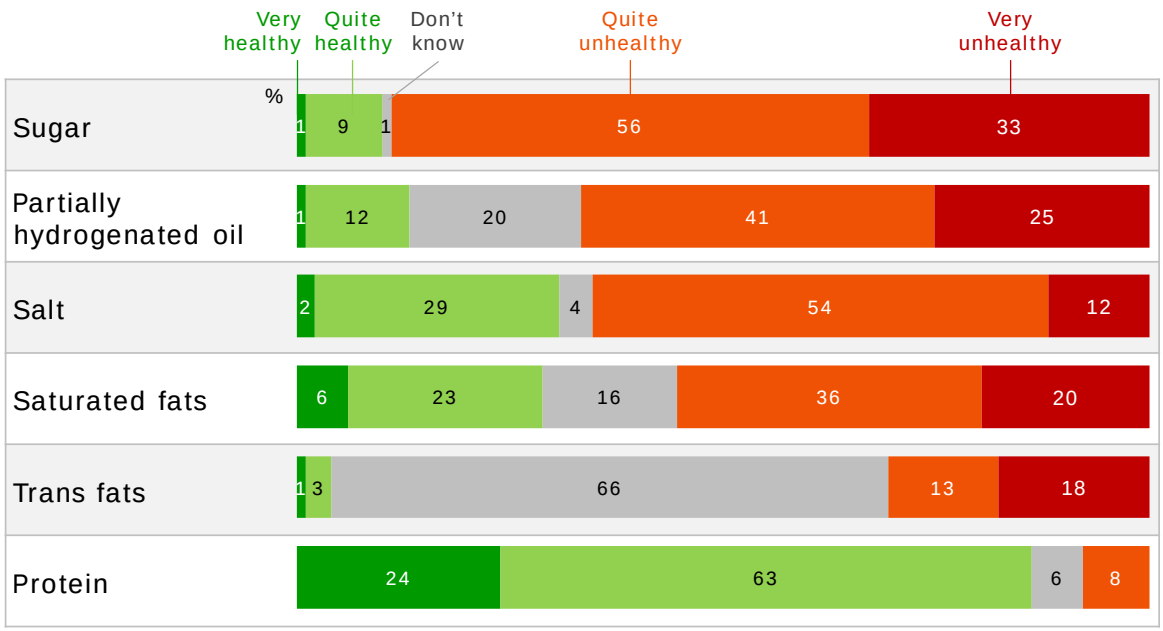
The individual relevance of health aspects on shopping decisions will be included into the overall analysis model as well as the habits of reading specific food information at the shelves.

Another set of potentially relevant factors is **knowledge about the (un)healthiness of nutritional elements**. Whether consumers know that trans fat is very unhealthy or whether they think it is healthy or whether they have no idea about it – this could be a driver or barrier to making good choices.

The overall evaluation of selected nutrition elements (see figure below) indicates that the term 'trans fat' (translated into 'Transfette') is still widely unknown to German shoppers.

While the vast majority correctly identified sugar as unhealthy and protein as healthy, there were more substantial knowledge gaps when evaluating saturated fats, salt and partially hydrogenated oil. However it is still worth noting that even so, two thirds recognised partially hydrogenated oil to be unhealthy.

Figure 106 Healthiness assessment of nutrition elements



Q41: Please have a look at this question and indicate for each element whether you consider it to be very or quite healthy or unhealthy. If you have no idea then tick "don't know".
Base: all respondents (n = 1851)

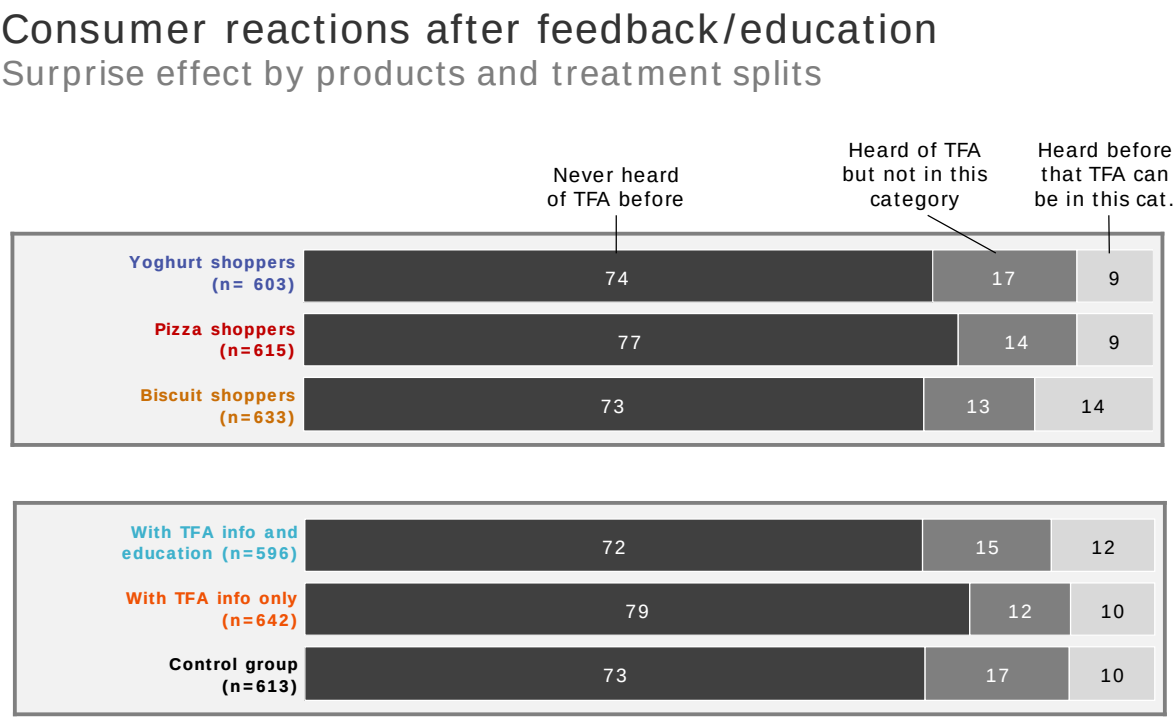
Before discussing the observed choice behaviour in the experiments, here we briefly describe the participants' reactions to the disclosure of TFA information as well as their **preferred interventions**.

As indicated before, the majority of participants had never heard of TFA before the experiments. While only around one in ten was aware of the existence of TFA in the product category, 15% of the overall sample were surprised by this fact.

There was little difference by product type. One might have expected more people in the 'healthier' yoghurt category to be unaware of the presence of TFA. However, the empirical evidence indicates that many consumers who had heard of TFA before did not really associate it with any of the tested categories.

Likewise the comparison between the treatment groups does not show any significant impact.

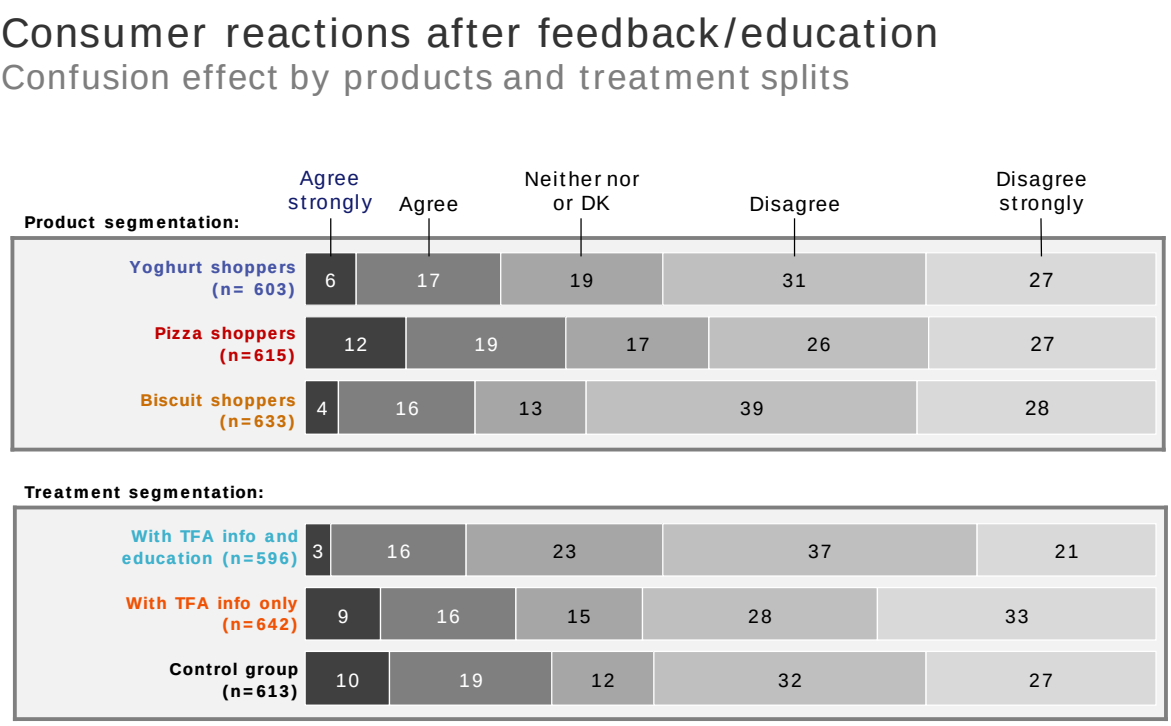
Figure 107 Surprise effect of TFA disclosure



Q54: As products sold in Germany are currently not labelled that way, we would like to understand how familiar the isue of trans fatty acids is to you. Which of the following statements apply to you?
Base: all respondents (n=1851)

One in four participants felt confused after the experiments and the feedback. The confusion was slightly higher among pizza shoppers and it was lowest among those who received the education treatment.

Figure 108 Confusion effect of TFA disclosure



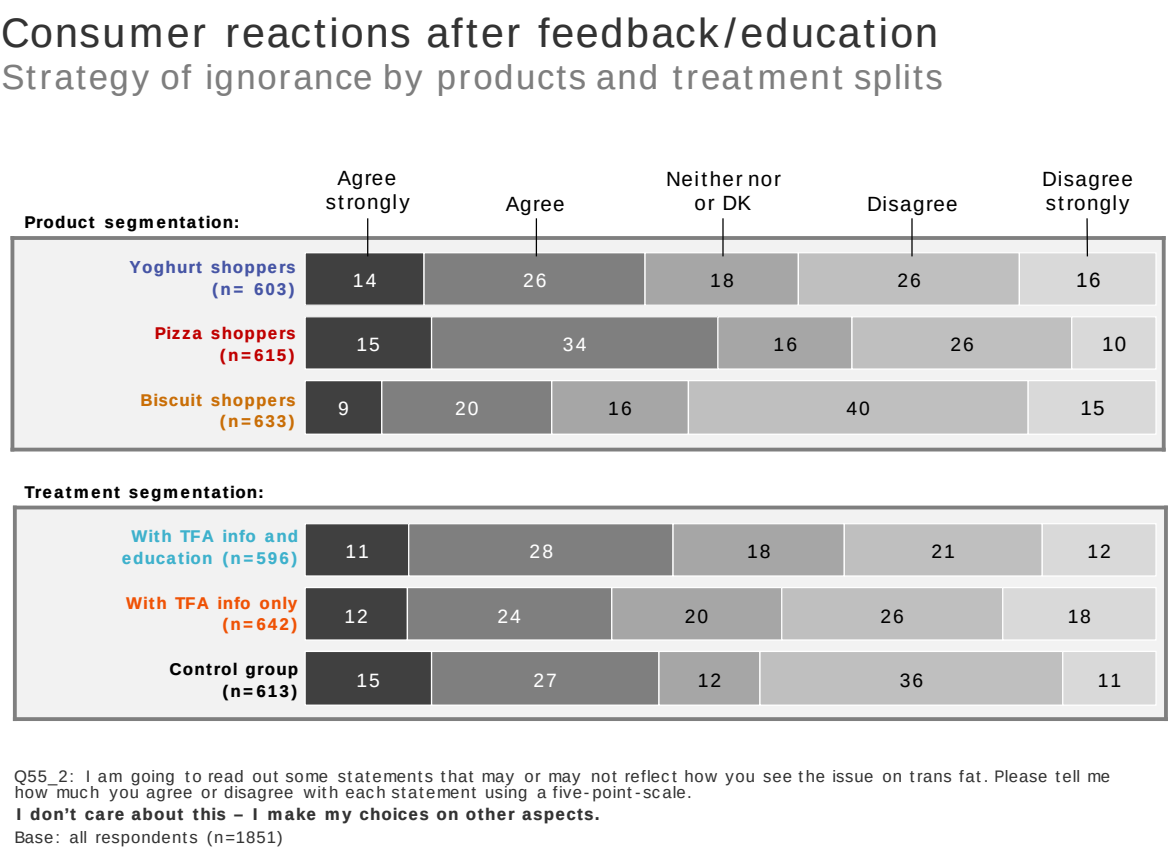
Q55_1: I am going to read out some statements that may or may not reflect how you see the issue on trans fat. Please tell me how much you agree or disagree with each statement using a five-point-scale.

I am confused now – all this is too difficult for me.

Base: all respondents (n=1851)

Many ignore health aspects when making food choices. Almost 40% agreed that they didn't care about the presence of trans fats and made their choice on other factors. Pizza shoppers were slightly more likely to agree with, whereas biscuit shoppers displayed the highest share of disagreement.

Figure 109 Strategy of ignorance on TFA disclosure



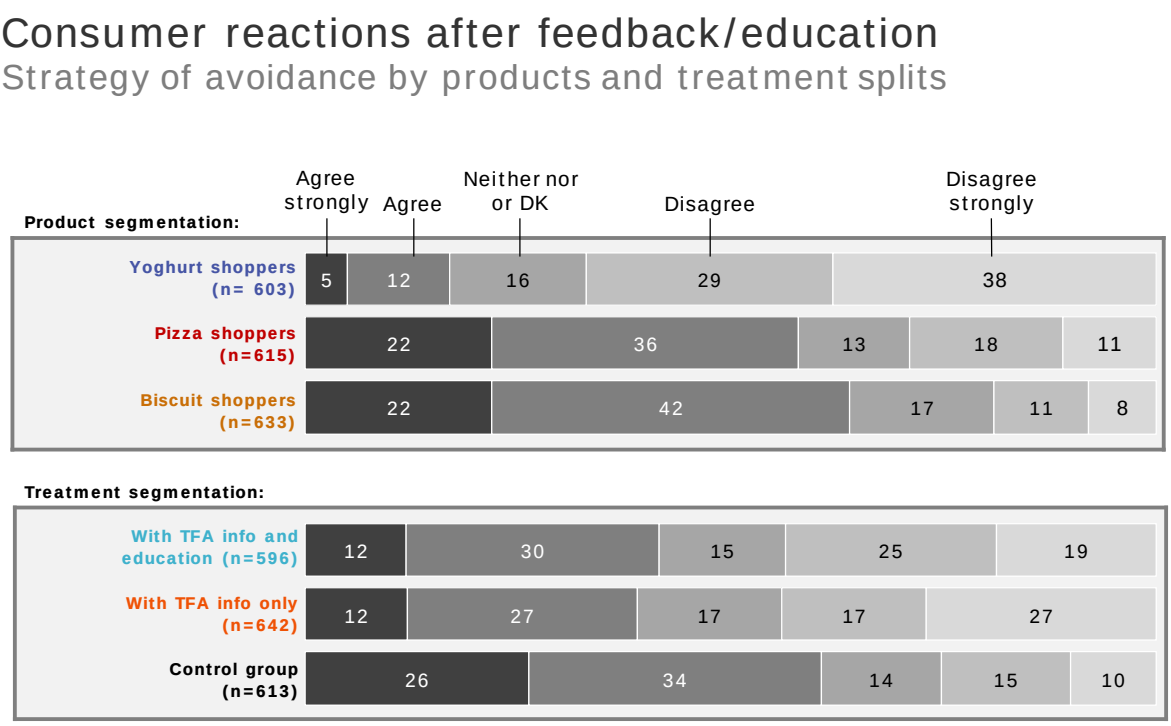
Q55_2: I am going to read out some statements that may or may not reflect how you see the issue on trans fat. Please tell me how much you agree or disagree with each statement using a five-point-scale.

I don't care about this – I make my choices on other aspects.

Base: all respondents (n=1851)

The intention to avoid products with high TFA levels in future was fairly high amongst biscuit and pizza shoppers. By comparison, the proportion of yoghurt shoppers who intended to reduce their yoghurt consumption in the future because of trans fat was significantly lower at 17%. These stated preferences are most likely inflated by an **overconfidence bias**, as there were several consumers who agreed with both statements about 'avoiding' and 'ignoring' TFA.

Figure 110 Strategy of avoidance on TFA disclosure



Q55_3: I am going to read out some statements that may or may not reflect how you see the issue on trans fat. Please tell me how much you agree or disagree with each statement using a five-point-scale.

- **If yoghurt split: I will reduce my yoghurt consumption in the future because of trans fat.**
- **If pizza/biscuit: I will try to avoid any [pizza/biscuits] with high trans fat levels in the future.**

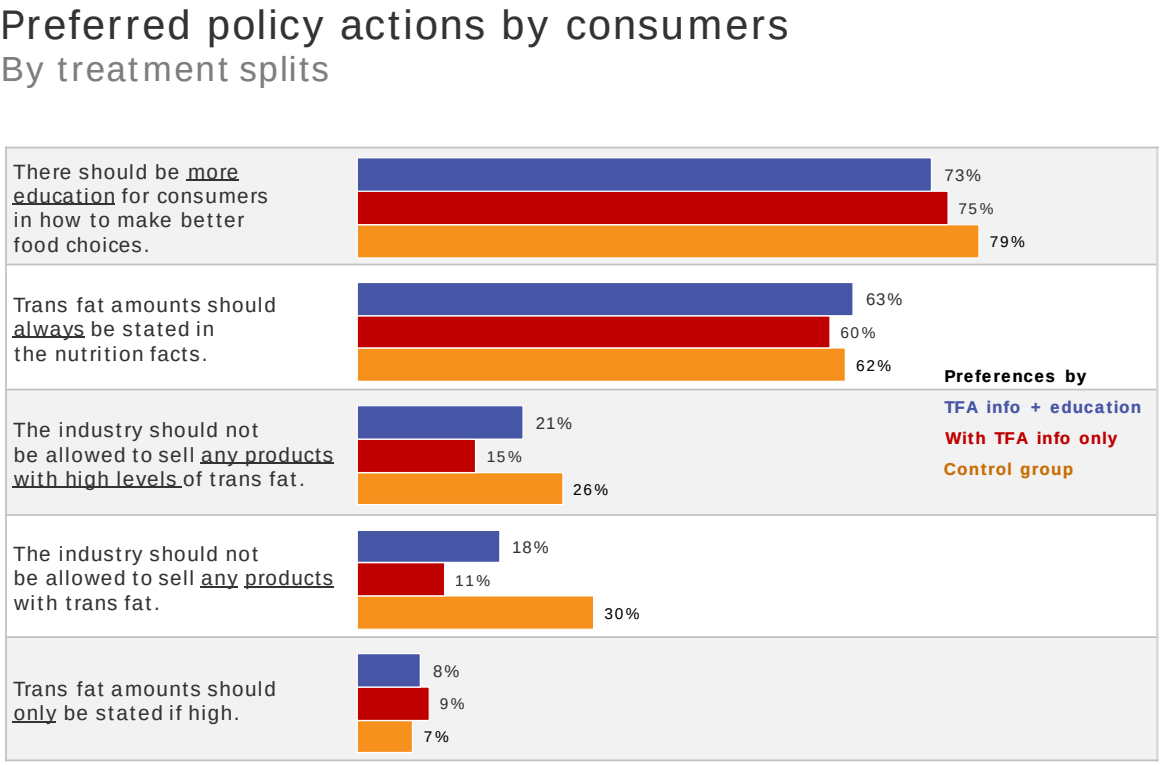
Base: all respondents (n=1851)

An interesting analysis is the comparison of treatment splits. Participants in the control group (i.e. without any TFA information and education) were significantly more likely to say they would avoid TFA than participants who had more transparency in the experiments.

The higher agreement level among the control group is again an indicator for an overstatement bias. While people in the control group assumed they would act rationally in the future, participants with the experience of transparency in the experiments were more aware of how difficult it is to make a good decision.

When presented with a list of **possible interventions**, there were two clear favourites. A strong majority wanted more education and for more transparency in the general labelling of TFA amounts in nutrition facts.

Figure 111 Preferred interventions by consumers



Q56: What should be done in your opinion, to help making good choices easier for consumers like you?
Base: all respondents (n=1851) – multiple answers possible

For the remaining interventions there was one notable difference: Control group participants were most likely to support the most extreme intervention to ban trans fats from all products or to ban at least products with high TFA levels.

As mentioned before, the control group had less information, which normally makes it more difficult to make a healthy choice for a rational decision maker. This may explain why these participants were more likely to claim they would avoid trans fats in future (as in figure 106), and without information, the easiest way to achieve this would be if the products would not contain any (high levels of) trans fats.

Whether the top two preferred interventions are also more effective in making better food choices, will be analysed in the following chapters focussing on the experimental choice behaviour.

9.2 Observed initial choice behaviour – disaggregated findings

The first choice set required 'initial choices' based on individual goals and habits. The choice set consisted of two subsequent tasks each offering two different products. The question was worded as follows: "Which product would you choose – A or B (X or Y), both or neither of them?"

Task 1 presented as less healthy choice product A (with significantly more TFA) and as healthier choice product B (with clearly less TFA). Overall, only 17% of all participants chose the healthier product B in this task, while half of the participants selected the less healthy product A.

Task 2 presented as the healthier choice product X (with slightly more TFA, but less saturates, salt and sugar) and as less healthy choice product Y (with slightly less TFA, but more saturates, salt and sugar). This choice scenario achieved a significantly higher share of participants choosing the healthier product X (39%), whereas only 9% selected the less healthy product Y. Around half avoided choosing by selecting both or none in this task.

It is worth stressing that the experimental choice context was overly simplified. In real life, the choice context would be significantly more complex, as all elements in the nutritional declaration are expected to differ among any two products. It might be expected that consumers would be less likely to make the healthier choice in more complex choice contexts although this assumption is beyond the scope of this particular piece of research.

Table 112 Initial choice behaviour in Tasks 1 and 2

INITIAL CHOICES Base unweighted	**Task 1 (A/B)** No/less TFA is healthier 1851	**Task 2 (X/Y)** With/more TFA is healthier 1851
Product B/X healthier product	**17%**	**39%**
Product A/Y less healthy product	49%	9%
Both	25%	35%
None	10%	17%
Total	100%	100%

In both choices, two thirds of the sample received information about TFA amounts if they read the nutrition labels. The remaining third had to identify the healthier product by looking for partially hydrogenated fats in the ingredients list and understand its meaning. Therefore, the observed choice behaviour displayed in the table above is a result of a mix of treatments and product categories.

Across all three product categories, the level of initial healthy product choices was significantly higher in the second task compared to the first task. This may suggest that differences in the level of trans fats (or the existence of PHO) are less relevant for healthy product choices than more familiar elements like saturates, sugar or salt.

The experiments with biscuits displayed significantly more healthy product choices in both tasks, whereas the yoghurt/dessert experiments had the fewest healthy product decisions.

Table 113 Initial choice behaviour in Task 1 by product category

INITIAL CHOICE Task 1 Base unweighted	**All categories** 1851	**Yoghurt** 603	**Frozen pizza** 615	**Biscuits** 633
Product B – healthier product (no/less TFA)	**17%**	**8%**	**16%**	**25%**
Product A (with/more TFA)	**49%**	80%	26%	42%
Both	**25%**	5%	51%	18%
None	**10%**	7%	7%	15%
Total	**100%**	100%	100%	100%

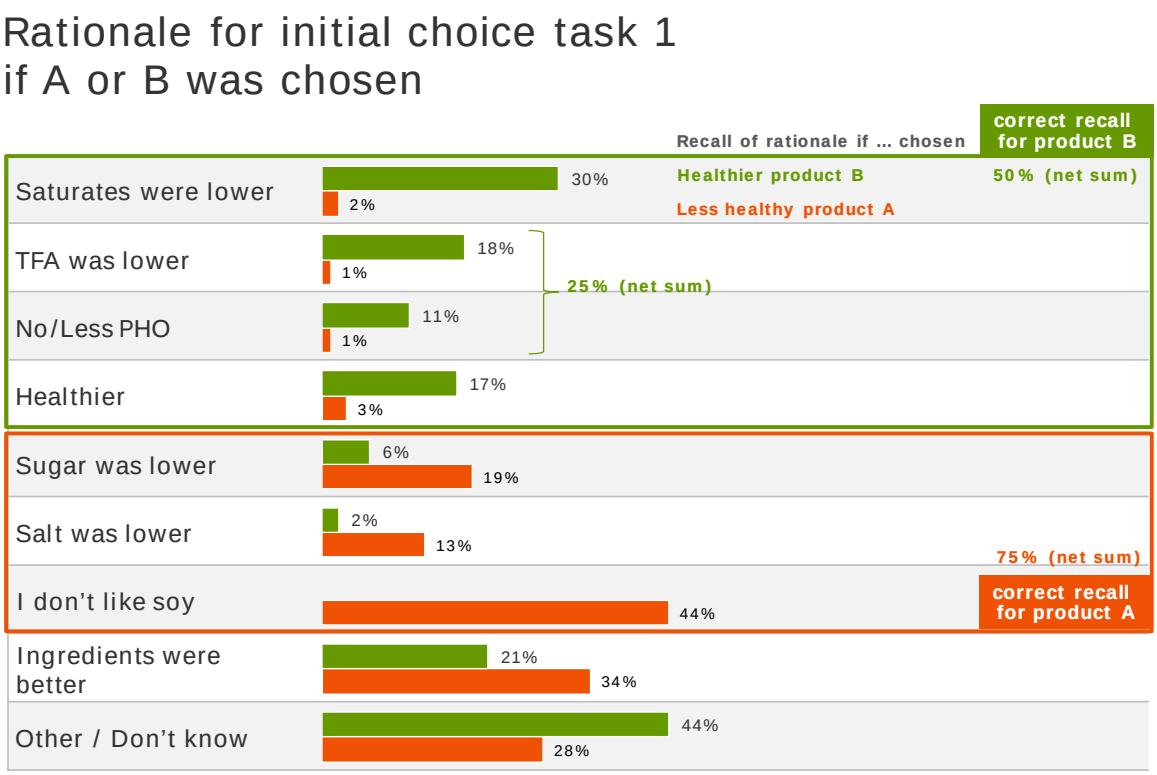
Table 114 Initial choice behaviour in Task 2 by product category

INITIAL CHOICE Task 2 Base unweighted	**All categories** 1851	**Yoghurt** 603	**Frozen pizza** 615	**Biscuits** 633
Product X – healthier product (with/more TFA)	**39%**	**28%**	**36%**	**52%**
Product Y (no/less TFA)	**9%**	6%	7%	14%
Both	**35%**	37%	51%	18%
None	**17%**	29%	6%	17%
Total	**100%**	100%	100%	100%

9.2.1 Rationale given for initial choices

Approximately half of those who selected the healthier product B also gave a correct explanation of their choice, compared with only 25% who mentioned TFA or PHO in their reasoning. The lower amount of saturated fat was mentioned slightly more often than the level of TFA or PHO.

Figure 115 Rationale for initial choice Task 1 if product A or B was chosen



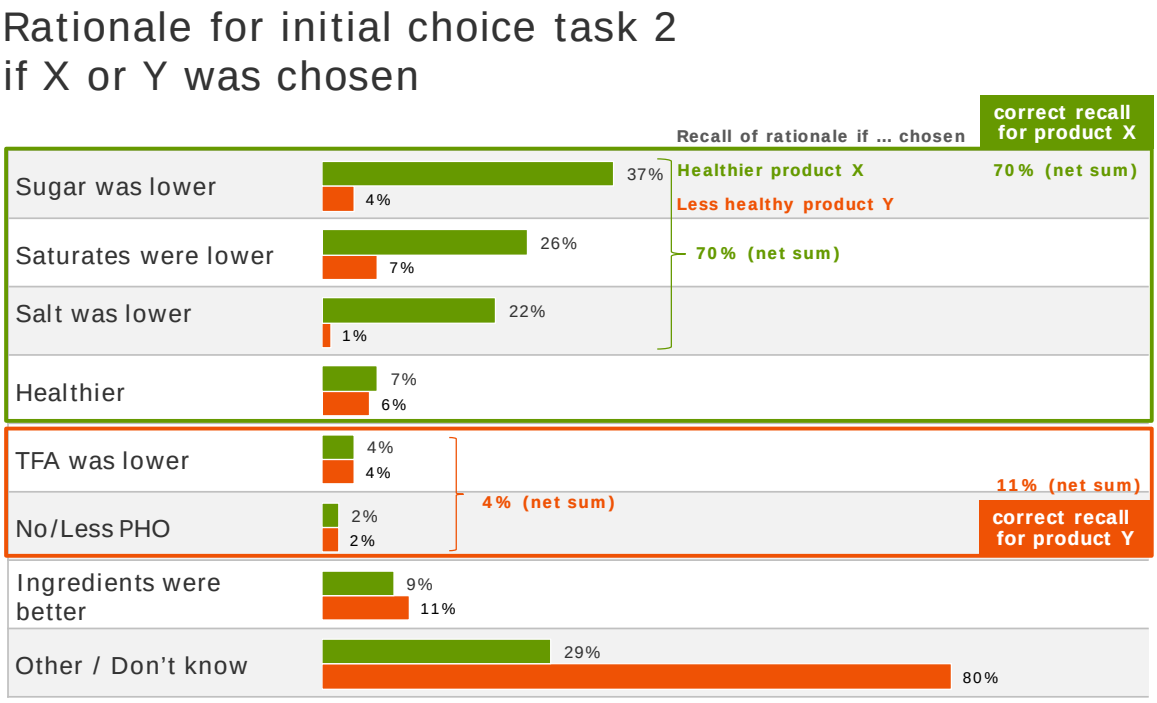
Q33: Why did you choose this product?
Base: respondents choosing product A (n=907) or product B (n=308) in initial choice task 1

In comparison, the rationale for the choice of the less healthy product A was based on a higher proportion of concrete and correct recall. Whereas the majority of the yoghurt shoppers simply disliked any soy dessert, pizza shoppers identified the difference in salt and biscuit shoppers the difference in sugar.

In Task 2 the higher share of healthy choices also revealed a high level of correct reasoning. 70% selected product X because it had less sugar, saturates or salt.

The expected overreaction of picking product Y because it contained less TFA/PHO was only observed in a tiny proportion of those who selected this product type.

Figure 116 Rationale for initial choice Task 2 if product X or Y was chosen



Q39: Why did you choose this product?
Base: respondents choosing product X (n=716) or product Y (n=169) in initial choice task 2

The most common explanation that was given for choosing neither or both products in both tasks is that there was no difference between the products.

9.2.2 Potential access and awareness drivers

Accessing and understanding the relevant food information is a key requirement for making informed choices. Therefore we monitored in the experiments which information was accessed for each choice. The descriptive overview below indicates that the accessing behaviour is a strong driver (in line with the previous online study).

- Respondents who looked at irrelevant or no specific information were least likely to choose the healthier product.
- Reading relevant food information like nutrition facts, fat (or sugar or salt in Task 2) seemed to drive initial healthy product choices. Only reading the ingredients list appeared to be less helpful.

Table 117 Initial choice behaviour in Task 1 by accessed information

INITIAL CHOICE Task 1 Base unweighted	Total 1851	Ingre-dients list 572	Nutrition facts 409	Fat 209	Sugar 229	Salt 148	Nothing / irrelevant 1139
Product B – healthier product (no/less TFA)	**17%**	**20%**	**29%**	**61%**	**15%**	**14%**	**10%**
Product A (with/more TFA)	**49%**	34%	48%	23%	73%	75%	51%
Both	**25%**	35%	16%	9%	5%	7%	26%
None	**10%**	11%	7%	6%	7%	3%	12%
Total	**100%**	100%	100%	100%	100%	100%	100%

Table 118 Initial choice behaviour in Task 2 by accessed information

INITIAL CHOICE Task 2 Base unweighted	Total 1851	Ingre-dients list 566	Nutrition facts 491	Fat 286	Sugar 306	Salt 172	Nothing / irrelevant 1090
Product X – healthier product (with/more TFA)	**39%**	**33%**	**66%**	**66%**	**84%**	**90%**	**25%**
Product Y (no/less TFA)	**9%**	8%	8%	8%	5%	3%	10%
Both	**35%**	43%	18%	7%	4%	6%	43%
None	**17%**	16%	8%	19%	8%	1%	23%
Total	**100%**	100%	100%	100%	100%	100%	100%

In addition to the information accessed, the regression model will also include the awareness of the (un)healthiness of nutrition elements, which was collected after the initial choice tasks. Although the descriptive analysis did not reveal any significant differences, these variables were relevant drivers in the online survey.

9.2.3 Potential goals and habitual drivers

Individual shopping goals were collected at the beginning of the interview. For the multivariate analysis we included only a selection of relevant goals with a significant impact in the bivariate analysis. These were:

- Health orientation (Q27_3)
- Convenience orientation (Q27_4)

- Novelty – I like looking for new and exciting products (Q28_1)
- Variety - I want a lot of variety such as sizes, flavours, forms, etc. (Q28_2)
- Rush - I want to get in and out of the section as fast as I can (Q28_4)
- Food information reading for making right choices (Q28_5)

Further questions and observations at the shelf covered potential habitual factors that may have influenced the shoppers decisions. The following aspects were thus included in the final model:

- Duration of the observed shopping process (Q4-9)
- Shelf behaviour (Q10): reading vs. grab & go
- Reading fat, sugar, nutrition facts, ingredients at the shelf (Q25/26)
- Influenced by shopping company (Q11/12)
- General frequency of shopping the category (Q16)
- Planned to buy category before entering the store (Q22)
- Bought specific product type or brand before (Q24)

Moreover, the usual set of socio-demographics was added as control variables to the analytical model, such as gender, age, household size, working status, education level and income.

9.2.4 Treatments

The analysis of the initial choices focuses on comparing the control group (not given any TFA information) with the combined treatments 2 and 3 (with TFA amounts displayed on the nutrition table). As the additional education intervention (treatment 3) was only given after the initial choices, this differentiation does not make sense to include in this chapter.

When comparing the descriptive results for Task 1 in the following tables, **there is no significant impact on the initial choice of the healthier product B by showing the amount of TFA.** However, the multivariate analysis will show in Chapter 9.4.1 that in task 1 the display of TFA amounts does have a significant and positive impact on initial healthy choices. This is an indicator that the results of the descriptive analysis are changed by controlling for other variables.

Table 119 Initial choice behaviour in Task 1 by treatments

INITIAL CHOICE Task 1 Base unweighted	Total 1851	Control group: no TF info 613	Treatment 2/3: with TF info 1238
Product B – healthier product (no/less TFA)	**17%**	**17%**	**16%**
Product A (with/more TFA)	**49%**	53%	47%
Both	**25%**	20%	27%
None	**10%**	9%	10%
Total	**100%**	100%	100%

Table 120 Initial choice behaviour in Task 1 by treatments and products

INITIAL CHOICE = B (Task 1)	Total	Control group: no TF info	Treatment 2/3: with TF info
All categories	**17%**	**17%**	**16%**
Yoghurt/Dessert	**8%**	6%	9%
Frozen Pizza	**16%**	18%	15%
Biscuits	**25%**	27%	24%

The yoghurt vs. soy dessert choice showed a slight tendency towards the healthier soy dessert if TFA amounts are displayed, although not a statistically significant one. Likewise the differences between the initial choices within the categories of frozen pizza or biscuits was again not significant.

As a reminder: The scenario of Task 1 was designed with the expectation of a positive impact of TFA transparency as the product with less TFA was healthier (the level of TFA weighed more than the smaller deviations in sugar or salt).

When comparing the descriptive results for Task 2 in the following tables, there was a slightly lower proportion of consumers who chose the healthier product B when TFA amounts were presented – in particular within the pizza category.[64]

As a reminder: The scenario of Task 2 was designed with the expectation of a negative impact of TFA transparency as the product with more TFA is healthier (the level of TFA was outweighed by higher levels of saturates and sugar or salt).

Table 121 Initial choice behaviour in Task 2 by treatments

INITIAL CHOICE Task 2 Base unweighted	**Total** 1851	**Control group: no TF info** 613	**Treatment 2/3: with TF info** 1238
Product X – healthier product (with/more TFA)	**39%**	**45%**	**36%**
Product Y (no/less TFA)	**9%**	8%	10%
Both	**35%**	31%	37%
None	**17%**	16%	18%
Total	**100%**	100%	100%

Table 122 Initial choice behaviour in Task 2 by treatments and products

INITIAL CHOICE = X (Task 2)	**Total**	**Control group: no TF info**	**Treatment 2/3: with TF info**
All categories	**39%**	**45%**	**36%**
Yoghurt/Dessert	**28%**	27%	28%
Frozen Pizza	**36%**	52%	27%
Biscuits	**52%**	55%	50%

However, only the multivariate analysis can establish whether the treatment had a direct and significant impact in both choices or whether these bivariate results were influenced by other factors.

[64] If controlling for other relevant variables in the multivariate analysis (see Chapter 9.4.1) there is no statistically significant impact on healthy choices by displaying the TFA amount in task 2.

9.3 Observed ability to identify healthy products – disaggregated analysis

The second choice set required participants to identify the healthier products by using the same product sets as in the initial choices. The question wording was as follows: "Which product is healthier – A or B (X or Y) or are they both equally healthy or equally unhealthy?" It was also noted where the participant was not able to give an answer.

The Tasks 1 and 2 were identical to the initial choices. The only difference was the more cognitive decision-making. While the initial choices reflected more habitual choice behaviour without stipulating a health goal for everyone, the second choice set was solely to find out whether consumers were able to identify a healthier product or not.

Overall, the healthy product was identified more frequently in this 'knowledge test' than it was observed in the initial choices, but the pattern of a higher proportion of "correct" choices in the Task 2 than Task 1 was the same.

- In Task 1 40% of all participants identified the healthy product B (with less TFA), while one third of the participants selected the less healthy product A.
- In Task 2 54% correctly selected the healthier product X (with more TFA, but less saturates, salt or sugar), whereas only 7% selected the less healthy product Y.

Table 123 Identification of healthy products in Task 1 and 2

CORRECT choice of healthier product Base unweighted	**Task 1 (A/B)** No/less TFA is healthier 1851	**Task 2 (X/Y)** With/more TFA is healthier 1851
Product B/X healthier product	**40%**	**54%**
Product A/Y less healthy product	32%	7%
Equally healthy	6%	8%
Equally unhealthy	16%	25%
Don't know	6%	6%
Total	100%	100%

In both choices, one third of the sample received the education intervention and the TFA amounts on the products, one third received only the information about TFA amounts (without education). The remaining third had to identify the healthier product by looking for partially hydrogenated fats in the ingredients list and understanding its meaning. Therefore, the observed choice behaviour displayed in the table above is a result of a mix of treatments and product categories.

Although the average level of correct choices was higher in Task 2, this pattern varied when comparing the choices between the three product categories. Yoghurt shoppers identified the healthy product more often in Task 1 than in Task 2. Biscuits and pizza shoppers were more likely to choose the healthier product in Task 2 than in Task 1.

Another interesting observation was that Task 1 led to more decisions favouring the less healthy product, whereas Task 2 led to more consumers saying that both products are equally unhealthy.

Table 124 Identification of healthy product in Task 1 by product category

CORRECT Choice Task 1 Base unweighted	**All categories** 1851	**Yoghurt** 603	**Frozen pizza** 615	**Biscuits** 633
Product B – healthier product (no/less TFA)	**40%**	**54%**	**34%**	**32%**
Product A (with/more TFA)	**32%**	27%	25%	43%
Equally healthy	**6%**	9%	7%	4%
Equally unhealthy	**16%**	4%	29%	14%
Don't know	**6%**	6%	5%	7%
Total	**100%**	100%	100%	100%

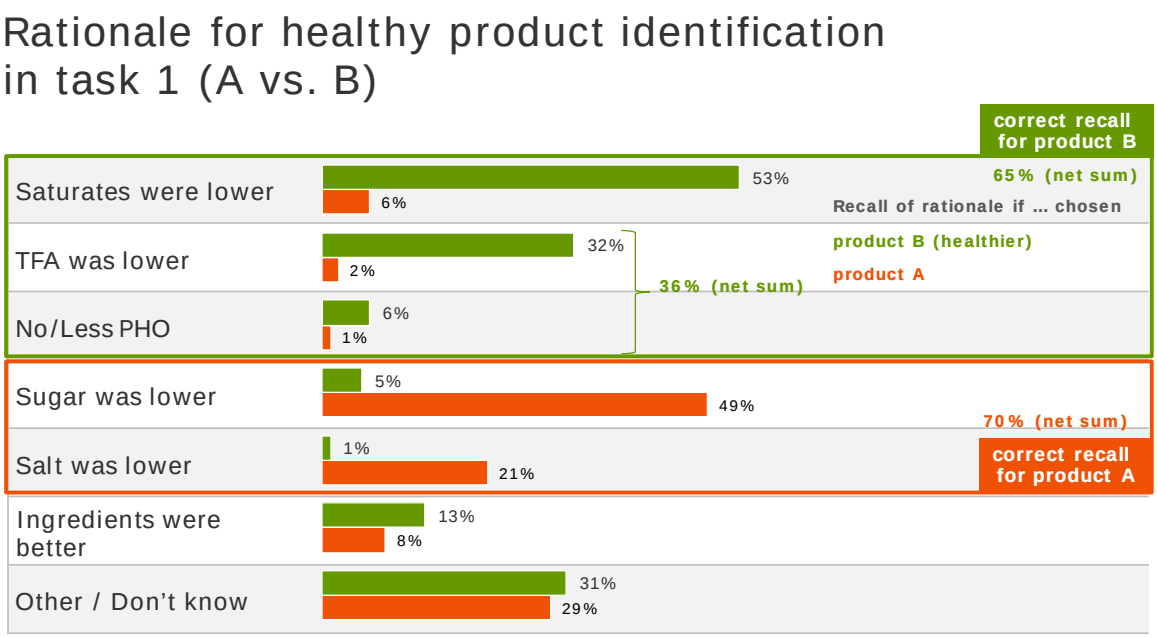
Table 125 Identification of healthy product in Task 2 by product category

CORRECT Choice Task 2 Base unweighted	**All categories** 1851	**Yoghurt** 603	**Frozen pizza** 615	**Biscuits** 633
Product X – healthier product (with/more TFA)	**54%**	**38%**	**54%**	**69%**
Product Y (no/less TFA)	**7%**	6%	6%	8%
Equally healthy	**8%**	16%	7%	3%
Equally unhealthy	**25%**	32%	30%	14%
Don't know	**6%**	8%	4%	6%
Total	**100%**	100%	100%	100%

9.3.1 Rationale given for initial choices

Approximately two thirds of those who selected the healthier product B also gave a correct rationale for their choice, compared with 36% who mentioned TFA or PHO in their reasoning. The lower amount of saturated fat was significantly more likely to be mentioned than the deviation in levels of TFA or PHO.

Figure 126 Rationale for healthy product identification in Task 1



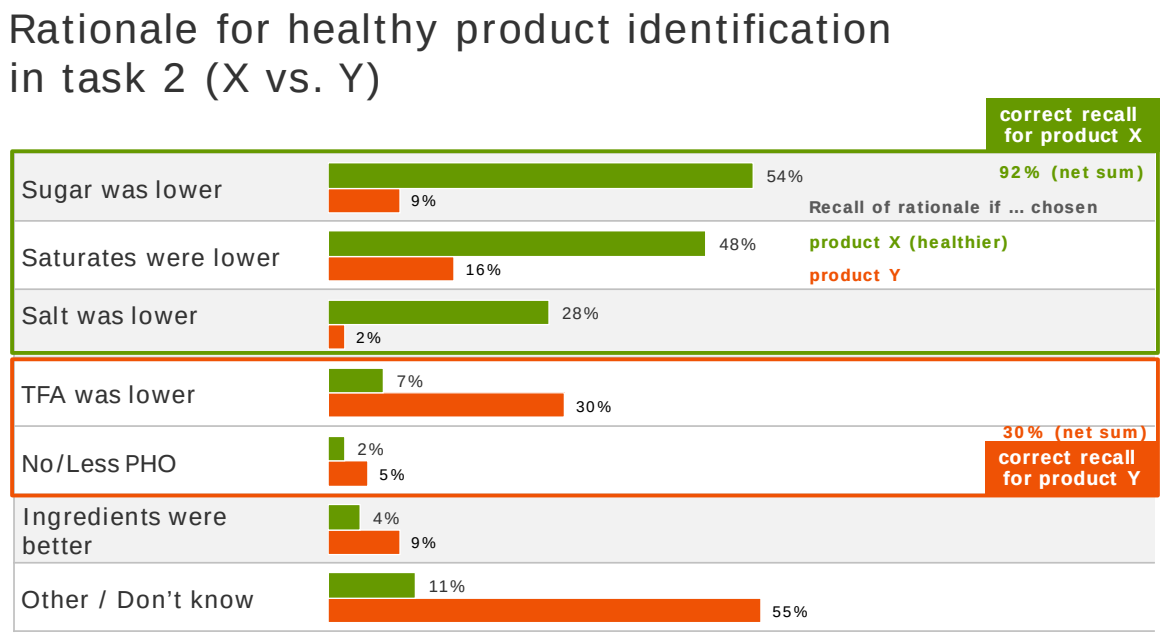
Q52: Why did you think this product is healthier?
Base: respondents choosing product A (n=589) or product B (n=743) in healthy choice task 1

The reasoning for choosing the less healthy product A was based on a slightly higher proportion of correct recall. Pizza shoppers identified the small deviations in salt. Biscuit and yoghurt shoppers registered the deviations in sugar.

The higher proportion of healthy choices in Task 2 also came with a notably higher proportion in correct reasoning. Nine out of ten (92%) selected product X because it had less sugar, saturates or salt.

The expected reaction of picking product Y because it contained less TFA/PHO was observed for around a third of the 7% who selected this product type.

Figure 127 Rationale for healthy product identification in Task 2



Q47: Why do you think this product is healthier?
Base: respondents choosing product X (n=1000) or product Y (n=122) in healthy choice task 2

9.3.2 Potential access and awareness drivers

The monitoring of the information accessed by participants was adapted slightly for the second choice set:

- The newly presented education leaflet was added, i.e. whether it was read again while making a choice.
- The differentiation between ingredients list and nutrition facts was repeated as in the previous choice set.
- Not accessing any information or accessing information that was not relevant for evaluating the healthiness of the products was captured as well.

The descriptive overview below indicates only a few significant differences, i.e. not accessing any relevant information reduces the likelihood of making the healthy choice. Nutrition facts were again a strong potential driver of good choices, in particular for Task 2.

As only very few participants voluntarily used the education leaflet during their choices, the differences for these were not significant.

Table 128 Healthy product identification in Task 1 by accessed information

CORRECT Choice Task 1 Base unweighted	All categories 1851	Education leaflet 66[65]	Ingredient list 454	Nutrition facts 1185	None / Other 592
Product B – healthier product (no/less TFA)	**40%**	**52%**	**38%**	**44%**	**32%**
Product A (with/more TFA)	**32%**	30%	29%	39%	21%
Equally healthy	**6%**	5%	10%	4%	9%
Equally unhealthy	**16%**	12%	17%	11%	26%
Don't know	**6%**	2%	6%	2%	12%
Total	**100%**	100%	100%	100%	100%

Table 129 Healthy product identification in Task 2 by accessed information

CORRECT Choice Task 2 Base unweighted	All categories 1851	Education leaflet 68[66]	Ingredient list 464	Nutrition facts 1266	None / Other 555
Product X – healthier product (with/more TFA)	**54%**	**57%**	**47%**	**73%**	**19%**
Product Y (no/less TFA)	**7%**	18%	7%	7%	6%
Equally healthy	**8%**	0%	12%	3%	15%
Equally unhealthy	**25%**	24%	30%	15%	46%
Don't know	**6%**	1%	4%	2%	15%
Total	**100%**	100%	100%	100%	100%

[65] This sample base is very low, therefore any differences are not statistically significant.

[66] This sample base is very low, therefore any differences are not statistically significant.

Further awareness variables are also included in the analytical model as one would expect also in this experiment that previous knowledge about the healthiness of certain elements could drive or hinder making the correct choice. However, the descriptive analysis did not reveal any significant differences except that those who did perceive sugar as healthy had a reduced likelihood of making healthier choices in Task 2.

9.3.3 Potential goals and habitual drivers

For contextual and comparison reasons, the analytical model consists of the same set of control variables representing selected shopping goals, habits and socio-demographics, which are

- Health orientation (Q27_3)
- Convenience orientation (Q27_4)
- Novelty – I like looking for new and exciting products (Q28_1)
- Variety - I want a lot of variety such as sizes, flavours, forms, etc. (Q28_2)
- Rush - I want to get in and out of the section as fast as I can (Q28_4)
- Food information reading for making right choices (Q28_5)
- Duration of the observed shopping process (Q4-9)
- Shelf behaviour (Q10): reading vs. grab & go
- Reading fat, sugar, nutrition facts, ingredients at the shelf (Q25/26)
- Influenced by shopping company (Q11/12)
- General frequency of shopping the category (Q16)
- Planned to buy category before entering the store (Q22)
- Bought specific product type or brand before (Q24)
- Socio-demographics: gender, age, household size, working status, education level and income

9.3.4 Treatments

The analysis of the identification of the healthy product allows a more differentiated approach than the initial choices because the education intervention served as an additional treatment. The expectation was that participants who received the education would be able to make better choices with fewer knowledge gaps and overreactions or misunderstandings.

Since the duration of the education intervention varied by participant (they were able to read the leaflet for as long or as short a time as they wanted to), this treatment can also be analysed by two additional splits:

- A short education (< 45 seconds)
- A long education (45 seconds or more)

The length of time that a participant took when reading the nutrition guideline can be an indicator of interest and commitment to this topic. Therefore, one would expect that the longer education should lead to more good choices.

When comparing the descriptive results for Task 1 in the following tables, there seems to be a strong and positive impact of the education treatment as well as a positive impact of showing TFA amounts without education. This was expected in this scenario.

Table 130 Healthy product identification in Task 1 by treatments

CORRECT Choice Task 1 Base unweighted	**Total** 1851	**Control group** 613	**Treat 2:** only TF info, no edu. 642	**Treat 3:** with education 596	**Treat 3a:** with short education 264	**Treat 3b:** with long education 207
Product B – healthier product (no/less TFA)	**40%**	**34%**	**38%**	**49%**	**42%**	**54%**
Product A (with/more TFA)	**32%**	40%	36%	19%	17%	20%
Equally healthy	**6%**	8%	7%	4%	5%	4%
Equally unhealthy	**16%**	13%	12%	23%	28%	20%
Don't know	**6%**	6%	7%	5%	7%	3%
Total	**100%**	100%	100%	100%	100%	100%

Table 131 Healthy product identification in Task 1 by treatments and products

CORRECT Choice = B Task 1	**Total**	**Control group**	**Treat 2:** only TF info, no edu.	**Treat 3:** with education	**Treat 3a:** with short education	**Treat 3b:** with long education
All categories	40%	**34%**	**38%**	**49%**	**42%**	**54%**
Yoghurt/Dessert	54%	**47%**	53%	62%	57%	66%
Frozen pizza	34%	**31%**	30%	42%	39%	47%
Biscuits	32%	**24%**	32%	42%	25%	49%

When comparing the descriptive results for Task 2 in the following tables, one can see a negative impact for consumers who had only a short education intervention.

The expectation was that treatment 2 (showing TFA info without any education) could lead to overreactions to TFA and incorrect choices as observed in the online survey. This did not happen in the store experiments across all product categories. Moreover, the education treatment did not have the expected positive impact overall.

Table 132 Healthy product identification in Task 2 by treatments

CORRECT Choice Task 2 Base unweighted	Total 1851	Control group 613	Treat 2: only TF info, no edu. 642	Treat 3: with education 596	Treat 3a: with short education 264	Treat 3b: with long education 207
Product X – healthier product (with / more TFA)	**54%**	**56%**	**57%**	**49%**	**38%**	**58%**
Product Y (no/less TFA)	**7%**	6%	6%	8%	8%	9%
Equally healthy	**8%**	11%	9%	5%	7%	4%
Equally unhealthy	**25%**	23%	19%	33%	42%	27%
Don't know	**6%**	4%	10%	4%	6%	2%
Total	**100%**	100%	100%	100%	100%	100%

Table 133 Healthy product identification in Task 2 by treatments and products

CORRECT Choice = X Task 2	Total	Control group	Treat 2: only TF info, no edu.	Treat 3: with education	Treat 3a: with short education	Treat 3b: with long education
All categories	54%	**56%**	**57%**	**49%**	**38%**	**58%**
Yoghurt / Dessert	38%	**40%**	31%	43%	36%	49%
Frozen pizza	54%	**64%**	57%	42%	34%	51%
Biscuits	69%	**62%**	78%	64%	47%	71%

When looking at the choice behaviour for each product category, the expected effects were only seen among yoghurt shoppers but not the other categories.

However, only multivariate analysis can establish whether these patterns were influenced by other factors or whether they represent the final empirical evidence.

9.4 Findings of the multivariate analysis

In this section we present the summary of the multivariate analysis conducted using binary logistic regression to identify the major factors which influenced the selection of the healthier product in the choice experiments. 'Healthy product choices' are defined as "respondents choosing product B" in Task 1 (product X in Task 2).

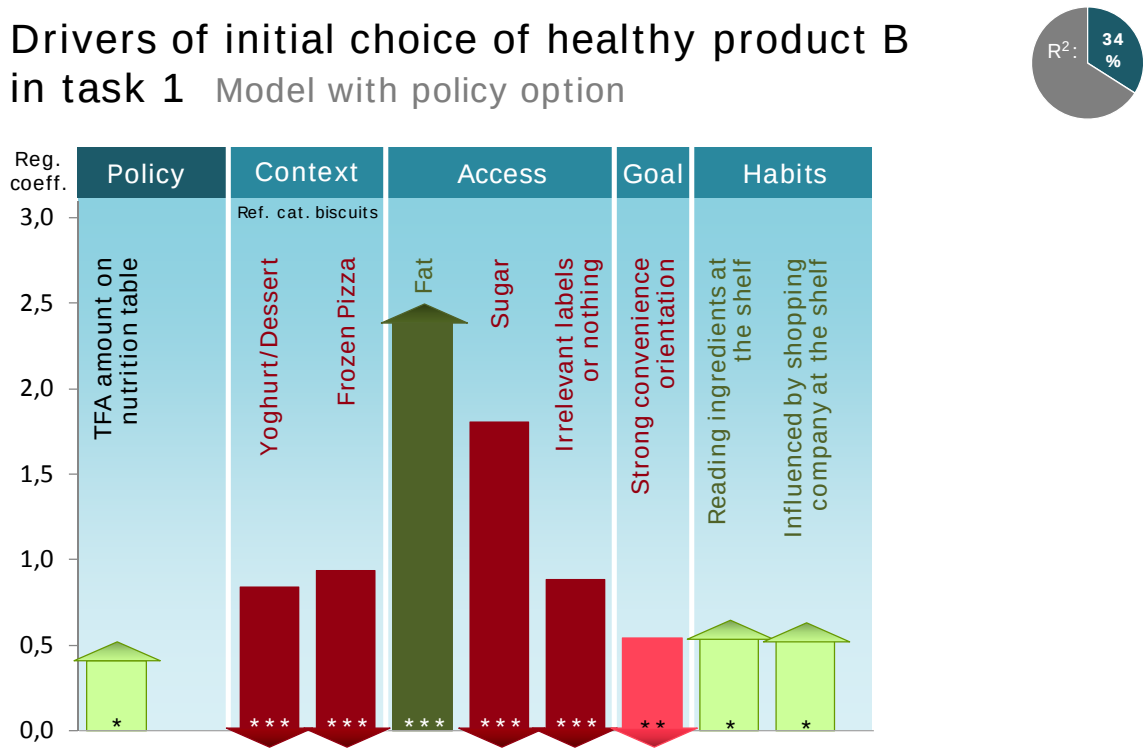
The previous chapters already discussed the potential variables to be included within the model in detail. The selection was based on conceptual considerations and in-depth analysis of the bivariate associations between the dependent and independent variables.

There is one model for each task, i.e. four models overall. We tested binomial and multinomial models with and without interaction effects. Since the more complex models did not deliver additional insights, we present below the binominal version without interaction effects. Each model was run with and without treatments to examine any differences. As this comparison did not deliver any relevant changes, the models presented in the following chapters are all including treatments.

9.4.1 Drivers of initial healthy product choices in Task 1

The research question for this scenario was as follows: Does TFA transparency improve participants' ability to identify the healthy choices when the product with no or less TFA is healthier than the alternative?

Figure 134 Drivers of initial choice of healthy product in Task 1



Extract of results based on binary logistic regression analysis to identify statistically significant drivers of initial healthy product choices in task 1 (Q29-31). The model explains 34% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: Store experiments in German supermarkets (n = 1851)

The analysis of the store experiments across all product categories shows a slightly significant positive impact on making healthier initial choices with more TFA transparency.

Other positive drivers were

- Accessing information about saturates when making the decision

- Habitual reading of ingredients at the shelf (as a "first buyer")
- Being influenced while shopping by family members or friends when selecting products at the shelf

Typical barriers that prevented participants from selecting the healthier product were

- Accessing information about sugar (which was slightly higher in the healthier product)[67]
- Not accessing any information or accessing information that was irrelevant to evaluate the healthiness of the products
- A strong convenience orientation when making shopping decisions

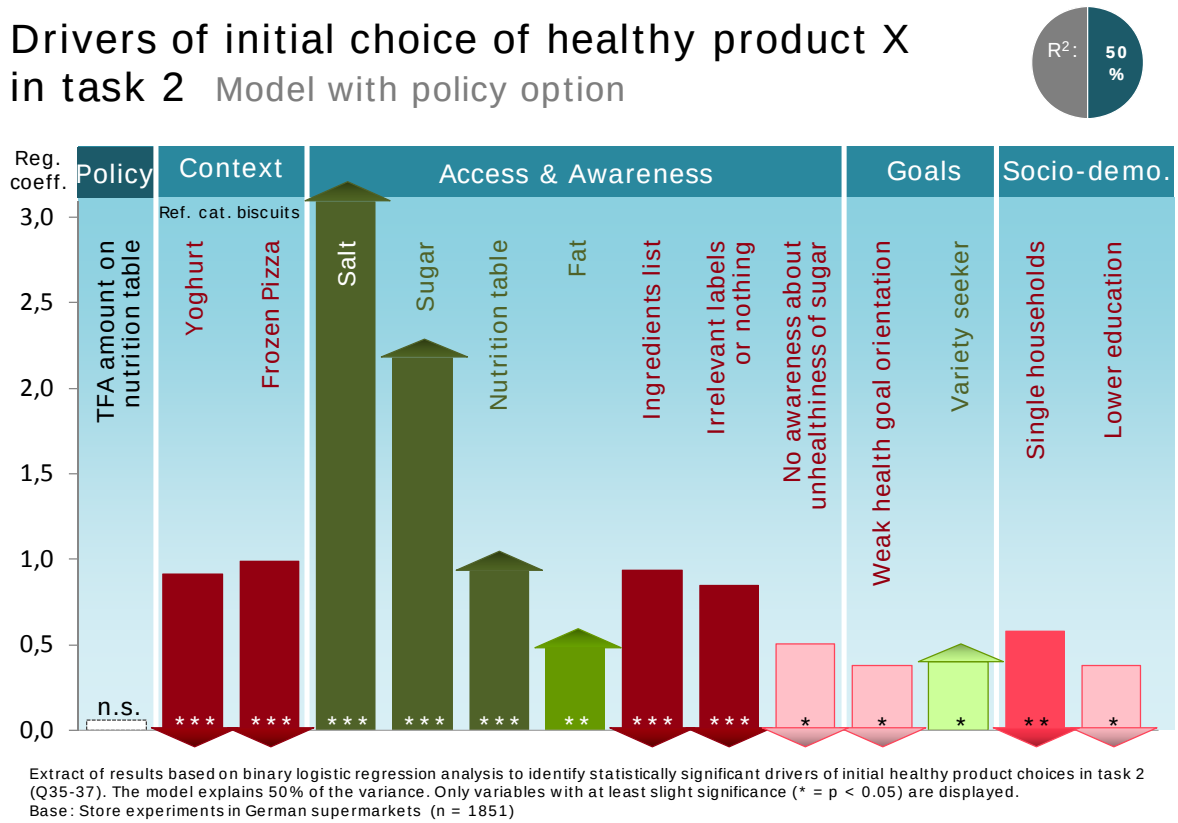
Moreover, the product category influenced whether consumers selected the healthy product or not. The decision between two biscuit products was more likely to deliver a healthy choice in Task 1 than pizza or desserts.

9.4.2 Drivers of initial healthy product choices in Task 2

The research question for this scenario was as follows: Does TFA transparency reduce healthy choices when the product with more TFA is healthier than the alternative?

[67] The access of information on amounts of salt did not show any statistically significant impact on making healthy choices in this task1.

Figure 135 Drivers of initial choice of healthy product in Task 2



Extract of results based on binary logistic regression analysis to identify statistically significant drivers of initial healthy product choices in task 2 (Q35-37). The model explains 50% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: Store experiments in German supermarkets (n = 1851)

The analysis of the store experiments across all product categories shows no significant impact on making healthier initial choices with more TFA transparency. Overall, there was no "overreaction" observed to the TFA level.

Positive drivers of initial healthy product choices in Task 2 were

- Accessing the relevant elements in the nutrition table, i.e. the amounts of salt, sugar and saturates
- The shopping objective of looking at a wide variety of product types also helped in selecting the healthier product.

Barriers or negative drivers in this scenario were

- Not accessing any information or accessing the ingredients list or food information that was irrelevant to the healthy choice
- Not being aware of the negative health aspects of sugar
- Not generally considering any health aspects when making food choices
- Living in a single household or a lower education level also hindered a healthy choice.

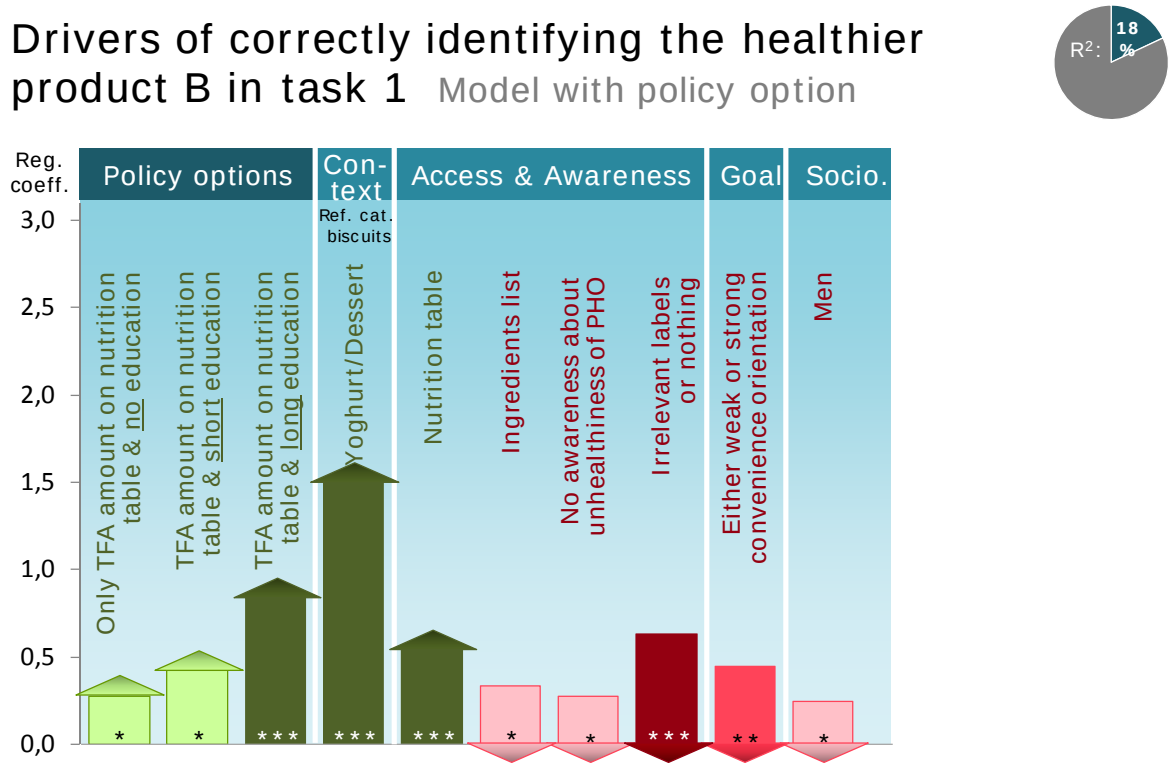
Again, the context of the product category influenced this choice in a similar way as in the first choice scenario. The healthier product was selected more often when comparing biscuits rather than yoghurt or pizza.

9.4.3 Drivers of the ability to identify healthy products in Task 1

The research question for this chapter was as follows: Are consumers able to identify the healthier product with no or less TFA if there is more transparency?

Participants were presented again with the same product sets as in the initial choices, after now having evaluated the healthiness of individual nutrition elements and after one third of the sample had received an additional education treatment. The purpose in this chapter is to look at the consumers' ability to identify the healthier product.

Figure 136 Drivers of the ability to identify healthy products in Task 1



Extract of results based on binary logistic regression analysis to identify statistically significant drivers of the ability to identify the healthy product in task 1 (Q44-46). The model explains 18% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed. Base: Store experiments in German supermarkets (n = 1851)

The analysis of the store experiments across all product categories shows a significant positive impact of all treatments in comparison to the control group. The gradual variation of the differentiation shows clearly that the more transparency the higher the impact.

A further driver of correct choices was accessing the nutrition table when making a decision. Key barriers were

- Not accessing any information or looking at irrelevant information
- The use of the ingredients list hindered healthy choices, which is in line with the other barrier of people not knowing that PHO is unhealthy
- Having either a weak or a strong convenience orientation also hindered good choices.

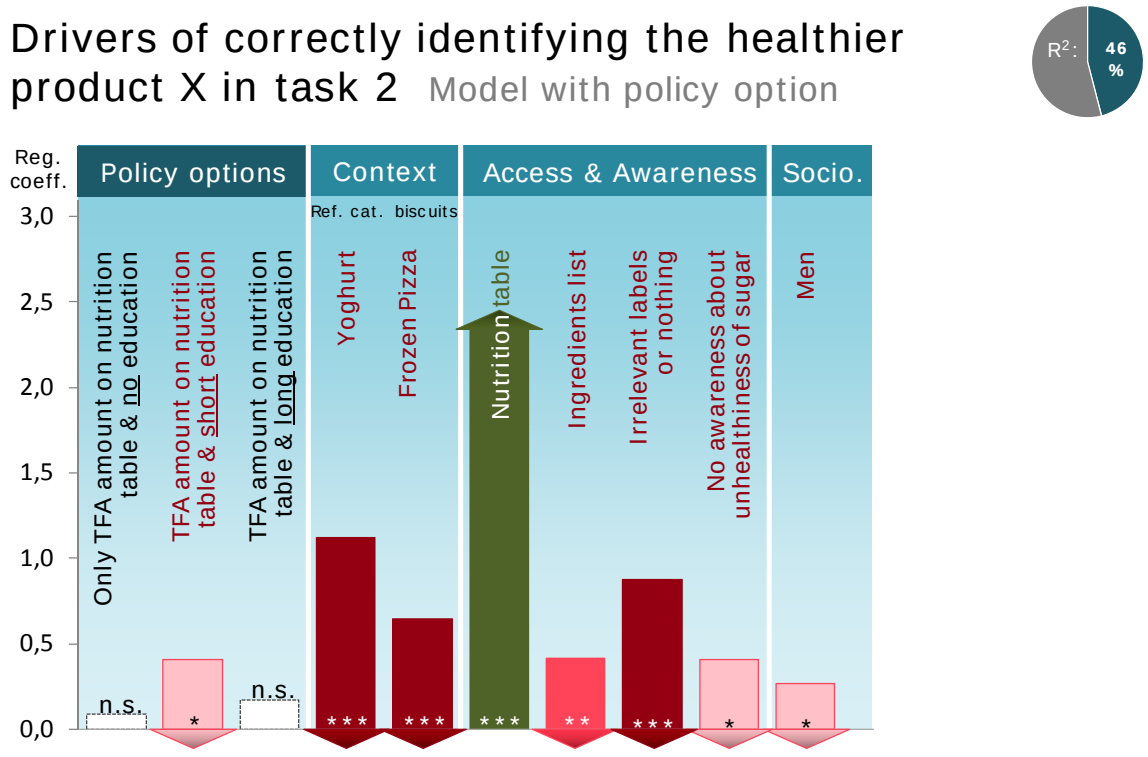
- Men had more problems identifying the healthier product in Task 1.

Within the context of yoghurt products, it was easier for consumers to identify the healthier product as compared to biscuits.

9.4.4 Drivers of the ability to identify healthy products in Task 2

The research question for this chapter was as follows: Are consumers able to identify the healthier product if it has slightly more TFA but an overall healthier combination of saturates, sugar and salt? Overreactions were probable if only TFA amounts are shown without education treatment, however they were not observed (see figure 133 above).

Figure 137 Drivers of the ability to identify healthy products in Task 2



Extract of results based on binary logistic regression analysis to identify statistically significant drivers of the ability to identify the healthy product in task 2 (Q49-51). The model explains 46% of the variance. Only variables with at least slight significance (* = p < 0.05) are displayed.
Base: Store experiments in German supermarkets (n = 1851)

The analysis of the store experiments across all product categories shows no overreaction to the display of TFA amounts. Moreover, the education treatment did not improve consumer choices as expected. In fact, if the guideline was only scanned briefly by participants, then the impact was negative.

The only positive driver of good choices in this experiment was looking at the nutrition table. Key barriers of good choices were

- Not accessing any information or accessing the ingredients list or food information that was not relevant for making healthy choices
- Not being aware of the unhealthiness of sugar
- Men were less able to make good choices also in this task.

The context of product categories shows the same pattern as in the initial choice set. Biscuits decisions delivered better results than yoghurt or pizza decisions.

9.5 Conclusions regarding TFA

Will the display of TFA amounts on the nutrition label lead to more healthy choices or will people misunderstand and over-react?

The treatment "TFA amounts on nutrition table" has a small positive effect in scenario 1 (product with less TFA is healthier) in the initial choice as well as a somewhat bigger positive effect in the more conscious choice.

In scenario 2 (product with more TFA is healthier) there was no overreaction observed as seen in the online survey. A possible explanation is the more complex choice architecture as well as the offline field environment in this experiment. Making complex choices in a busy supermarket, people are less likely to be influenced by information that they are unfamiliar with (such as TFA).

Therefore, the empirical evidence of the store experiments are more suitable to predict real consumer behaviour in the initial implementation phase. However, the more familiar consumers become with the term TFA or PHO (through communication campaigns), the more likely future consumer reactions might involve overreactions to the presence of TFA as observed in the online survey.

The empirical evidence from the store experiments reveals only slightly significantly more healthy choices and no overreactions in 2 out of 3 products when TFA is disclosed in the nutrition information. Overreactions may increase if consumers become more familiar with the terms TFA or PHO.

Does the education intervention (presented in addition to the TFA amounts on the nutrition table) help consumers to identify the healthier product?

The education treatment was effective in scenario 1 but not in scenario 2, where it was even counterproductive if the participant only superficially scanned the leaflet. This contrasting effect of the education highlights the impact of the different choice architectures in Task 1 and 2.

Task 2 was the easier and more familiar task for consumers who did not see or who ignored the TFA information. Those who received the education leaflet but did not read it thoroughly, were actually making worse choices. Hence, the expected overreaction actually was more

likely where consumers were alerted by the leaflet and subsequently looked for TFA information (which they did not do in their initial choices).

In contrast, Task 1 required participants only to focus on TFA and ignore (or correctly evaluate) all other elements. In such a scenario it is not surprising that the more transparency and the longer the exposure to the education treatment, the better the consumer choices. This task required people to evaluate an unfamiliar term (TFA/PHO), which is why fewer consumers made healthier choices overall. However, the education message that TFA is very unhealthy was understood more quickly and had a more effective impact on this choice scenario.

The education treatment generated an ambivalent impact on consumer choices in the store experiments: either significantly positive or negative – depending on the choice scenario and the duration time of reading the nutrition guideline.

Which conclusions can be drawn from the evidence collected in the online study and the store experiments?

The empirical evidence in the store experiments supports the results of the online study, though the experiments are not exactly comparable.

Making healthy food choices is predominantly driven by accessing the relevant food information. In a supermarket less than a quarter of shoppers actually take time and read selected information on the package. Of these, only a fraction of consumers read relevant food information that informs about the healthiness of the product.

However, we also know, that consumers often shop under time pressure and that a more intense reading of food information can also happen at home. Communication campaigns, discussions among friends and family members can change awareness and shopping behaviour over time.

When asked directly, consumers said they would prefer to receive more education on this topic and more transparency, i.e. the TFA amounts should be stated on the nutrition tables. These two measures, however, are only effectively driving good choices, if the products with less TFA are overall the healthier option.

Consumers are regularly overconfident that with more transparency they will be able to make better choices, but the task to determine which combination of nutritional elements is the healthier option is often more difficult than expected. Therefore, many consumers simplify their food decisions by using heuristics, such as the availability bias[68], habits, etc.

The initial choice for Task 2 revealed that most consumers simply did not recognise the less familiar TFA/PHO information. Only after the educational nudge, this information was noticed with the outcome of an overreaction among those who only read the leaflet superficially. This scenario can be compared with Task 2 in the online survey where a similar overreaction was

[68] i.e. relying on immediate examples that come to mind

measured in a more controlled environment. Here, the treatment "TFA info without education" was less liked to be ignored leading to consumer overreaction.

Overall, the objective of making healthier food choices easier to consumers is as important as it is difficult to implement. It requires a high level of expertise, time and commitment to correctly evaluate the presented information. The additional information about trans fats only adds another variable to an already complex decision.

This report focuses only on consumer reactions to TFA transparency.

The provision of TFA information and education were not consistently effective in driving good choices.

APPENDIX A – TECHNICAL DETAILS OF THE SURVEYS

APPENDIX A – TECHNICAL DETAILS OF THE SURVEYS

Online survey – technical summary

The online survey was carried out in eight EU Member States. The study was conducted by means of CAWI (Computer Assisted Web Interviews). All participants were invited by email to participate in the online survey. Invitations were sent out at the beginning of fieldwork, with further emails sent out during the course of the fieldwork period. Respondents who did not respond to these emails were re-invited by email.

The fieldwork was conducted in June 2012.

A target sample size of approximately 1000 respondents was set for each country. The table below shows the achieved sample size.

Sample size of online survey

COUNTRY	COMPLETED SURVEYS
France	1 007
Germany	1 005
Italy	1 005
Spain	1 002
UK	1 027
Finland	1 004
Poland	1 003
Romania	1 023
Total	**8 076**

Once fieldwork was completed, a data file for each country was generated following a specific data map.

To produce tables and other outputs based on the data set, the data was weighted according to target figures for gender and age distribution in each country. We applied rim weighting, using an iterative procedure to achieve an even distribution of results across the entire dataset while balancing the gender and age figures to pre-determined totals. It simultaneously weights the specified characteristics and disturbs each variable as little as possible.

The country selection for the online study on food labels reflected a maximum population coverage criteria as well as, based on our pre-analysis of available market indicators, maximum heterogeneity coverage principle.

Country selection criteria

Country	Family of Nations	Population size	Food quality label checking	Label comprehension
France	Central	48.754.823	Average	Average
Germany	Central	66.451.766	Less often	Average
Italy	Southern	48.517.748	More often	Low
Spain	Southern	36.793.761	Average	Low
UK	Anglo-Saxon	47.508.811	Average	High
Finland	Northern	4.154.280	More often	High
Poland	Eastern	30.455.706	Less often	Very low
Romania	Eastern	17.268.511	More often	Low

The country sample included the five EU countries with the highest population share plus three further countries. All eight countries cover approximately 300 million consumers aged 18 and older, representing 76% of the EU universe.

The selection takes into account not only the “families of nations” typology which has guided the bulk of sophisticated comparative public policy studies for the last few decades, but also reflects our pre-analyses of market specific country profiles based on the data from recent surveys TNS has conducted for the European Commission1.

In addition, the country selection also took into account that certain countries with specific legislations would not be suitable for testing all requested dimensions in the experiment. For instance, Austria, Sweden and Denmark have either banned trans fats or restricted the amount to below 2% and therefore were excluded from our recommended selection.

Finland was included as the only remaining country from the Northern family and because it showed in previous research a very high awareness of quality labels and also above average literacy levels when reading food labels.

Romania was included as it represents together with Italy the two countries with the highest discrepancy between checking food labels (more often) and label literacy (low comprehension), which may indicate that these countries should have a higher need for improving food information.

The decision for an online methodology will have a significant effect on the universe and the interpretation of results. The online universe is more homogenous in terms of higher education and higher income level than the general population. On the one hand, there will be a much higher incidence of shopping pre-packed food in modern grocery shops also in Eastern European markets. On the other hand, the survey does not cover the lowest social classes which are likely to need more assistance for making the right choices when buying food.

[1] Based on Eurobarometer data (July 2012 and March 2010)

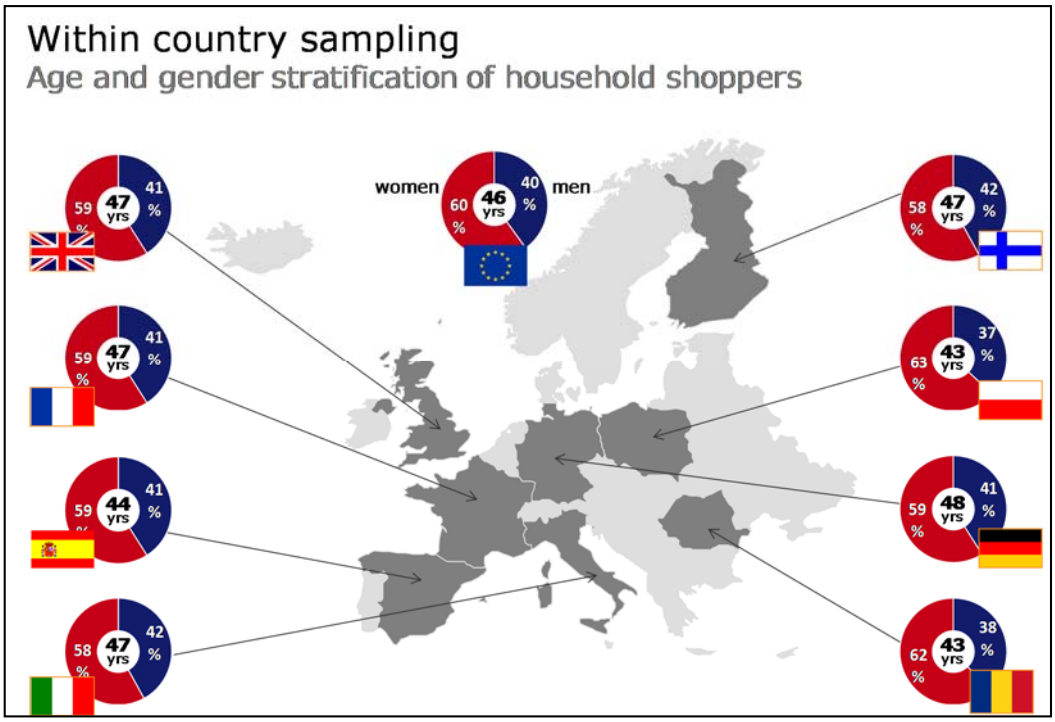
As the focus of this research was about consumer behaviour and decisions made at the point of sale, then it was agreed that the target should be the person (solely or jointly) responsible for everyday shopping decisions. This target has a different profile to the general population as outlined in the following table.

Universe stratification for EU27[2]

	EU27 population	EU27 shoppers
Gender		
1 Male	48%	40%
2 Female	52%	60%
Total	100%	100%
Age		
1 18-24	12%	12%
2 25-34	17%	17%
3 35-44	19%	18%
4 45-54	18%	17%
4 55+	34%	36%
Total	100%	100%

[2] Source: based on 2,000 F2F interviews per country within Eurobarometer 73.2+3 in 2010 – shoppers are defined as persons living in single households or saying that it is more them who shop for their household or saying that they have a balanced responsibility together with their partner to decide on everyday shopping for their household.

Universe stratification of shoppers in the surveyed countries



When targeting the average EU shopper instead of consumer, the sample contains a somewhat higher bias towards women and slightly older citizens. However, this stratification allows a more robust analysis when looking at potential gender and age effects and their implications for food product consumption in multi-person households in all selected countries.

The process was the following:

- Target the average shopper of a household
- Ensure robust sample size for gender and age comparisons within each country
- Use the shopper profiles per country for weighting the overall sample

The online sample excluded anyone below 18 years - since they are not allowed to purchase alcohol in most countries; buying beer or wine in retail stores is typically allowed by the age of 16 or 18 (only in Sweden the minimum age is 20).

Offline store survey – technical summary

The objectives for the offline store experiments were:

- Do consumers access the relevant food information in a shopping environment? If yes, who does, which parts, how long? Do they understand it?
- Understanding how consumers react, when confronted with TFA/PHO in various treatment scenarios (with or without TFA on nutrition panel? and does the education treatment improve the effect of concrete TFA amounts) and product categories (assumption that products with a healthy image like yoghurt will surprise more than less healthy products like biscuits)
- Are shoppers able to identify a healthier product? What are the barriers of making good choices?

Fieldwork

Fieldwork took place in Germany in May and June 2014 with the achieved sample sizes shown in the table below.

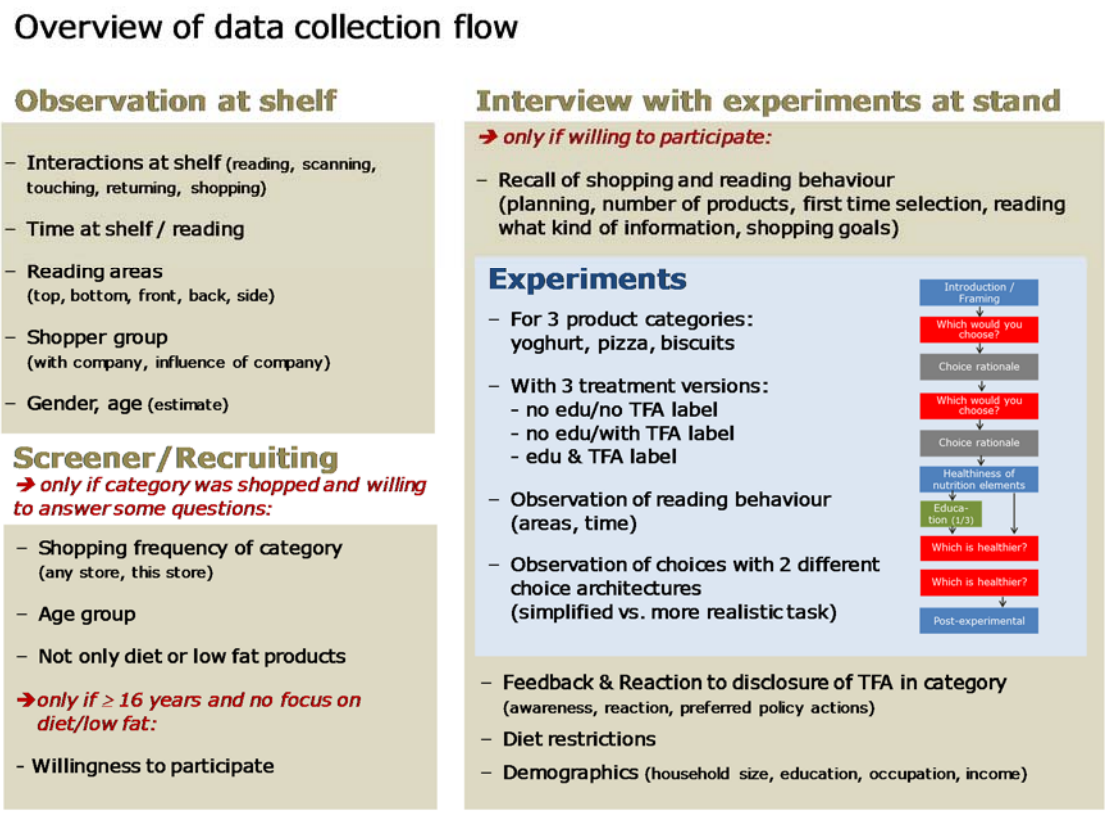
Sample size of offline survey in supermarkets

#	Category	Treatment	Observations	Interviews
Store 1: Isernhagen-Altwarmbüchen - Opelstraße 3 - 5	**Yoghurt**	Control group	383	200
Store 2: Garbsen - Havelser Str. 2-8	**Yoghurt**	TFA info only	501	202
Store 3: Hemmingen - Alfred Bentz Str. 1	**Yoghurt**	TFA info & education	574	201
Store 4: Hamburg-Oststeinbek - Willinghusener Weg 1	**Frozen Pizza**	Control group	598	211
Store 5: Hamburg-Lurup - Grandkuhlenweg 11	**Frozen Pizza**	TFA info only	372	201
Store 6: Hamburg-Farmsen - Berner Heerweg 173-175	**Frozen Pizza**	TFA info & education	615	203
Store 7: Bremen-Vahr - Vahrer Str. 197	**Biscuits**	Control group	473	202
Store 8: Ritterhude-Ihlpohl - Rosenhügel 5	**Biscuits**	TFA info only	663	239
Store 9: Bremen-Habenhausen - Steinsetzer Str. 15	**Biscuits**	TFA info & education	662	192

Design

The data collection process starts with an observation of shoppers at the shelf, who were then screened and recruited when they leave the product category.

The interview with the experiments was conducted within the supermarket at a separate stand with mock-up products (to control for brands, price and product variations), which allowed a more robust analysis of the drivers of observed choices.



For further details of the data collection flow, please see the CAPI Questionnaire.

The design allowed the analysis of initial choices to simulate typical choice behaviour as in reality (no education, no focus on health issues in preliminary interview). Although the variations between the products more or less forced the attentive participant to reflect health issues, the framing of the experiment tried to minimise this effect by reminding participants of individual shopping goals and habits.

Following the observation of the initial choice behaviour and before presenting the education treatment – participants were asked to give a cognitive health assessment of the key elements in the nutrition panel. This order allowed the collection of an unbiased awareness of the image of fat types, etc.

The education treatment was offered to every third participant (randomly allocated within each product category).

The subsequent choice set allowed for the analysis choice behaviour aimed at a common health goal (where appropriate).

Characteristics and choice architecture for the two tasks:

Task 1 = simplified choice with only one variation (with and without TFA/PHO), which was comparable across all product categories

➔ Allowed analysis to understand whether consumers ignore or misunderstand or don't understand the meaning of TFA within a simplified context

Task 2 = more realistic choice with two or three variations (Saturates, sugar and/or salt) and not always a superior choice

➔ Allowed analysis to understand how consumers react when the choices are more difficult as in reality and whether they tend to overreact by choosing products without TFA that are not healthier than products with TFA

Detailed characteristics and their rationale are outlined on the following pages for each task and category.

Suggestion for nutrition facts in choice tasks for YOGHURT

Task1: set of yoghurts with a superior choice: Product A without TFA and B with TFA

*Nutrition facts are selected **more on the healthy side** of an ordinary full fat yogurth with 3.5% fat. Higher fat levels are likely to reduce any potential surprise effect (10% fat is likely to be considered less healthy and is less often part of a regular diet). However, if it is unrealistic to have 0,4% TFA within a 3,5% total fat yoghurt, then we should use a slightly higher total fat level.*

TFA level for product B is slightly higher than the identified amounts in the NEVO database. However, we assume it is still a realistic level, which would allow us to compare the impact of all product categories (yoghurt, pizza, biscuits) at least for task 1 (only possible if same level used for all products in one task).

Yoghurt set for task 1	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salt (g)
Product A: (healthier)	278	67	4,0	3,3	3,3	3,5	2,5	0,0	0,1
Product B: (less healthy)	278	67	4,0	3,3	3,3	3,5	2,5	0,4	0,1

Task2: yoghurt without superior choice (both with equally less healthy nutrition facts): X with TFA, Y with more Sugar

*Nutrition facts are selected more on the **less healthy side** of a yogurth with 7.6% fat (still avoiding the extreme). Product X is similar to the Greek yoghurt in the NEVO database and Product Y is similar to the yoghurt cream with fruit in the database. All elements (other than TFA, sugar and carbohydrates) were consolidated to average amounts between both yoghurt types.*

Yoghurt set for task 2	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salt (g)
Product X: (less healthy)	555	133	3,7	3,6	3,6	7,6	4,9	0,2	0,1
Product Y: (less healthy)	555	133	3,7	14,9	14,9	7,6	4,9	0,0	0,1

NEVO DATABASE - http://nevo-online.rivm.nl/ProductenZoeken.aspx

Yoghurts - full fat only	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Natrium (g)
Yoghurt Greek full fat **(base for product x)**	519	125	4,7	3,6	3,6	10,0	6,5	0,2	0,1
Yoghurt cream with fruit **(base for product y)**	590	141	2,7	15,1	14,9	7,6	4,9	0,1	0,0
Yoghurt Turkish 10% fat	485	117	3,5	3,0	3,1	10,1	6,0	0,2	0,0
Yoghurt full fat stracciatella	557	133	3,7	17,3	14,6	5,2	3,3	0,1	0,0
Yoghurt full fat w fruit Activia	398	95	3,5	13,1	12,7	3,1	1,9	0,1	0,1
Yoghurt Bulgarian whole milk	366	87	5,1	6,0	6,0	4,5	2,9	0,1	0,0
Yoghurt Turkish 4% fat	278	67	3,9	3,3	3,3	4,2	2,5	0,1	0,1
Yoghurt full fat	237	57	3,8	3,3	3,3	2,9	1,9	0,1	0,1
Yoghurt full fat with fruit	408	97	4,0	14,0	13,5	2,5	1,6	0,0	0,0
MIN	***237***	***57***	***2,7***	***3,0***	***3,1***	***2,5***	***1,6***	***0,0***	***0,0***
AVERAGE	***426***	***102***	***3,9***	***8,7***	***8,3***	***5,6***	***3,5***	***0,1***	***0,0***
MAX	***590***	***141***	***5,1***	***17,3***	***14,9***	***10,1***	***6,5***	***0,2***	***0,1***

NHS guidelines

General per 100 g					Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salt
LOW (if ... or lower)					***5,0***	***3,0***	***1,5***	***0,2***	***0,3***
HIGH (if more than ...)					***22,5***	***17,5***	***5,0***	***0,5***	***1,5***

Suggestion for nutrition facts in choice tasks for PIZZA

Task1: set of pizzas with a superior choice: Product A without TFA and B with TFA

*Nutrition facts reflect the pizza **average** in the NEVO database.*

TFA level for product B is slightly higher than the identified amounts in the NEVO database. However, we assume it is still a realistic level, which would allow us to compare the impact of all product categories (yoghurt, pizza, biscuits) at least for task 1 (only possible if same level used for all products in one task).

Pizza set for task 1	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salt (g)
Product A: (healthier)	**986**	**236**	**9,0**	**27,5**	**2,7**	**9,4**	**3,0**	**0,0**	**0,6**
Product B: (less healthy)	**986**	**236**	**9,0**	**27,5**	**2,7**	**9,4**	**3,0**	**0,4**	**0,6**

Task2: pizza set with superior choice: healthier pizza X with some TFA and less salt, Y without TFA and more salt

*Nutrition facts are similar to the database **average** as in task 1. Product X is similar to the cheese and vegetable pizza in the NEVO database and Product Y is similar to the Turkish pizza in the database. All elements (other than TFA, natrium) were consolidated to average amounts between both pizza types. The salt level was adjusted based on Jan´s feedback. Please advise, whether the variations of TFA and salt establish an objectively superior choice for product X or what would be the maximum variation which is still realistic?*

Pizza set for task 2	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salz (g)
Product X: (healthier)	929	221	8,5	27,4	2,6	8,2	2,4	**0,2**	**0,2**
Product Y: (less healthy)	929	221	8,5	27,4	2,6	8,2	2,4	**0,0**	**1,8**

NEVO DATABASE - http://nevo-online.rivm.nl/ProductenZoeken.aspx

Pizza with ...	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Natrium (g)
cheese and vegetables **(base for product x)**	**1041**	**249**	9,0	**24,5**	**1,9**	**12,3**	**4,4**	**0,2**	**0,5**
Turkish with extras **(base for product y)**	**862**	**204**	**7,6**	**33,7**	**3,4**	**3,7**	**1,2**	0,1	**0,7**
salami	**1087**	**259**	**9,9**	27,4	2,1	**11,8**	**3,9**	0,1	**0,7**
meat	980	234	9,1	26,9	2,3	9,5	3,3	0,1	0,6
fish	1014	242	9,6	25,3	2,1	10,9	3,0	0,1	0,5
ham and pineapple	929	221	8,5	27,4	**4,4**	8,2	2,4	0,1	0,5
MIN	***862***	***204***	***7,6***	***24,5***	***1,9***	***3,7***	***1,2***	***0,1***	***0,5***
AVERAGE	***986***	***235***	***9,0***	***27,5***	***2,7***	***9,4***	***3,0***	***0,1***	***0,6***
MAX	***1.087***	***259***	***9,9***	***33,7***	***4,4***	***12,3***	***4,4***	***0,2***	***0,7***

NHS guidelines

General per 100 g					Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salt
LOW (if ... or lower)					***5,0***	***3,0***	***1,5***	***0,2***	***0,3***
HIGH (if more than ...)					***22,5***	***17,5***	***5,0***	***0,5***	***1,5***

Suggestion for nutrition facts in choice tasks for BISCUITS

Task1: set of biscuits with a superior choice: Product A without TFA and B with TFA

*Nutrition facts reflect the biscuits **average** in the NEVO database.*

TFA level for product B represents a slightly higer than average amounts in the NEVO database.

Biscuits set for task 1	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salt (g)
Product A: (healthier)	2.050	490	6,4	65,7	27,7	21,6	10,7	0,0	0,3
Product B: (less healthy)	2.050	490	6,4	65,7	27,7	21,6	10,7	0,4	0,3

Task2: biscuits without superior choice: X with more TFA and SF but less sugar, Y with more Sugar but less SF and no TFA

*Nutrition facts are selected more on the **less healthy side** with above average calories and fat levels. Product X is similar to the Dutch shortbread spritsstukken in the NEVO database and Product Y is similar to the biscuit chocolate coated chocoprins in the database. All elements (other than TFA, sugar and saturates) were consolidated to average amounts between both biscuit types. Please advise, whether the variations of TFA, Saturates and Sugar establish an objectively superior choice or not?*

Biscuits set for task 2	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salt (g)
Product X: (less healthy)	2.139	511	5,1	65,7	24,4	24,9	16,2	0,6	0,2
Product Y: (less healthy)	2.139	511	5,1	65,7	40,9	24,9	7,5	0,0	0,2

NEVO DATABASE - http://nevo-online.rivm.nl/ProductenZoeken.aspx

Selected biscuits	Energy (kJ)	Energy (kcal)	Protein total (g)	Carbohydrates total (g)	Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Natrium (g)
Biscuit Dutch shortbread spritsstukken **(base for product x)**	2201	526	5,0	62,4	24,4	28,2	16,2	0,6	0,2
Biscuit chocolate coated Chocoprins **(base for product y)**	2077	495	5,2	69,0	40,9	21,6	11,9	0,1	0,2
Biscuit chocolate	1978	472	7,1	63,5	30,2	20,0	10,7	1,3	0,2
Biscuit Dutch shortbread w chocolate	2254	539	4,9	61,4	29,4	30,1	13,0	0,6	0,2
Waffle penny	2261	542	5,9	56,1	32,4	32,5	22,2	0,2	0,2
Biscuit filled Prince	1971	469	5,0	73,0	36,0	17,0	5,5	0,2	0,2
Rice cakes puffed w chocolate	2099	502	6,8	60,3	25,3	24,9	14,7	0,1	0,1
Biscuit digestive w chocolate	2049	489	6,5	64,3	28,1	22,2	7,4	0,1	0,4
Biscuit brown/ wholemeal	1919	457	7,6	70,0	21,9	15,0	6,9	0,1	0,4
Biscuit sweet	1869	443	7,6	77,2	18,6	11,0	5,1	0,1	0,4
MIN	***1.869***	***443***	***4,9***	***56,1***	***18,6***	***11,0***	***5,1***	***0,1***	***0,1***
AVERAGE	***2.050***	***489***	***6,4***	***65,7***	***27,7***	***21,6***	***10,7***	***0,3***	***0,3***
MAX	***2.261***	***542***	***7,6***	***77,2***	***36,0***	***32,5***	***22,2***	***1,3***	***0,4***

NHS guidelines

General per 100 g					Sugar (g)	Fat total (g)	Saturates (g)	Trans fat (g)	Salt
LOW (if ... or lower)					***5,0***	***3,0***	***1,5***	***0,2***	***0,3***
HIGH (if more than ...)					***22,5***	***17,5***	***5,0***	***0,5***	***1,5***

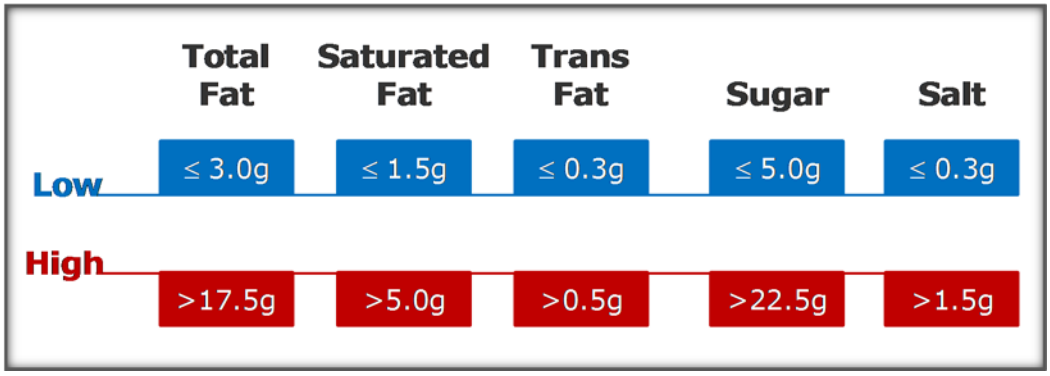
EDUCATION TREATMENT FOR OFFLINE EXPERIMENT

How do you know if a food fits well in a balanced and healthy diet?

For a more balanced and healthy diet you should cut down on:

- Fat – especially saturated and trans fat,
- Salt and
- Added sugars.

How do I know that a food is high or low in fat, sugar or salt?



For example, watch out for healthy and unhealthy fat types:

There are different kinds of fat included in most types of food. Many people know that

- **saturated fat** is unhealthy while
- **unsaturated fat** is generally healthy.

It is also recommended that people avoid **trans fat**, which is even more unhealthy than saturated fat.

- On the one hand, trans fats can occur **naturally** in certain foods from ruminant animals such as in milk and dairy products (e.g. yoghurt, cheese) ➔ *where levels are low and not of concern.*
- On the other hand, trans fats can be produced **industrially** and added to processed foods, in particular in the form of partially hydrogenated (vegetable) oils and fats ➔ *where levels can be worryingly high.*

Today most food producers have reformulated their products and removed partially hydrogenated oils from their products or greatly reduced them. Nevertheless, few products with high trans fat levels are still present on the market and it is important to identify them and use products from alternative producers.

▶ You can either identify trans fat by spotting partially hydrogenated oils and fats in the ingredients list or by recognising products with more than 0.8g trans fats per 100g.

Important: Do not lose sight of the other nutrients when avoiding partially hydrogenated oils or trans fats: prefer products and brands where all sugar, salt, saturated and trans fats are low or at least not high

APPENDIX B – QUESTIONNAIRES

CAWI Questionnaire

Name of survey
EC Food Information - MCP Survey 2013

Client name
DG SANCO

Author(s)
Elke Himmelsbach
Anna Rysina

This questionnaire was written according to TNS quality procedures

checked by **Quality Department and Translations**

Version from August 05th 2013

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End CHOICE TASK: TRANS FATS
CHOICE TASK: ALLERGENS & PRIMARY INGREDIENT
Q33 | split-allergy | Treatment splits: Allergy
T7 | intro-allergy | Experiment intro allergen labels
ROTATE ORDER OF QUESTIONS IN THIS BLOCK
Q341 | exp-all1-split1 | Allergen choice 1 - May contain
Q342 | exp-all1-split2 | Allergen choice 1 - May contain traces
Q343 | exp-all1-split3 | Allergen choice 1 - Cannot guarantee
Q344 | exp-all1-split4 | Allergen choice 1 - Manufactured in a facility that also processes
Q345 | dum-zoom-allergy1 | Zooming areas Allergy task 1
Q351 | exp-all2-split1 | Allergen choice 2 - May contain
Q352 | exp-all2-split2 | Allergen choice 2 - May contain traces
Q353 | exp-all2-split3 | Allergen choice 2 - Cannot guarantee
Q354 | exp-all2-split4 | Allergen choice 2 - Manufactured in a facility that also processes
Q355 | dum-zoom-allergy2 | Zooming areas Allergy task 2
Q361 | exp-all3-split1 | Allergen choice 3 - May contain
Q362 | exp-all3-split2 | Allergen choice 3 - May contain traces
Q363 | exp-all3-split3 | Allergen choice 3 - Cannot guarantee
Q364 | exp-all3-split4 | Allergen choice 3 - Manufactured in a facility that also processes
Q365 | dum-zoom-allergy3 | Zooming areas Allergy task 3
Q37 | all-sec-cho | Always secure choice for Allergens
Q38 | num-sec-cho | Number of secure choice for Allergens
End ROTATE ORDER OF QUESTIONS IN THIS BLOCK
Q39 | rationale-all-pi | Rationale for choices on allergen and primary ingredient
Q40 | risk-allergy | Risk assessment of precautionary allergen label options
Q41 | recall-pi1 | Recall of primary ingredient in Muesli
Q42 | pi-pizza | Primary ingredient in pizza
Q43 | pi-yogurt | Primary ingredient in yogurt
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Q46 | seg-drinks | Respondent segmentation - treatment splits on alcohol
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Q472 | alc-occa-wine | Drinking occasions - Wine
Q473 | alc-occa-spirits | Drinking occasions - Spirits
Q481 | alc-freq-beer | Frequency of drinking alcohol - Beer
Q482 | alc-freq-wine | Frequency of drinking alcohol - Wine
Q483 | alc-freq-spirits | Frequency of drinking alcohol - Spirits
Q491 | alc-occa-last-beer | Drinking occasions - last time - Beer
Q492 | alc-occa-last-wine | Drinking occasions - last time - Wine
Q493 | alc-occa-last-spirits | Drinking occasions - last time - Spirits
Q50 | beer-vol0 | Alcohol consumption per occasion - beer
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Q52 | spirits-vol0 | Alcohol consumption at last occasion - vodka/whiskey
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Q53 | beer-vol1 | Beer consumption ex ante
Q54 | wine-vol1 | Wine consumption ex ante
Q55 | spirits-vol1 | Spirits consumption ex ante
TASK: BEER - CALORIES
Q56 | beer-cal-test | Knowledge test on calories for beer
T9 | beer-cal-edu | Education - Calories in beer vs pizza
Q57 | beer-vol2-cal | Consumption change - Calories - Beer
End TASK: BEER - CALORIES
TASK: BEER - LIMITS

Q58 | beer-lim-test | Knowledge test on limits for beer
T10 | beer-lim-edu | Education - Limits with beer
Q59 | beer-vol2-lim | Consumption change - Limits - Beer
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TASK: WINE - CALORIES
Q60 | wine-cal-test | Knowledge test on calories for wine
T11 | wine-cal-edu | Education - Calories in wine vs. chocolate
Q61 | wine-vol2-cal | Consumption change - Calories - Wine
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TASK: WINE - LIMITS
Q62 | wine-lim-test | Knowledge test on limits for wine
T12 | wine-lim-edu | Education - Limits with wine
Q63 | wine-vol2-lim | Consumption change - Limits - Wine
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TASK: SPIRITS - CALORIES
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T13 | spirits-cal-edu | Education - Calories in spirits vs. nuts
Q65 | spirits-vol2-cal | Consumption change - Calories - Spirits
End TASK: SPIRITS - CALORIES
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T14 | spirits-lim-edu | Education - Limits with spirits
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Q69 | wine-vol3 | Future intention to drinking volume of wine
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Q75 | useby | Knowledge test: Use By
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Q87 | height-uk | Height UK in feet and inches
Q88 | height-dum-uk | Height UK in cm
Q89 | height-non-UK | Height non-UK in cm
Q90 | height-all-dum | Height all in cm Dummy
Q91 | weight-uk | Weight UK in stones and pounds
Q92 | weight-dum-uk | Weight UK in kg
Q93 | weight-non-UK | Weight non-UK in kg

Q94 | weight-all-dum | Weight all in kg Dummy
End DEMOGRAPHICS
Q95 | qual1 | Quality-Check: Straightliners
Q96 | qual2 | Quality-Check: Speeder
T19 | outro0 | Outro

B1 | SCREENER & INTRO — **Begin block**

Q1 | country | Country — **Single coded**

Dummy

1 ○ UK
2 ○ France
3 ○ Germany
4 ○ Italy
5 ○ Spain
6 ○ Finland
7 ○ Poland
8 ○ Romania

T1 | intro0 | Intro to screener — **Text**

Welcome
... to our survey!

Thank you so much for participating in this survey!

We treat your personal data strictly confidentially. It will under no circumstances be given to any third parties including our clients. Studies are always analysed anonymously (e.g. "75 per cent of the people say ...")

It can take up to 14 days after the survey has closed for the remuneration to appear in your account.

Q2 | age1 | Age open — **Numeric**

Min 18 | Max 99

Before we begin, please answer the following questions:
What was your age on your last birthday?

Scripter notes: - IF AGE younger than 18, THEN => SCREEN OUT
- IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'No answer' option with code 9.
- IF 'No answer' is given, THEN ask Q3 with age categories.

Q3 | age2 | Age group **Single coded**

Which of the following age groups do you fall into?

1 ○ Less than 18 years old
↳ GO TO T2outro1
2 ○ Between 18 and 24 years old
3 ○ Between 25 and 34 years old
4 ○ Between 35 and 44 years old
5 ○ Between 45 and 54 years old
6 ○ 55 years old or more
9 ○ No answer
↳ GO TO T2outro1

Scripter notes: - ADD FILTER: This question is only asked if Q2 is not answered.
- IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'No answer' option with code 9.

Q4 | age3 | Age combined **Single coded**

Dummy

[DP: sum of answers in Q1 and Q2]

1 ○ Between 18 and 24 years old
2 ○ Between 25 and 34 years old
3 ○ Between 35 and 44 years old
4 ○ Between 45 and 54 years old
5 ○ 55 years old or more

Researcher notes: Translator: no translation required

Scripter notes: CHECK QUOTAS on age stratification per country

Q5 | sex | Gender **Single coded**

Are you...?

1 ○ Male
2 ○ Female
9 ○ No answer
↳ GO TO T2outro1

Scripter notes: - IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'No answer' option with code 9.
- CHECK QUOTAS on gender stratification per country

Q6 | hhsize | Household size — **Single coded**

Including yourself, how many people are there in your household?

1 ○ 1
2 ○ 2
3 ○ 3
4 ○ 4
5 ○ 5 or more
9 ○ No answer
↳ GO TO T2outro1

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at the top of the screen AND after the question text 'Please provide an answer' AND add 'No answer' option with code 9.

ASK ONLY IF Q6 | hhsize=2,3,4,5

Q7 | resp | Shopping responsibility — **Single coded**

Thinking of you and other members of your household, who is more likely to make the decisions on everyday shopping?

1 ○ More you
2 ○ Balanced between you and someone else
3 ○ More your partner or someone else in your household
↳ GO TO T2outro1
9 ○ No answer
↳ GO TO T2outro1

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at the top of the screen AND after the question text 'Please provide an answer' AND add 'No answer' option with code 9.

T2 | outro1 | Screen out — **Text**

We are very sorry, but we have already received enough answers from people corresponding to your profile for this study.
Thank you for taking the time to answer!

Scripter notes: Display this text for screen-out if screening requirements are not fulfilled or quotas are full.

T3 | intro1 | Intro to study — **Text**

Welcome and thank you for volunteering to take part in our survey. The survey is about your habits and preferences when you go shopping for food. It starts with some questions about your shopping behaviour, when purchasing groceries.

This survey also includes a brief choice experiment where it is possible for you to earn an additional bonus on top of your usual incentive for completing the questionnaire.

Your answers are, of course, completely confidential and will only be analysed and shown in an aggregated format.

Please try to complete the survey in one sitting. It should take no longer than 20 minutes.

B1 | SCREENER & INTRO — End block

B2 | SHOPPING HABITS - GENERAL — Begin block

Q8 | freq-shop | Frequency of shopping — Single coded

How often do you shop for groceries?

5 ○ More than twice a week
4 ○ Twice a week
3 ○ Once a week
2 ○ Every other week
1 ○ Once a month or less often
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Q9 | engage | Shopping engagement — Matrix

Which of the following best describes how you feel about shopping groceries?

Rotated

	Strongly agree				Strongly disagree
I enjoy doing the shopping	○	○	○	○	○
I usually shop in a rush	○	○	○	○	○
I usually take time and browse while shopping to see what is new	○	○	○	○	○
When shopping, I am often overwhelmed by the choice available	○	○	○	○	○
I can only afford to buy what I need rather than what I want	○	○	○	○	○

Scripter notes: IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]' .

Please program a slider scale, but please avoid the necessity of a flash player for this question

Researcher notes: Translator note: Please translate also statements 2 and 3, since we don't know if they can be skipped.

Q10 | plan | Pre-shopping habits **Matrix**

When you are shopping or planning to shop for groceries.
Before you enter a store - how often do you ...

Rotated

	Always	Most of the time	Some of the time	Rarely	Never	Don't know
Make a list of products you want to buy	O	O	O	O	O	O
Search for special deals, best prices or coupons	O	O	O	O	O	O
Already know which product and brand you will buy because you buy the same foods every time	O	O	O	O	O	O

Scripter notes: IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]' AND add 'Don't know' option with code 8.

Q11 | goals | Shopping goals **Matrix**

Thinking about how you shop for food, how well does each of the statements describe you and your shopping behaviours and beliefs?

Rotated

	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
I'm never willing to compromise quality for a lower price	O	O	O	O	O
Price is more important than anything else	O	O	O	O	O
I read labels and pay close attention to product information	O	O	O	O	O
I am extremely loyal to the brands I buy	O	O	O	O	O
I always try to choose the healthier alternative when selecting a product	O	O	O	O	O

Scripter notes: IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]' AND add 'Don't know' option with code 8.

B2 | SHOPPING HABITS - GENERAL **End block**

B3 | AWARENESS OF TF/PHO/FHO **Begin block**

Q12 | tf-awa | Awareness of fat types **Matrix**

Have you ever heard of these types of fat before?
Which of the following applies to you regarding ... ?

Rotated

	I have never heard of it	I have heard of it, but I do not know much about it	I know roughly what it is / what it means	I have enough knowledge to take the right decisions for myself
Trans fat	○	○	○	○
Partially hydrogenated oil	○	○	○	○
Fully hydrogenated oil	○	○	○	○
Saturated fat	○	○	○	○

Scripter notes: IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]'.

ASK ONLY IF Q12 | tf1 ST=1 & SC=2,3,4 or Q12 | tf1 ST=2 & SC=2,3,4 or Q12 | tf1 ST=3 & SC=2,3,4 or Q12 | tf1 ST=4 & SC=2,3,4

Q13 | tf-eva | Evaluation of fat types **Matrix**

Based on what you know, how healthy do you think these types of fat are?

Rotated

	Very healthy	Quite healthy	Not sure	Quite unhealthy	Very unhealthy
Trans fat	○	○	○	○	○
Partially hydrogenated oil	○	○	○	○	○
Fully hydrogenated oil	○	○	○	○	○
Saturated fat	○	○	○	○	○

Scripter notes: ASK only for statements (fat types) if in question before codes 2-4!
IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]'.

B3 | AWARENESS OF TF/PHO/FHO **End block**

B4 | AWARENESS OF ALLERGY INFORMATION **Begin block**

Q14 | diet1 | Dietary restrictions - personal **Multi coded**

Do you have any dietary restrictions?

Tick all that apply

Rotated

1	☐	Food allergy or intolerance	
2	☐	Diet / Weight loss	
3	☐	Diabetic	
4	☐	Vegetarian	
5	☐	Vegan	
6	☐	Other	*Position fixed*
7	○	No food restrictions	*Exclusive *Position fixed*
8	○	Don't know	*Exclusive *Position fixed*

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Q15 | diet2 | Dietary restrictions - household **Multi coded**

Does anyone else in your household (for whom you also shop at least occasionally) have any dietary restrictions?

Tick all that apply

Rotated

1	☐	Food allergy or intolerance	
2	☐	Diet / Weight loss	
3	☐	Diabetic	
4	☐	Vegetarian	
5	☐	Vegan	
6	☐	Other	*Position fixed*
7	○	No food restrictions	*Exclusive *Position fixed*
8	○	Don't know	*Exclusive *Position fixed*

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

ASK ONLY IF Q14 | diet1=1 or Q15 | diet2=1

Q16 | allergy1 | Allergic reaction **Single coded**

How would you rank the severity of the allergy/intolerance?

If there is more than one food allergy or intolerance, please answer for the more severe type.

1	○	Mild
2	○	Moderate
3	○	Severe
8	○	Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

ASK ONLY IF Q14 | diet1=1 or Q15 | diet2=1

Q17 | allergy2 | Reading allergy labels — **Single coded**

Do you ever look for allergy information, when shopping for food?

4 ○ Yes, regularly
3 ○ Yes, but only occasionally, e.g. when shopping for/with someone else
2 ○ Yes, I have done previously
1 ○ No, never
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Q18 | seg-allergen | Segmentation on allergen awareness — **Single coded**

Dummy

[DP: target group consolidation based on previous questions]

1 ○ Personally affected with label experience [DP: if in Q14 code 1 AND Q17 code 2-4]
2 ○ Personally affected without label experience [DP: if in Q14 code 1 AND Q17 code 1 or 8]
3 ○ Only household member affected with label experience [DP: if in Q15 code 1 AND in Q14 NOT code 1 AND in Q17 code 2-4]
4 ○ Only household member affected without label experience [DP: if in Q15 code 1 AND in Q14 NOT code 1 AND in Q17 code 1 or 8]
5 ○ Not affected [DP: if in Q14 NOT code 1 AND in Q15 NOT code 1]

Researcher notes: Translator: no translation required

B4 | AWARENESS OF ALLERGY INFORMATION — **End block**

B5 | CATEGORY SPECIFIC HABITS — **Begin block**

Q19 | cat-food | Category buyers: Food — **Matrix**

When was the last time you bought any of the following products for yourself or your household, friends or colleagues in a self-service shop like a supermarket, discount store, grocery store, local corner shop, health food shop or in an online shop?

Rotated

	Last week	Last 4 weeks/ last month	Last 6 months	Last 12 months	Less often	Never bought
Crisps	○	○	○	○	○	○
Muesli	○	○	○	○	○	○

Scripter notes: Scripter notes: - IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]' .

B6 | Category Repeater Questions — **Begin block**

Scripter notes: Repeat block for each category bought within last 6 months, i.e. IF in Q19 codes 4-6

Q20 | type1 | Selectors / Habitual Buyers — **Single coded**

Which statement best describes when you usually decide on the brand of [DP: category] to buy?

1 ○ I have no particular brand in mind and make up my mind in the store
2 ○ I have more than one specific brand in mind and make up my mind in the store
3 ○ I usually start off wanting a certain brand but sometimes end up buying something different
4 ○ I always know which brand I want before reaching the store

Scripter notes: - Please insert category name in question text and underline it
- IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer'.

Q21 | type2 | Shopper type — **Single coded**

Dummy

1 ○ Selecting buyer [DP: if in Q20 codes 1-2]
2 ○ Habitual buyer [DP: if in Q20 codes 3-4]
3 ○ Non-Buyer [DP: if in Q19 code 1]

Researcher notes: Translator: no translation required

Q22 | labels | Relevant food information per category — **Multi coded**

What kind of information do you normally watch out for when selecting a product or brand of [DP: category] for the first time?

Tick all that apply

Rotated

1 ☐ Allergen information
2 ☐ Amount of carbohydrates
3 ☐ Amount of sugar
4 ☐ Amount of salt
5 ☐ Amount of saturated fat
6 ☐ Calories
7 ☐ Country of origin
8 ☐ Expiry date
9 ☐ Health claims
10 ☐ Ingredients
11 ☐ Organically produced
12 ☐ Price
13 ☐ Other **Position fixed*
14 ○ None of these **Exclusive *Position fixed*
15 ○ Don't know **Exclusive *Position fixed*

Scripter notes: - Please insert category name in question text and underline it
- IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with **code 15**.

Client notes: The purpose of this question is to capture the previous behaviour when selecting a product for the first time (to exclude habitual buying for repeat purchases). There will be another question after the experiments to capture the expectation which information should be given on the product packages.

B6 | Category Repeater Questions — **End block**

Q23 | cat-alc | Category non-drinker: Consumption of alcoholic beverages **Matrix**

During the past 12 months, did you drink any beer, wine, vodka and/or whiskey?

Rotated

	Yes	No
Beer	○	○
Wine	○	○
Vodka	○	○
Whiskey	○	○

Scripter notes: - IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]'.

Q24 | seg-catuser | Segmentation on category usage **Multi coded**

Min 6 | Max 6 | Dummy

[DP: target group consolidation based on previous questions]

1 ☐ Crisps shopper [DP: if in Q19 ST1 codes 3-6]
2 ☐ Crisps non-shopper [DP: if in Q19 ST1 code 1-2]
3 ☐ Muesli shopper [DP: if in Q19 ST2 codes 3-6]
4 ☐ Muesli non-shopper [DP: if in Q19 ST2 codes 1-2]
5 ☐ Beer drinker [DP: if in Q23 ST1 code 1]
6 ☐ Beer non-drinker [DP: if in Q23 ST1 code 2]
7 ☐ Wine drinker [DP: if in Q23 ST2 code 1]
8 ☐ Wine non-drinker [DP: if in Q23 ST2 code 2]
9 ☐ Vodka drinker [DP: if in Q23 ST3 code 1]
10 ☐ Vodka non-drinker [DP: if in Q23 ST3 code 2]
11 ☐ Whiskey drinker [DP: if in Q23 ST4 code 1]
12 ☐ Whiskey non-drinker [DP: if in Q23 ST4 code 2]

Researcher notes: Translator: no translation required

Q25 | seg-exp | Respondent split for food or drinks experiment **Single coded**

Dummy

[DP: assign respondents to the split where at least one category is used, if respondent uses products in both categories, then choose the split with the lowest number of respondents to achieve an equal sample participation between food and drinks experiments]

1 ○ FOOD: crisps, high allergen awareness (DP: if in Q23 code 2 for all alcohol types OR in Q19 ST1 codes 4-6 OR high allergen awareness Q18 codes 1-4)
2 ○ ALCOHOL: beer, wine, vodka, whiskey (DP: if in Q23 code 1 for at least one alcohol type)

Researcher notes: Translator: no translation required

B5 | CATEGORY SPECIFIC HABITS **End block**

ASK ONLY IF Q25 | seg-exp=1

B7 | FOOD EXPERIMENTS — **Begin block**

T4 | exp-intro-food1 | Experiments Intro Food 1 — **Text**

In the following part of the survey we will take you through a series of shopping scenarios. There, you will be asked to choose between different products.

By completing this choice experiment carefully and honestly it is possible to earn an additional bonus on top of your usual incentive for completing the questionnaire.

When shopping in reality there are many features, which can be considered when buying food. In the following scenarios we would like you to focus on a selection of the most common features except price and brand.

We would like to know more about your preferences when comparing different offers for certain types of food. On each of the following pages we will show you two choices. When comparing the two, some food information may differ, whereas others may be identical.

B8 | CHOICE TASK: TRANS FATS — **Begin block**

Q26 | split-tf | Treatment splits: Trans fats — **Single coded**

Dummy

[DP: Equal sample size across splits - assign at random to split with fewest respondents]

1 ○ Split 1: education - with TF info
2 ○ Split 2: no education - with TF info
3 ○ Split 3: education - no TF info
4 ○ Split 4: no education - no TF info

Researcher notes: Translator: no translation required

T5 | exp-intro-tf | Experiments Intro Trans Fats **Text**

Not back

Please make the choices as you would in real life.
For example, you said earlier that you ... [DP: add if Q11 ST codes 3-4 or Q13 NOT code 3 or Q14 code 2 or Q22 code 5]

- watch out for the healthier alternative when selecting a product [DP: add if in Q11 ST5 codes 3-4]
- watch out for information on the amount of saturates [DP: add if in Q22 code 5]
- are following a diet or a weight loss programme [DP: add if in Q14 code 2]
- consider trans fat to be [DP: if in Q26 code 1 or 2 and if Q13 ST1 not code 3, then answer from Q13 ST1: very healthy / quite healthy / quite unhealthy / very unhealthy]
- consider partially hydrogenated oil to be [DP: if Q13 ST2 not code 3, then insert answer from Q13 ST2 very healthy / quite healthy / quite unhealthy / very unhealthy]
- consider fully hydrogenated oil to be [DP: if Q13 ST3 not code 3, then insert answer from Q13 ST3 very healthy / quite healthy / quite unhealthy / very unhealthy]
- consider saturates to be [DP: if Q13 ST4 not code 3, then insert answer from Q13 ST4 very healthy / quite healthy / quite unhealthy / very unhealthy]

[DP: add text if (Q19 ST1 code 1) respondent never bought product before:]
On the following screens we will ask you to shop crisps. You mentioned before, that you never bought this type of product. Therefore, please assume you are choosing the crisps for a friend.

Please consider this also in your subsequent choices.

Scripter notes: Show this screen only if any of the conditions listed apply.

ASK ONLY IF Q26 | split-tf=1,3

T6 | edu-tf1 | Education on Trans Fats **Text**

Show picture(s): Show picture for education on trans fat

Before choosing, please read the following information carefully:
There are different kinds of fat included in most types of food. Many people know that saturated fat is unhealthy while unsaturated fat is generally healthy. On a food label, saturated fat is labelled as 'saturates'.
It is also recommended that people avoid trans fat, which is even more unhealthy than saturated fat.
A food may contain hydrogenated oil. This oil is either hydrogenated fully or partially. Fully hydrogenated oil contains only saturated fat and does not contain trans fat, while partially hydrogenated oil contains both saturated fat and trans fat in different quantities.
[DP: Insert education image below this text]

Researcher notes: Translator notes: Please check / advice whether the sentence "On a food label, saturated fat is labelled as 'saturates'." is really needed in your language. If not, skip it.

ASK ONLY IF Q26 | split-tf=1,2

Q271 | exp-tf1-with | Trans fats choice 1 - with TFA **Single coded**

Show picture(s): insert 2 product images

Not back

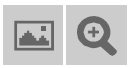
Which product would you choose A or B?

1 ○ Product A
2 ○ No difference to me
3 ○ Product B

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only separate 3 zooming areas per screen. For the experiment with crisps it will be:
-Ingredients
-Nutrition information
-Origin information „made in"
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

ASK ONLY IF Q26 | split-tf=3,4

Q272 | exp-tf1-without | Trans fats choice 1 - without TFA **Single coded**



Show picture(s): insert 2 product images

Not back

Which product would you choose A or B?

1 ○ Product A
2 ○ No difference to me
3 ○ Product B

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with crisps it will be:
-Ingredients
-Nutrition information
-Origin information „made in"
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q271

Q273 | dum-zoom-tf1 | Zooming areas TF1 **Multi coded**

Min 1 | Max 3 | Dummy

Tracking what area was zoomed in Q271 or Q272

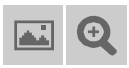
1 ☐ Ingredients
2 ☐ Country of origin
3 ☐ Nutrition facts
4 ○ None

*Exclusive *Position fixed

Researcher notes: Translator: no translation required

ASK ONLY IF Q26 | split-tf=1,2

Q281 | exp-tf2- with | Trans fats choice 2 - with TFA **Single coded**



Show picture(s): insert 2 product images

Not back

Which product would you choose C or D?

1 ○ Product C
2 ○ No difference to me
3 ○ Product D

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only separate 3 zooming areas per screen. For the experiment with crisps it will be:
-Ingredients
-Nutrition information
-Origin information „made in"
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q271. Just please replace A or B by C or D.

ASK ONLY IF Q26 | split-tf=3,4

Q282 | exp-tf2- without | Trans fats choice 2 - without TFA **Single coded**

Show picture(s): insert 2 product images

Not back

Which product would you choose C or D?

1 ○ Product C
2 ○ No difference to me
3 ○ Product D

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only separate 3 zooming areas per screen. For the experiment with crisps it will be:
-Ingredients
-Nutrition information
-Origin information „made in"
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q281.

Q283 | dum-zoom-tf2 | Zooming areas TF2 **Multi coded**

Min 1 | Max 3 | Dummy

Tracking what area was zoomed in Q281 or Q282

1 ☐ Ingredients
2 ☐ Country of origin
3 ☐ Nutrition facts
4 ○ None

**Exclusive *Position fixed*

Researcher notes: Translator: no translation required

Q29 | tf-health-cho | Always healthier choice for Trans fat **Single coded**

Dummy

1 ○ Not always healthier choice [DP: if Q271 | exp-tf1 OR Q281| exp-tf2 are not code 1 OR Q272 | exp-tf1 OR Q282| exp-tf2 are not code 1]
2 ○ Always healthier choice [DP: if Q271 | exp-tf1 code 1 AND Q281 | exp-tf2 code 1 AND Q272 | exp-tf1 code 1 AND Q282 | exp-tf2 code 1]

Researcher notes: Translator: no translation required

Q30 | rationale-tf2 | Rationale for second choices on trans fats **Multi coded**

Not back

What was guiding your choice in the previous question between products C and D?

Tick all that apply [DP: show only if in Q281 OR Q282 code 1 or 3]

Rotated

1 ☐ Lowest amount of saturated fat [DP: show only if in Q281 OR Q282 code 1 or 3]
2 ☐ Lowest amount of trans fat [DP: show only in relevant splits and if in Q281 OR Q282 code 1 or 3]
3 ☐ Without partially hydrogenated oil [DP: show only if in Q281 OR Q282 code 1 or 3]
4 ☐ Without fully hydrogenated oil [DP: show only if in Q281 OR Q282 code 1 or 3]
5 ☐ The ranking of ingredients [DP: show only if in Q281 OR Q282 code 1 or 3]
6 ○ I was not able to spot any differences [DP: show only if in Q281 OR Q282 code 2] *Exclusive *Position fixed
7 ○ The differences I saw were not relevant for me [DP: show only if in Q281 OR Q282 code 2] *Exclusive *Position fixed
8 ○ I did not understand the difference [DP: show only if in Q281 OR Q282 code 2] *Exclusive *Position fixed
9 ○ Don't know *Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 9.

Q31 | rationale-tf1 | Rationale for first choice on trans fats **Multi coded**

Not back

And what was guiding your choice in the illustrated question before: between product A and B?

Tick all that apply [DP: show only if in Q271 OR Q272 code 1 or 3]

Rotated

1 ☐ Lowest amount of saturated fat [DP: show only if in Q271 OR Q272 code 1 or 3]
2 ☐ Lowest amount of trans fat [DP: show only in relevant splits and if in Q271 OR Q272 code 1 or 3]
3 ☐ Without partially hydrogenated oil [DP: show only if Q271 OR Q272 code 1 or 3]
4 ☐ Without fully hydrogenated oil [DP: show only if Q271 OR Q272 code 1 or 3]
5 ☐ The ranking of ingredients [DP: show only if Q271 OR Q272 code 1 or 3]
6 ○ I was not able to spot any differences [DP: show only if Q271 OR Q272 code 2] *Exclusive *Position fixed
7 ○ The differences I saw were not relevant for me [DP: show only if Q271 OR Q272 code 2] *Exclusive *Position fixed
8 ○ I did not understand the difference [DP: show only if in Q271 OR Q272 code 2] *Exclusive *Position fixed
9 ○ Don't know *Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 9.

Translator note: Please just copy and paste the answers. Same answers like in Q30.

Q32 | tf-truth | Trans fats myths and truths **Matrix**

Not back

The following statements on certain types of fat can be true or false. For each one, please tell us what you think about it.

Rotated

	True	False	Don't know
Saturated fat is less damaging to health than trans fat if you compare equal amounts	⊖	⊖	⊖
Fully hydrogenated oil contains trans fat	○	○	○
Partially hydrogenated oil may contain trans fat	○	○	○
Bakery foods like cakes or cookies never contain to trans fat	○	○	○
Trans fat can be found in milk products	○	○	○

Scripter notes: IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]' AND add 'Don't know' option with code 8.

Researcher notes: Translator notes: Since we are still waiting for feedback please translate also first statement.

B8 | CHOICE TASK: TRANS FATS **End block**

B9 | CHOICE TASK: ALLERGENS & PRIMARY INGREDIENT **Begin block**

Q33 | split-allergy | Treatment splits: Allergy **Single coded**

Dummy

[DP: Equal sample size across splits - assign at random to split with fewest respondents]

1 ○ Split 1: may contain
2 ○ Split 2: may contain traces
3 ○ Split 3: cannot guarantee nut free
4 ○ Split 4: made in a facility that also processes

Researcher notes: Translator: no translation required

T7 | intro-allergy | Experiment intro allergen labels **Text**

Not back

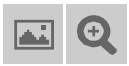
Imagine a friend is visiting you for a few days. Your guest suffers from a severe food allergy and should not consume any NUTS. He mentioned that he loves MUESLI for breakfast.
Therefore, when we ask you on the following screens to select a muesli for this visit, you should select between the options as you normally do - and in addition, you should keep in mind your friends' food allergy.
Please make the choices as you would in real life.

[DP: add if Q17 code 2-4 or Q22 codes 1, 7 or 10]
For example, you said earlier that you …
- read allergen information [DP: add if Q17 codes 3-4]
… regularly [DP: add if Q17 code 4]
… only occasionally, e.g. when shopping for/with someone else [DP: add if Q17 code 3]
- have read allergen information previously [DP: add if Q17 code 2]
- when selecting muesli for the first time – you watch out for [DP: add if Q22 codes 1, 7 or 10]
… allergen information [DP: add if in Q22 code 1 for Muesli]
… country of origin [DP: add if in Q22 code 7 for Muesli]
… ingredients [DP: add if in Q22 code 10 for Muesli]
Please consider this also in your subsequent choices. [DP: add if Q17 code 2-4 or Q22 codes 1, 7 or 10]

B10 | ROTATE ORDER OF QUESTIONS IN THIS BLOCK **Begin block**

ASK ONLY IF Q33 | split-allergy=1

Q341 | exp-all1-split1 | Allergen choice 1 - May contain **Single coded**



Show picture(s): insert 2 product images

Not back

Which product would you choose A or B?

1 ○ Product A
2 ○ No difference to me
3 ○ Product B

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q271.

ASK ONLY IF Q33 | split-allergy=2

Q342 | exp-all1-split2 | Allergen choice 1 - May contain traces **Single coded**

Show picture(s): insert 2 product images

Not back

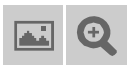
Which product would you choose A or B?

1 ○ Product A
2 ○ No difference to me
3 ○ Product B

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.
Translator note: Please just copy and paste. Same text like in Q271.

ASK ONLY IF Q33 | split-allergy=3

Q343 | exp-all1-split3 | Allergen choice 1 - Cannot guarantee nut free **Single coded**



Show picture(s): insert 2 product images

Not back

Which product would you choose A or B?

1 ○ Product A
2 ○ No difference to me
3 ○ Product B

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q271.

ASK ONLY IF Q33 | split-allergy=4

Q344 | exp-all1-split4 | Allergen choice 1 - Made in a facility that also processes nuts **Single coded**

Show picture(s): insert 2 product images

Not back

Which product would you choose A or B?

1 ○ Product A
2 ○ No difference to me
3 ○ Product B

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q271.

Q345 | dum-zoom-allergy1 | Zooming areas Allergy task 1 **Multi coded**

Min 1 | Max 3 | Dummy

Tracking what area was zoomed in Q341 - Q344

1 ☐ Ingredients
2 ☐ Country of origin
3 ☐ Nutrition facts
4 ○ None **Exclusive *Position fixed*

Researcher notes: Translator: no translation required

ASK ONLY IF Q33 | split-allergy=1

Q351 | exp-all2-split1 | Allergen choice 2 - May contain **Single coded**

Show picture(s): insert 2 product images

Not back

Which product would you choose C or D?

1 ○ Product C
2 ○ No difference to me
3 ○ Product D

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.
Translator note: Please just copy and paste. Same text like in Q281.

ASK ONLY IF Q33 | split-allergy=2

Q352 | exp-all2-split2 | Allergen choice 2 - May contain traces **Single coded**

Show picture(s): insert 2 product images

Not back

Which product would you choose C or D?

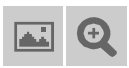
1 ○ Product C
2 ○ No difference to me
3 ○ Product D

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q281.

ASK ONLY IF Q33 | split-allergy=3

Q353 | exp-all2-split3 | Allergen choice 2 - Cannot guarantee nut free **Single coded**



Show picture(s): insert 2 product images

Not back

Which product would you choose C or D?

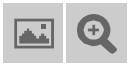
1 ○ Product C
2 ○ No difference to me
3 ○ Product D

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q281.

ASK ONLY IF Q33 | split-allergy=4

Q354 | exp-all2-split4 | Allergen choice 2 - Made in a facility that also processes nuts **Single coded**



Show picture(s): insert 2 product images

Not back

Which product would you choose C or D?

1 ○ Product C
2 ○ No difference to me
3 ○ Product D

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

C **Translator note: Please just copy and paste. Same text like in Q281.**

Q355 | dum-zoom-allergy2 | Zooming areas Allergy task 2 **Multi coded**

Min 1 | Max 3 | Dummy

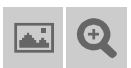
Tracking what area was zoomed in Q351 - Q354

1 ☐ Ingredients
2 ☐ Country of origin
3 ☐ Nutrition facts
4 ○ None **Exclusive *Position fixed*

Researcher notes: Translator: no translation required

ASK ONLY IF Q33 | split-allergy=1

Q361 | exp-all3-split1 | Allergen choice 3 - May contain **Single coded**



Show picture(s): insert 2 product images

Not back

Which product would you choose E or F?

1 ○ Product E
2 ○ No difference to me
3 ○ Product F

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q281. Please replace C or D by E or F

ASK ONLY IF Q33 | split-allergy=2

Q362 | exp-all3-split2 | Allergen choice 3 - May contain traces **Single coded**

Show picture(s): insert 2 product images

Not back

Which product would you choose E or F?

1 ○ Product E
2 ○ No difference to me
3 ○ Product F

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q361.

ASK ONLY IF Q33 | split-allergy=3

Q363 | exp-all3-split3 | Allergen choice 3 - Cannot guarantee nut free **Single coded**

Show picture(s): insert 2 product images

Not back

Which product would you choose E or F?

1 ○ Product E
2 ○ No difference to me
3 ○ Product F

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q361.

ASK ONLY IF Q33 | split-allergy=4

Q364 | exp-all3-split4 | Allergen choice 3 - Made in a facility that also processes nuts **Single coded**

Show picture(s): insert 2 product images

Not back

Which product would you choose E or F?

1 ○ Product E
2 ○ No difference to me
3 ○ Product F

Scripter notes: When the respondent sees the first screen, s/he cannot read the details of the food labels but the headers must be readable, so that there will be a conscious choice, whether and which labels are zoomed in, which we also need to track for our analysis.
There will be only 3 separate zooming areas per screen. For the experiment with muesli it will be:
-Ingredients with or without allergy information
-Nutrition facts
-Country of origin of primary ingredients
If a respondent zooms into e.g. „Ingredients", then both ingredient labels will be shown at the same time.

Translator note: Please just copy and paste. Same text like in Q361.

Q365 | dum-zoom-allergy3 | Zooming areas Allergy task 3 **Multi coded**

Min 1 | Max 3 | Dummy

Tracking what area was zoomed in Q361- Q364

1 ☐ Ingredients
2 ☐ Country of origin
3 ☐ Nutrition facts
4 ○ None

**Exclusive *Position fixed*

Researcher notes: Translator: no translation required

Q37 | all-sec-cho | Always secure choice for Allergens — Single coded

Dummy | Not back

1 ○ Not always secure choice [DP: if Q341-Q344 NOT code 3 OR Q351-Q354 NOT code 1 OR Q361 - Q364 NOT code 3]
2 ○ Always secure choice [DP: Q341-Q344 code 3 AND Q351-Q354 code 1 AND Q361-Q364 code 3]

Researcher notes: Translator: no translation required

Q38 | num-sec-cho | Number of secure choice for Allergens — Numeric

Max 3 | Dummy

Count the number of secure choices: 1 point for every time a respondent has code 3 in Q341-Q344, code 1 in Q351-Q354 or code 3 in Q361-Q364

[ ]

Researcher notes: Translator: no translation required

B10 | ROTATE ORDER OF QUESTIONS IN THIS BLOCK — End block

Q39 | rationale-all-pi | Rationale for choices on allergen and primary ingredient — Multi coded

Not back

What guided your choice in the previous questions?

Tick all that apply.

Rotated

1 ☐ Product without allergen information
2 ☐ Allergen information was too vague
3 ☐ Local ingredients
4 ☐ Imported ingredients
5 ☐ I was not able to spot any differences (at least sometimes) *Position fixed
6 ☐ The differences I saw were not relevant for me (at least sometimes) *Position fixed
8 ○ Don't know *Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Q40 | risk-allergy | Risk assessment of precautionary allergen label options **Matrix**

Based on your understanding of the risk for someone with a nuts allergy, how safe would you consider muesli to be if it had the following information on the pack?

Random

	Definitely safe	Probably safe	Not sure	Probably not safe	Definitely not safe
May contain traces of nuts	O	O	O	O	O
May contain nuts	O	O	O	O	O
Cannot guarantee nut free	O	O	O	O	O
Made in a facility that also processes nuts	O	O	O	O	O
Contains nuts	O	O	O	O	O
No information given about nuts	O	O	O	O	O

Scripter notes: - IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]'.

Q41 | recall-pi1 | Recall of primary ingredient in Muesli **Single coded**

What was the primary ingredient in the different muesli choices?

Rotated

1 O Whole grain oats
2 O Nuts
3 O Raisins
4 O Whole grain wheat
5 O Mixed dried fruits
6 O Sugar
8 O Don't remember **Position fixed*

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't remember' option with code 8.

Q42 | pi-pizza | Primary ingredient in pizza **Single coded**

If we now look at other products, what do you consider the primary ingredient to be in this pizza?

Rotated

1 O Flour
2 O Tomato Sauce
3 O Mozzarella cheese
4 O Salami
8 O Don't know **Position fixed*

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Q43 | pi-yoghurt | Primary ingredient in yoghurt — **Single coded**

What do you consider to be the primary ingredient in this yoghurt?

Rotated

1	○	Milk	
2	○	Sugar	
3	○	Berries	
8	○	Don't know	*Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

B9 | CHOICE TASK: ALLERGENS & PRIMARY INGREDIENT — **End block**

Q44 | food-info | Expected food information — **Multi coded**

Not back

The previous shopping scenarios provided you with less information than normal. On the other hand, some of the information presented is not yet provided on food sold in your country. Therefore, we are highly interested in your expectations on the ideal set of information for your future shopping.

Based on what you know by now, what information should be provided to you for making more informed choices when shopping food?

Tick all that apply

Rotated

1	☐	Allergen information based on actual ingredients	
2	☐	Precautionary allergen information	
3	☐	Amount of carbohydrates	
4	☐	Amount of sugar	
5	☐	Amount of salt	
6	☐	Amount of saturated fat	
7	☐	Amount of trans fat	
8	☐	Calories	
9	☐	Country of origin	
10	☐	Country of origin for primary ingredient	
11	☐	Expiry date	
12	☐	Health claims	
13	☐	Ingredients	
14	☐	Organically produced	
15	☐	Price	
16	☐	Other	*Position fixed
17	○	None of these	*Exclusive *Position fixed
18	○	Don't know	*Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with **code 18.**

B7 | FOOD EXPERIMENTS — **End block**

ASK ONLY IF Q25 | seg-exp=2

B11 | DRINKS EXPERIMENTS — **Begin block**

Q45 | alc-pref | Choice preferences for alcohol — **Multi coded**

When choosing alcoholic beverages, which aspects do you usually take into account?

Tick all that apply

Rotated

1	☐	Taste
2	☐	Brand name
3	☐	Low price/ value
4	☐	High price/ value
5	☐	Low alcoholic content
6	☐	High alcoholic content
7	☐	Small serving size
8	☐	Large serving size
9	☐	Fewer calories
10	☐	Suitability for meal or occasion
11	☐	Recommendation
12	☐	Popular drink at this occasion
13	○	Don't know

**Exclusive *Position fixed*

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with **code 13.**

Q46 | seg-drinks | Respondent segmentation - treatment splits on alcohol **Single coded**

Dummy

[DP: selection rules for subsequent questions covering certain alcohol types based on Q23
a) if respondent drinks only one type, then select only this type
b) if respondent drinks more types, then select the type [beer, wine, spirits] with the lowest number of respondents
c) within the alcohol type select split between calories and limits equally (lowest number of respondents)
d) within spirit type select the type [vodka or whiskey] with the lowest number of respondents
The goal is to achieve that one third of respondents gets questions about beer, one third about wine and another third about spirits - provided that enough respondents within a country consumed these alcohol types within past 12 months. Thereby the spirit third is divided into vodka and whiskey.
Hence the sample sizes should be like this:
Split 1: 1/6 of respondents
Split 2: 1/6 of respondents
Split 3: 1/6 of respondents
Split 4: 1/6 of respondents
Split 5: 1/12 of respondents
Split 6: 1/12 of respondents
Split 7: 1/12 of respondents
Split 8: 1/12 of respondents
1/6 equates ca. 667 respondents and 1/12 equates ca. 333 respondents]

1	○	Split 1: Beer - calories
2	○	Split 2: Beer - limits
3	○	Split 3: Wine - calories
4	○	Split 4: Wine - limits
5	○	Split 5: Vodka - calories
6	○	Split 6: Vodka - limits
7	○	Split 7: Whiskey - calories
8	○	Split 8: Whiskey - limits

Researcher notes: Translator: no translation required

B12 | PREVIOUS ALCOHOL CONSUMPTION **Begin block**

ASK ONLY IF Q46 | seg-drinks=1,2

Q471 | alc-occa-beer | Drinking occasions - Beer **Multi coded**

Not back

In which of the following situations have you drunk beer in the past 12 months?

Tick all that apply

Rotated

1	☐	At home	
2	☐	At a friends´ home	
3	☐	At workplace, in the office	
4	☐	In a restaurant or pub with a meal	
5	☐	In a pub, bar, night club without a meal	
6	☐	In a public place e.g. concert, festivals	
7	☐	Other situation(s)/occasion(s)	*Position fixed
8	○	Don't remember	*Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

ASK ONLY IF Q46 | seg-drinks=3,4

Q472 | alc-occa-wine | Drinking occasions - Wine **Multi coded**

Not back

In which of the following situations have you drunk wine in the past 12 months?

Tick all that apply

Rotated

1	☐	At home	
2	☐	At a friends´ home	
3	☐	At workplace, in the office	
4	☐	In a restaurant or pub with a meal	
5	☐	In a pub, bar, night club without a meal	
6	☐	In a public place e.g. concert, festivals	
7	☐	Other situation(s)/occasion(s)	*Position fixed
8	○	Don't remember	*Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

Translator note: Please just copy and paste. Same text like in Q471. But wine instead of beer.

ASK ONLY IF Q46 | seg-drinks=5,6,7,8

Q473 | alc-occa-spirits | Drinking occasions - Spirits **Multi coded**

Not back

In which of the following situations have you drunk [DP: if split 5 or 6 insert vodka / if split 7 or 8 insert whiskey] in the past 12 months?

Tick all that apply

Rotated

1	☐	At home	
2	☐	At a friends´ home	
3	☐	At workplace, in the office	
4	☐	In a restaurant or pub with a meal	
5	☐	In a pub, bar, night club without a meal	
6	☐	In a public place e.g. concert, festivals	
7	☐	Other situation(s)/occasion(s)	*Position fixed
8	○	Don't remember	*Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

Translator note: Please just copy paste. Same text like in Q471. But vodka/ whiskey instead of beer.

ASK ONLY IF Q46 | seg-drinks=1,2

Q481 | alc-freq-beer | Frequency of drinking alcohol - Beer **Single coded**

How often in the past 12 months have you drunk beer?

Please consider all occasions from drinking at home or when going out.

6	○	4 times a week or more often
5	○	2 to 3 times a week
4	○	Once a week
3	○	2 to 3 times a month
2	○	Once a month
1	○	Less often
8	○	Don't remember

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

ASK ONLY IF Q46 | seg-drinks=3,4

Q482 | alc-freq-wine | Frequency of drinking alcohol - Wine **Single coded**

How often in the past 12 months have you drunk wine?

Please consider all occasions from drinking at home or when going out.

6 ○ 4 times a week or more often
5 ○ 2 to 3 times a week
4 ○ Once a week
3 ○ 2 to 3 times a month
2 ○ Once a month
1 ○ Less often
8 ○ Don't remember

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

Translator note: Please just copy and paste. Same text like in Q481. But wine instead of beer.

ASK ONLY IF Q46 | seg-drinks=5,6,7,8

Q483 | alc-freq-spirits | Frequency of drinking alcohol - Spirits **Single coded**

How often in the past 12 months have you drunk [DP: if split 5 or 6 insert vodka / if split 7 or 8 insert whiskey]?

Please consider all occasions from drinking at home or when going out.

6 ○ 4 times a week or more often
5 ○ 2 to 3 times a week
4 ○ Once a week
3 ○ 2 to 3 times a month
2 ○ Once a month
1 ○ Less often
8 ○ Don't remember

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

Translator note: Please just copy and paste. Same text like in Q481. But vodka/ whiskey instead of beer.

ASK ONLY IF Q46 | seg-drinks=1,2

Q491 | alc-occa-last-beer | Drinking occasions - last time - Beer **Single coded**

When was the last time you drank beer?

Rotated

1	☐	At home	
2	☐	At a friends´ home	
3	☐	At workplace, in the office	
4	☐	In a restaurant or pub with a meal	
5	☐	In a pub, bar, night club without a meal	
6	☐	In a public place e.g. concert, festivals	
7	☐	Other situation(s)/occasion(s)	*Position fixed
8	○	Don't remember	*Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

Translator note: Please copy and paste the answers. Same answers like in Q471.

ASK ONLY IF Q46 | seg-drinks=3,4

Q492 | alc-occa-last-wine | Drinking occasions - last time - Wine **Single coded**

When was the last time you drank wine?

Rotated

1	☐	At home	
2	☐	At a friends´ home	
3	☐	At workplace, in the office	
4	☐	In a restaurant or pub with a meal	
5	☐	In a pub, bar, night club without a meal	
6	☐	In a public place e.g. concert, festivals	
7	☐	Other situation(s)/occasion(s)	*Position fixed
8	○	Don't remember	*Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

Translator note: Please just copy and paste. Same text like in Q491. But wine instead of beer.

ASK ONLY IF Q46 | seg-drinks=5,6,7,8

Q493 | alc-occa-last-spirits | Drinking occasions - last time - Spirits **Single coded**

When was the last time you drank [DP: if split 5 or 6 insert vodka / if split 7 or 8 insert whiskey]?

Rotated

1	☐	At home	
2	☐	At a friends´ home	
3	☐	At workplace, in the office	
4	☐	In a restaurant or pub with a meal	
5	☐	In a pub, bar, night club without a meal	
6	☐	In a public place e.g. concert, festivals	
7	☐	Other situation(s)/occasion(s)	*Position fixed
8	○	Don't remember	*Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add "Don't remember" option with code 8.

Translator note: Please just copy and paste. Same text like in Q491. But vodka / whiskey instead of beer.

ASK ONLY IF Q46 | seg-drinks=1,2

Q50 | beer-vol0 | Alcohol consumption per occasion - beer **Single coded**

In Europe, the average serving size of a small glass of beer is a quarter of a litre (0.25l) [DP: insert for UK: " i.e. just under half a pint"]. With this in mind, roughly how much did you drink the last time you drank beer?

If you had mixed drinks (e.g. shandy), please try to estimate only the volume of beer.

1	○	1 small glass or less (up to 0.25l)
2	○	2 small glasses (up to 0.5l)
3	○	3-4 small glasses (up to 1l)
4	○	5-6 small glasses (up to 1.5l)
5	○	7-8 small glasses (up to 2l)
6	○	More than 8 small glasses (2l)
8	○	Don't know

Scripter notes: Scripter notes: - IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

ASK ONLY IF Q46 | seg-drinks=3,4

Q51 | wine-vol0 | Alcohol consumption per occasion - wine — **Single coded**

In Europe, the average serving size of a small glass of wine is about 0.1 litre (or 100 millilitres). With this in mind, roughly how much did you drink the last time you drank wine?

If you had mixed drinks (e.g. spritzer), please try to estimate only the volume of wine.

1 ○ 1 small glass or less (up to 0.1l = 100ml)
2 ○ 2 small glasses (up to 0.2l = 200ml)
3 ○ 3-4 small glasses (up to 0.4l = 400ml)
4 ○ 5-6 small glasses (up to 0.6l = 600ml)
5 ○ 7-10 small glasses (up to 1l)
6 ○ More than 10 small glasses (1l)
8 ○ Don't know

Scripter notes: Scripter notes: - IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

ASK ONLY IF Q46 | seg-drinks=5,6,7,8

Q52 | spirits-vol0 | Alcohol consumption at last occasion - vodka / whiskey — **Single coded**

In Europe, the average serving size of a small shot of [DP: insert vodka if split 5 or 6 and whiskey if split 7 or 8] is about 0.01 litre (or 1cl). With this in mind, roughly how much did you drink the last time you drank [DP: insert vodka if split 5 or 6 and whiskey if split 7 or 8]?

If you had mixed drinks (e.g. with soda water or as an ingredient of a cocktail), please try to estimate only the volume of [DP: insert vodka if split 5 or 6 and whiskey if split 7 or 8].

1 ○ 1 small shot or less (up to 0.01l = 1cl)
2 ○ 2 small shots (up to 0.02l = 2cl)
3 ○ 3-4 small shots (up to 0.04l = 4cl)
4 ○ 5-6 small shots (up to 0.06l = 6cl)
5 ○ 7-10 small shots (up to 0.1l = 10cl)
6 ○ More than 10 small shots (0.1l = 10cl)
8 ○ Don't know

Scripter notes: Scripter notes: - IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

B12 | PREVIOUS ALCOHOL CONSUMPTION — **End block**

T8 | exp-intro-drinks | Experiments Intro Drinks — **Text**

Not back

In the following part of the survey we will take you through a short series of decision scenarios. There, you will be asked about your preferences when drinking a certain type of alcoholic beverage.

By completing this choice experiment carefully and honestly it is possible to earn an additional bonus on top of your usual incentive for completing the questionnaire.

ASK ONLY IF Q46 | seg-drinks=1,2

Q53 | beer-vol1 | Beer consumption ex ante **Single coded**

Imagine you are invited to a party at a friends' home with enough food and drink for everyone. There are non-alcoholic beverages as well as beer available for you to help yourself. Assume that you do not need to drive a car afterwards or have to work the next day.

How much beer would you drink at this occasion?

Please select one answer with the most likely volume based on your previous habits for this or a similar occasion. The answer options below are again based on the average serving size of a small glass of beer in Europe.

1 ○ 1 small glass or less (up to 0.25l)
2 ○ 2 small glasses (up to 0.5l)
3 ○ 3-4 small glasses (up to 1l)
4 ○ 5-6 small glasses (up to 1.5l)
5 ○ 7-8 small glasses (up to 2l)
6 ○ More than 8 small glasses (2l)
8 ○ Don't know

Scripter notes: Scripter notes: - IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Translator note: Please just copy and paste the answers. Same answers like in Q50.

ASK ONLY IF Q46 | seg-drinks=3,4

Q54 | wine-vol1 | Wine consumption ex ante **Single coded**

Imagine you are invited to a party at a friends' home with enough food and drink for everyone. There are non-alcoholic beverages as well as wine available for you to help yourself.
Assume that you do not need to drive a car afterwards or have to work the next day.

How much wine would you drink at this occasion?

Please select one answer with the most likely volume based on your previous habits for this or a similar occasion. The answer options below are again based on the average serving size of a small glass of wine in Europe.

1 ○ 1 small glass or less (up to 0.1l = 100ml)
2 ○ 2 small glasses (up to 0.2l = 200ml)
3 ○ 3-4 small glasses (up to 0.4l = 400ml)
4 ○ 5-6 small glasses (up to 0.6l = 600ml)
5 ○ 7-10 small glasses (up to 1l)
6 ○ More than 10 small glasses (1l)
8 ○ Don't know

Scripter notes: Scripter notes: - IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Translator note: Please just copy and paste. Same question like in Q53 and same answers like in Q51. But wine instead of beer.

ASK ONLY IF Q46 | seg-drinks=5,6,7,8

Q55 | spirits-vol1 | Spirits consumption ex ante **Single coded**

Imagine you are invited to a party at a friends' home with enough food and drink for everyone. There are non-alcoholic beverages as well as [DP: insert vodka if split 5, 6 and whiskey if split 7, 8] available for you to help yourself. Assume that you do not need to drive a car afterwards or have to work the next day.
How much [DP: insert vodka if split 5, 6 and whiskey if split 7, 8] would you drink at this occasion?

Please select one answer with the most likely volume based on your previous habits for this or a similar occasion. The answer options below are again based on the average serving size of shot of [DP: insert vodka if split 5, 6 and whiskey if split 7, 8] in Europe.

1 ○ 1 small shot or less (up to 0.01l = 1cl)
2 ○ 2 small shots (up to 0.02l = 2cl)
3 ○ 3-4 small shots (up to 0.04l = 4cl)
4 ○ 5-6 small shots (up to 0.06l = 6cl)
5 ○ 7-10 small shots (up to 0.1l = 10cl)
6 ○ More than 10 small shots (0.1l = 10cl)
8 ○ Don't know

Scripter notes: Scripter notes: - IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Translator note: Please just copy and paste. Same question like in Q53 and same answers like in Q51. But vodka/ whiskey instead of beer.

ASK ONLY IF Q46 | seg-drinks=1

B13 | TASK: BEER - CALORIES **Begin block**

Q56 | beer-cal-test | Knowledge test on calories for beer **Single coded**

Show picture(s): 2 images (beer and pizza)

Which contains more calories - the pizza half or half a litre of beer?

1 ○ Beer has more
2 ○ About the same
3 ○ Pizza has more
8 ○ Don't know

T9 | beer-cal-edu | Education - Calories in beer vs pizza **Text**

Not back

You said before
[DP: if in Q56 code 8]: you don't know whether pizza or beer has more calories.
[DP: if in Q56 code 3]: you think that pizza has more calories. This answer was correct. Well done!
[DP: if in Q56 code 2]: you think that beer and pizza has the same amount of calories. This answer was not correct.
[DP: if in Q56 code 1]: you think that beer has more calories. This answer was not correct.
In fact, on average, half a litre [DP insert for UK: i.e. 0.9 pints] of BEER contains between 200 - 300 calories whereas 200 g of PIZZA contains at least 400 calories.

Q57 | beer-vol2-cal | Consumption change - Calories - Beer **Single coded**

Show picture(s): Beer bottle with calories

Knowing the amount of calories in a beer would you intend to drink less, the same or more at a friend's party than you said earlier?

-> Be quick and answer within 5 seconds!

1 ○ I would drink less
2 ○ I would drink about the same, i.e. [DP: insert answer from Q53]
3 ○ I would drink more
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

B13 | TASK: BEER - CALORIES **End block**

ASK ONLY IF Q46 | seg-drinks=2

B14 | TASK: BEER - LIMITS **Begin block**

Q58 | beer-lim-test | Knowledge test on limits for beer **Single coded**

Thinking about the officially recommended maximum amount of beer a person should drink on a day, which of the following answers is correct?

Please note that 1 unit = 10 ml of pure alcohol. For example, one litre of beer with 5% alcohol contains 5 units of pure alcohol.

1 ○ Men: 2-3 units / Women: 1-2 units
2 ○ Men: 3-4 units / Women: 2-3 units
3 ○ Men: 4-5 units / Women: 3-4 units
8 ○ Don't know

T10 | beer-lim-edu | Education - Limits with beer **Text**

Not back

You said before
[DP: if in Q58 code 8]: you don't know the correct answer.

[DP: if in Q58 code 3]: you think that men should not exceed 4-5 units / women 3-4 units of pure alcohol. This answer was not correct.

[DP: if in Q58 code 2]: you think that men should not exceed 3-4 units / women 2-3 units of pure alcohol. This answer was correct. Well done!

[DP: if in Q58 code 1]: you think that men should not exceed 2-3 units / women 1-2 units of pure alcohol. This answer was not correct.

In fact, on average, men should not exceed 3-4 units / women 2-3 units of pure alcohol per day in order to sustain healthiness.

Q59 | beer-vol2-lim | Consumption change - Limits - Beer **Single coded**

Show picture(s): Beer bottle with health warning

Knowing the recommended limits of drinking alcohol would you intend to drink less, the same or more at a friend's party than you said earlier?

-> Be quick and answer within 5 seconds!

1 ○ I would drink less
2 ○ I would drink about the same, i.e. [DP: insert answer from Q53]
3 ○ I would drink more
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

B14 | TASK: BEER - LIMITS **End block**

ASK ONLY IF Q46 | seg-drinks=3

B15 | TASK: WINE - CALORIES **Begin block**

Q60 | wine-cal-test | Knowledge test on calories for wine **Single coded**

Show picture(s): calories wine and chocolate

Which contains more calories –a glass of wine or 20g of chocolate?

1 ○ Wine has more
2 ○ About the same
3 ○ Chocolate has more
8 ○ Don't know

T11 | wine-cal-edu | Education - Calories in wine vs. chocolate **Text**

Not back

You said before
[DP: if in Q60 code 8]: you don't know whether wine or chocolate has more calories.
[DP: if in Q60 code 3]: you think that chocolate has more calories. This answer was not correct.
[DP: if in Q60 code 2]: you think that wine and chocolate has the same amount of calories. This answer was not correct.
[DP: if in Q60 code 1]: you think that wine has more calories. This answer was correct. Well done!
In fact, on average, 200 ml of WINE contains between 120-170 calories whereas 20 g of CHOCOLATE contains about 100 calories.

Q61 | wine-vol2-cal | Consumption change - Calories - Wine **Single coded**

Show picture(s): Wine bottle with calories

Knowing the amount of calories in wine would you intend to drink less, the same or more at a friend's party than you said earlier?

-> Be quick and answer within 5 seconds!

1 ○ I would drink less
2 ○ I would drink about the same, i.e. [DP: insert answer from Q54]
3 ○ I would drink more
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Translator note: Please just copy and paste. Same question like and answers like in Q57. But wine instead of beer

B15 | TASK: WINE - CALORIES **End block**

ASK ONLY IF Q46 | seg-drinks=4

B16 | TASK: WINE - LIMITS **Begin block**

Q62 | wine-lim-test | Knowledge test on limits for wine **Single coded**

Thinking about the officially recommended maximum amount of wine a person should drink on a day, which of the following answers is correct?

Please note that 1 unit = 10 ml of pure alcohol. For example, one litre of wine with 12% alcohol contains 12 units of pure alcohol.

1 ○ Men: 2-3 units / Women: 1-2 units
2 ○ Men: 3-4 units / Women: 2-3 units
3 ○ Men: 4-5 units / Women: 3-4 units
8 ○ Don't know

Translator note: Please just copy and paste. Same question and answers like in Q58. But wine instead of beer

T12 | wine-lim-edu | Education - Limits with wine **Text**

Not back

You said before
[DP: if in Q62 code 8]: you don't know the correct answer.

[DP: if in Q62 code 3]: you think that men should not exceed 4-5 units / women 3-4 units of pure alcohol. This answer was not correct.

[DP: if in Q62 code 2]: you think that men should not exceed 3-4 units / women 2-3 units of pure alcohol. This answer was correct. Well done!

[DP: if in Q62 code 1]: you think that men should not exceed 2-3 units / women 1-2 units of pure alcohol. This answer was not correct.

In fact, on average, men should not exceed 3-4 units / women 2-3 units of pure alcohol per day in order to sustain healthiness.

Translator note: Please just copy and paste. Same text like in T10.

Q63 | wine-vol2-lim | Consumption change - Limits - Wine **Single coded**

Show picture(s): Wine bottle with health warning

Knowing the recommended limits of drinking alcohol would you intend to drink less, the same or more at a friend's party than you said earlier?

-> Be quick and answer within 5 seconds.

1 ○ I would drink less
2 ○ I would drink about the same, i.e. [DP: insert answer from Q54]
3 ○ I would drink more
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Translator note: Please just copy paste. Same question and answers like in Q59.

B16 | TASK: WINE - LIMITS **End block**

ASK ONLY IF Q46 | seg-drinks=5,7

B17 | TASK: SPIRITS - CALORIES **Begin block**

Q64 | spirits-cal-test | Knowledge test on calories for spirits **Single coded**

Show picture(s): vodka/ whiskey and nuts

If split 5 insert the image for vodka

If split 7 insert the image for whiskey

Which contains more calories - a handful of mixed nuts or a shot of [DP: if split 5 insert vodka and if split 7 insert whiskey]?

1 ○ [DP: if split 5 insert Vodka/ if split 7 insert Whiskey] has more
2 ○ About the same
3 ○ Nuts have more
8 ○ Don't know

Scripter notes: Please show for split 5 the picture of a shot of vodka and for split 7 a shot of whiskey

T13 | spirits-cal-edu | Education - Calories in spirits vs. nuts **Text**

Not back

You said before
[DP: if in Q64 code 8]: you don't know whether [if split 5: vodka/ if split 7: whiskey] or nuts has more calories.

[DP: if in Q64 code 3]: you think that nuts has more calories. This answer was not correct.

[DP: if in Q64 code 2]: you think that [if split 5: if vodka/ if split 7: whiskey] and nuts has the same amount of calories. This answer was correct. Well done!

[DP: if in Q64 code 1]: you think that [if split 5: vodka/ if split 7: whiskey] has more calories. This answer was not correct.

In fact, on average, a 2cl shot of [if split 5: VODKA/ if split 7: WHISKEY] contains between 40-50 calories whereas 10g of NUTS contains between 50-60 calories.

Q65 | spirits-vol2-cal | Consumption change - Calories - Spirits **Single coded**

Show picture(s): vodka or whiskey with calories information

If split 5 insert the image for vodka

If split 7 insert the image for whiskey

Knowing the amount of calories in [DP: insert vodka if split 5/ whiskey if split 7 according to Q46] would you intend to drink less, the same or more at a friend's party than you said earlier?

-> Be quick and answer within 5 seconds!

1 ○ I would drink less
2 ○ I would drink about the same, i.e. [DP: insert answer from Q55]
3 ○ I would drink more
8 ○ Don't know

Scripter notes: if split 5 show bottle of vodka with calories
if split 7 show bottle of whiskey with calories

IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Translator note: Please just copy and paste. Same question like and answers like in Q57. But vodka / whiskey instead of beer

B17 | TASK: SPIRITS - CALORIES **End block**

ASK ONLY IF Q46 | seg-drinks=6,8

B18 | TASK: SPIRITS - LIMITS **Begin block**

Q66 | spirits-lim-test | Knowledge test on limits for spirits **Single coded**

Thinking about the officially recommended maximum amount of [DP: if split 6 insert vodka/ if split 8 insert whiskey according to Q46] a person should drink on a day, which of the following answers is correct?

Please note that 1 unit = 10 ml of pure alcohol. For example, one litre of [DP: insert vodka if split 6/ whiskey if split 8 according to Q46] with 40% alcohol contains 40 units of pure alcohol.

1 ○ Men: 2-3 units / Women: 1-2 units
2 ○ Men: 3-4 units / Women: 2-3 units
3 ○ Men: 4-5 units / Women: 3-4 units
8 ○ Don't know

Translator note: Please just copy and paste. Same question and answers like in Q58. But vodka / whiskey instead of beer

T14 | spirits-lim-edu | Education - Limits with spirits **Text**

Not back

You said before
[DP: if in Q66 code 8]: you don't know the correct answer.

[DP: if in Q66 code 3]: you think that men should not exceed 4-5 units / women 3-4 units of pure alcohol. This answer was not correct.

[DP: if in Q66 code 2]: you think that men should not exceed 3-4 units / women 2-3 units of pure alcohol. This answer was correct. Well done!

[DP: if in Q66 code 1]: you think that men should not exceed 2-3 units / women 1-2 units of pure alcohol. This answer was not correct.

In fact, on average, men should not exceed 3-4 units / women 2-3 units of pure alcohol per day in order to sustain healthiness.

Translator note: Please just copy and paste. Same text like in T10.

Q67 | spirits-vol2-lim | Consumption change - Limits - Spirits **Single coded**

Show picture(s): vodka or whiskey with health warning

If split 7 insert the image for vodka

If split 8 insert the image for whiskey

Knowing the recommended limits of drinking alcohol would you intend to drink less, the same or more at a friend's party than you said earlier?

-> Be quick and answer within 5 seconds!

1 ○ I would drink less
2 ○ I would drink about the same, i.e. [DP: insert answer from Q55]
3 ○ I would drink more
8 ○ Don't know

Scripter notes: if split 6 show bottle of vodka with health warning
if split 8 show bottle of whiskey with health warning

IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Translator note: Please just copy and paste. Same question and answers like in Q59.

B18 | TASK: SPIRITS - LIMITS **End block**

ASK ONLY IF Q46 | seg-drinks=1,2

Q68 | beer-vol3 | Future intention to drinking volume of beer **Single coded**

Based on what you know now do you think you will drink less, the same amount or more beer in future?

-> Be quick and answer within 5 seconds!

1 ○ I would drink less
2 ○ I would drink about the same
3 ○ I would drink more
8 ○ Don't know

Translator note: Please just copy and paste the answers. Same answers like in Q57.

ASK ONLY IF Q46 | seg-drinks=3,4

Q69 | wine-vol3 | Future intention to drinking volume of wine **Single coded**

Based on what you know now do you think you will drink less, the same amount or more wine in future?

-> Be quick and answer within 5 seconds!

1 ○ I would drink less
2 ○ I would drink about the same
3 ○ I would drink more
8 ○ Don't know

Translator note: Please just copy and paste. Same question and answers like in Q68. But wine instead of beer.

ASK ONLY IF Q46 | seg-drinks=5,6,7,8

Q70 | spirits-vol3 | Future intention to drinking volume of spirits **Single coded**

Based on what you know now do you think you will drink less, the same amount or more [DP: if split 5,6 insert vodka/if split 7,8 insert whiskey] in future?

-> Be quick and answer within 5 seconds!

1 ○ I would drink less
2 ○ I would drink about the same
3 ○ I would drink more
8 ○ Don't know

Translator note: Please just copy and paste. Same question and answers like in Q68. But vodka/ whiskey instead of beer.

Q701 | dum-alc-future | Future intention to drink volume **Single coded**

Consolidation of what was selected in Q68 – Q70

1 ○ I would drink less [DP: if Q68 OR Q69 OR Q70 code 1]
2 ○ I would drink about the same [DP: if Q68 OR Q69 OR Q70 code 2]
3 ○ I would drink more [DP: if Q68 OR Q69 OR Q70 code 3]
8 ○ Don’t know [DP: if Q68 OR Q69 OR Q70 code 8]

Researcher notes: Translator: no translation required

Q71 | alc-info | Expected food information on alcoholic drinks **Multi coded**

The previous questions provided you only with less information that normal. On the other hand, some of the information presented is not yet provided on alcoholic beverages sold in your country.
Therefore, we are highly interested in your expectations on the ideal set of information for your future consumption of alcohol.

Based on what you know by now, what information should be provided to you for making more informed choices when shopping alcoholic beverages?

Tick all that apply

Rotated

1	☐	Allergen information based on actual ingredients	
2	☐	Precautionary allergen information	
3	☐	Calories	
4	☐	Country of origin	
5	☐	Daily unit guidelines (recommended maximum limits)	
6	☐	Expiry date	
7	☐	Ingredients	
8	☐	Organically produced	
9	☐	Price	
10	☐	Alcohol level	
11	☐	Other	*Position fixed*
12	○	None of these	*Exclusive *Position fixed*
13	○	Don't know	*Exclusive *Position fixed*

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with **code 13.**

Q72 | alc-att | Attitudes about alcohol consumption **Matrix**

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

Rotated

	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
Drinking alcohol is common among the people I spend most of my time with	○	○	○	○	○
Overall, alcohol consumption has more advantages than disadvantages for our society	○	○	○	○	○

Scripter notes: IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]' AND add 'Don't know' option with code 8.

Q73 | too-much | Experience with too much alcohol — **Single coded**

Have you ever drunk too much alcohol e.g. you felt unwell afterwards?

1 ○ Yes
2 ○ No
9 ○ Prefer not to say

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Prefer not to say' option with code 9.

B11 | DRINKS EXPERIMENTS — **End block**

B19 | FOOD WASTE — **Begin block**

Q74 | bestbefore | Knowledge test: Best Before — **Single coded**

You may have noticed that the products shown in some of the previous questions also displayed a label with a date. What information is shown on this label?
[DP: insert best before label]

1 ○ The last day on which the food is at its highest quality
2 ○ The last day on which the food is safe to eat
3 ○ The day the food must be sold by
4 ○ None of these
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer'

Q75 | useby | Knowledge test: Use By — **Single coded**

Not back

What information is shown on this label?
[DP: insert use by label]

1 ○ The last day on which the food is at its highest quality
2 ○ The last day on which the food is safe to eat
3 ○ The day the food must be sold by
4 ○ None of these
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer'

Q76 | waste1 | Consumed outdated food — Single coded

Thinking about products that you keep in a fridge, have you ever eaten or cooked a product when it was past its 'best before' date?
If yes, what is the longest period after the 'best before' date?

1 ○ No, never
2 ○ Yes, with a date that was 1-2 days old
3 ○ Yes, with a date that was 3-4 days old
4 ○ Yes, with a date that was 5-7 days old
5 ○ Yes, with a date that was more than a week old
8 ○ Don't know

Q77 | waste2 | Food thrown away before expiry — Single coded

Have you ever thrown away a product that had not passed the best before date?
If yes, what is the earliest period before the 'best before' date when you have thrown something away?

1 ○ No, never
2 ○ Yes, 1-2 days before the date
3 ○ Yes, 3-4 days before the date
4 ○ Yes, 5-7 days before the date
5 ○ Yes, more than a week before the date
8 ○ Don't know

Client notes: The purpose of this question and the one before is to anchor the respondents imagination to his/her individually experienced 'extreme' situations at both ends of possible actions from throwing healthy food away to eating old and unhealthy food. Only if we ask both questions upfront, we may minimise the desirability bias when the respondent answers the subsequent attitude questions. If we skip this question, we expect to receive more desirable answers that are less reflecting real beliefs and attitudes.

Q78 | waste-att1 | Food waste attitudes 1 — Matrix

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

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know
I always use more ways than the date given on the label to check if food is safe to eat.	○	○	○	○	○	○
I prefer to throw food away than eat it when it is past its best	○	○	○	○	○	○
It will be difficult for me to reduce the amount of food I throw away	○	○	○	○	○	○

Scripter notes: Scripter notes: - IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]' AND add 'Don't know' option with code 8.

Q79 | waste-habit | Order in fridge — **Single coded**

Do you arrange the food in your fridge by expiry date?

1 ○ Yes
2 ○ No
8 ○ Don't know

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Don't know' option with code 8.

Q80 | waste-vol0 | Food waste volume — **Single coded**

How would you describe the amount of food that you regularly throw away in your household - would you say this is ...

5 ○ A very high amount
4 ○ A rather high amount
3 ○ An average amount
2 ○ A rather small amount
1 ○ Hardly anything
8 ○ Don't know

T15 | waste-fb1 | Food Waste knowledge test - Feedback1 — **Text**

Not back

You said before
[DP: if in Q74 code 8]: you don't know what the label stating "best before" means.
[DP: if in Q74 code 4]: that none of the given answers explain the label "best before".
[DP: if in Q74 code 3]: you understand that the "best before" label indicates the day the food must be sold by. This answer was not correct.
[DP: if in Q74 code 2]: you understand that the "best before" label indicates the last day on which the food is safe to eat. This answer was not correct.
[DP: if in Q74 code 1]: you understand that the "best before" label indicates the last day on which the food is at its highest quality. This answer was correct. Well done!

T16 | waste-edu1 | Education on Food Waste 1 **Text**

"Best before" indicates the date until when the food retains its expected quality.

Food is still safe to consume after the indicated 'best before' day on the condition that storage instructions are respected and packaging is not damaged, but it might begin to lose its flavour and texture.

'Best before' dates appear on a wide range of frozen, dried (pasta, rice), tinned and other foods (vegetable oil, chocolate, etc.).

Check if the packaging is intact, and if the food looks, smells and tastes good before throwing away food past its 'best before' date.

Once a food with a 'best before' date on it has been opened, follow any instructions such as 'eat within three days of opening', when applicable.

Scripter notes: insert html version

T17 | waste-fb2 | Food Waste knowledge test - Feedback2 **Text**

Not back

You said before
[DP: if in Q75 code 8]: you don't know what the label stating "use by" means.
[DP: if in Q75 code 4]: that none of the given answers explain the label "use by".
[DP: if in Q75 code 3]: you understand that the "use by" label indicates the day the food must be sold by. This answer was not correct.
[DP: if in Q75 code 2]: you understand that the "use by" label indicates the last day on which the food is safe to eat. This answer was not correct.
[DP: if in Q75 code 1]: you understand that the "use by" label indicates the last day on which the food is at its highest quality. This answer was correct. Well done!

T18 | waste-edu2 | Education on Food Waste 2 **Text**

'Use By' indicates the date until when the food can be eaten safely.

Don’t use any food after expiration of the 'use by' date.

'Use by' dates appear on highly perishable food, from the microbiological point of view, such as fresh fish, fresh minced meat, etc.

Follow the storage instructions, such as 'keep in a refrigerator' or 'keep at 2-4° C'; if not the food will spoil quicker and you may risk food poisoning.

By freezing the food at home soon after purchase, you can extend its life beyond the 'use by' date, if it is frozen properly. But make sure you follow any instructions on the pack, such as 'freeze up to the use by date', 'cook from frozen' or 'defrost thoroughly before use and use within 24 hours'.

Once a food with a 'use by' date on it has been opened, follow any instructions for storage and use, such as 'eat within three days of opening', bearing in mind that food should be consumed before the expiration of the 'use by' date.

Scripter notes: insert html version

Q81 | waste-att2 | Food waste attitude change **Single coded**

Based on what you know now - how do you think about your future way of dealing with food waste? Would you intend to throw away the same or more or less food?

Be quick and answer within 5 seconds.

1 ○ I would throw away less food
2 ○ I would throw away the same amount of food
3 ○ I would throw away more food
8 ○ Don't know

Scripter notes: Scripter notes: - IF respondent skips this question, THEN write ‘Please review your responses on this page. One or more questions require further input.’ at top of the screen AND after the question text ‘Please provide an answer’ AND add ‘Don’t know’ option with code 8.

B19 | FOOD WASTE **End block**

B20 | DEMOGRAPHICS **Begin block**

Q82 | att-control-risk | Self control & Risk attitude **Matrix**

How well does each of the following statements decribe you?

	Strongly agree	Agree	Disagree	Strongly disagree	Don't know
I much prefer doing things that pay off right away than in the future	○	○	○	○	○
Security is more important to me than excitement and adventure	○	○	○	○	○

Scripter notes: IF respondent forgets some answers in a matrix question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer in line [insert and highlight statement]' AND add 'Don't know' option with code 8.

ASK ONLY IF Q6 | hhsize=2,3,4,5

Q83 | living-status | Living Status **Multi coded**

Who do you currently live with?

Rotated

1	☐	Spouse/Partner	
2	☐	Children	
3	☐	Parents	
4	☐	Other family members	
5	☐	Friends	
6	○	None of these	*Exclusive *Position fixed
9	○	Prefer not to say	*Exclusive *Position fixed

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Prefer not to say' option with code 9.

Q84 | work-status | Working status **Single coded**

Which of the following best describes your current working status?

1	○	Working full-time (over 30 hours per week)
2	○	Working part-time
3	○	Temporarily unemployed/looking for work
4	○	Retired
5	○	Not working for other reasons (looking after family, ill etc.)
6	○	At school/college/university
9	○	Prefer not to say

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Prefer not to say' option with code 9.

ASK ONLY IF not Q84 | work_status=6

Q85 | education | Education - terminal age **Numeric**

Min 7 | Max 99

What age were you when you finished full time education?

Scripter notes: IF respondent skips this question, THEN write 'Please review your responses on this page. One or more questions require further input.' at top of the screen AND after the question text 'Please provide an answer' AND add 'Prefer not to say' option with code 9.

[DP: compare answers in Q2 (age1) with answers in Q85 (education)] education age should be lower or equal to current age

IF the terminal age is higher than the actual age, THEN write error message: 'Please ensure that the age you have specified is not higher than your actual age'.

Q86 | income | Individual Income **Single coded**

What is your total annual personal income before tax?

1 ○ [DP: insert for FR, DE, IT, ES,FI: 0 - 9 999 EUR/
for UK: 0 - 8 999 GBP /
for PL: 0 - 24 999 zł/
for RO: 0 - 14 999 lei]
2 ○ [DP: insert for FR, DE, IT, ES,FI: 10 - 19 999 EUR/
for UK: 9 000 - 17 999 GBP /
for PL: 25 000 - 49 999 zł/
for RO: 15 000 - 29 999 lei]
3 ○ [DP: insert for FR, DE, IT, ES,FI: 20 000 - 29 999 EUR/
for UK: 18 000 - 26 999 GBP /
for PL: 50 000 - 74 999 zł/
for RO: 30 000 - 44 999 lei]
4 ○ [DP: insert for FR, DE, IT, ES,FI: 30 000 - 39 999 EUR/
for UK: 27 000 - 35 999 GBP /
for PL: 75 000 - 99 999 zł/
for RO: 45 000 - 59 999 lei]
5 ○ [DP: insert for FR, DE, IT, ES,FI: 40 000 - 49 999 EUR/
for UK: 36 000 - 44 999 GBP /
for PL: 100 000 - 124 999 zł/
for RO: 60 000 - 74 999 lei]
6 ○ [DP: insert for FR, DE, IT, ES,FI: 50 000 - 59 999 EUR/
for UK: 45 000 - 53 999 GBP /
for PL: 125 000 - 149 999 zł/
for RO: 75 000 - 89 999 lei]
7 ○ [DP: insert for FR, DE, IT, ES,FI: 60 000 EUR/
for UK: 54 000 GBP /
for PL: 150 000 zł/
for RO: 90 000 lei]
and more
9 ○ Prefer not to say

Scripter notes: Show 'Prefer not to say' from the beginning.

ASK ONLY IF Q1 | country=1

Q87 | height-uk | Height UK in feet and inches **Numeric**

Max 11

Now, here is the last but one question.
How tall are you without shoes?

Please enter your height in feet and inches. If you are for example exactly 6 feet tall, please enter 00 at the field for inches.

Researcher notes: Translator: no translation required

Scripter notes: Please ADD "Prefer not to say" option code 9 and "Don't know" option code 8

and two numeric fields and the example:

_____ feet _____inches
e.g. 5 feet 09 inches

for feet: Min. 3 Max. 7
for inches: Min. 00 Max. 11

IF respondent gives an answer that is beyond limits. Please show an error message:
"Please type a digit in the range between 3 and 7 in the numeric box for feet and a digit in the range between 00 and 11 in the numeric box for inches."

ASK ONLY IF Q1 | country=1

Q88 | height-dum-uk | Height UK in cm **Numeric**

Min 100 | Max 220 | Dummy

[DP: conversion from feet to inches and to cm]

Researcher notes: Translator: no translation required

Scripter notes: Filter only if Q1=1 and if in Q87 NOT code 8 or code 9

please convert feet to inches with this formula:

(feet * 12) + inches

and then from inches to cm with this formula

inches * 2.54

===> ((feet * 12) + inches) * 2.54

ASK ONLY IF not Q1 | country=1

Q89 | height-non-UK | Height non-UK in cm **Numeric**

Min 100 | Max 220

Now, here is the last but one question.
How tall are you without shoes?

Please enter your height in centimetres.

Scripter notes: Please ADD "Prefer not to say" option code 9 and "Don't know" option code 8

and "cm" after the numeric field and example

_____cm
e.g. 173cm

IF respondent gives an answer that is beyond limits. Please show an error message:
"Please type a digit in the range between 100 and 220 in the numeric box for cm."

Q90 | height-all-dum | Height all in cm Dummy **Numeric**

Min 100 | Max 200 | Dummy

Researcher notes: Translator: no translation required

Scripter notes: Consolidated answers from Q88 and Q89, who didn't answer DK or Prefer not to say.

ASK ONLY IF Q1 | country=1

Q91 | weight-uk | Weight UK in stones and pounds **Numeric**

Max 35

And finally, how much do you weigh without clothes?

Please enter your weight in stones and pounds. If you weigh for example exactly 8 stones, please enter 08 at the filed for stones and 00 at the field for pounds.

Researcher notes: Translator: no translation required

Scripter notes: Please ADD "Prefer not to say" option code 9 and "Don't know" option code 8

and two numeric fields with an example

_____ stones _____pounds
e.g. 10 stones 05 pounds

for stones: Min: 06 Max: 35
for pounds: Min: 00 Max 13

IF respondent gives an answer that is beyond limits. Please show an error message:
"Please type a digit in the range between 06 and 35 in the numeric box for stones and a digit in the range between 00 and 13 in the numeric box for pounds."

ASK ONLY IF Q1 | country=1

Q92 | weight-dum-uk | Weight UK in kg **Numeric**

Min 40 | Max 220 | Dummy

[DP: conversion from stones to pounds/ to kg]

Researcher notes: Translator: no translation required

Scripter notes: Filter only if Q1 code 1 AND Q91 NOT code 8 or code 9

Please convert stones to pounds with this formula

(stones * 14) + pounds

and then to kg with this formula

pounds / 2.2

===> ((stones * 14) + pounds) / 2.2

ASK ONLY IF not Q1 | country=1

Q93 | weight-non-UK | Weight non-UK in kg **Numeric**

Min 40 | Max 220

And finally, how much do you weigh without clothes?

Please enter your weight in kilograms.

Scripter notes: Please ADD "Prefer not to say" option code 9 and "Don't know" option code 8

add "kg" after the numeric field and the example

_____kg
e.g. 78 kg

IF respondent gives an answer that is beyond limits. Please show an error message:
"Please type a digit in the range between 40 and 220 in the numeric box for kg."

Q94 | weight-all-dum | Weight all in kg Dummy **Numeric**

Min 40 | Max 220 | Dummy

Researcher notes: Translator: no translation required

Scripter notes: Consolidated answers from Q92 and Q93, who didn't answer DK or Prefer not to say

B20 | DEMOGRAPHICS **End block**

Q95 | qual1 | Quality-Check: Straightliners **Single coded**

Dummy

Code "Yes", if in all of the following matrix questions the same code for all statements within the question is used Q9 engage, Q11 goals, Q78 waste-att1

1 ○ No Straightliner => stay in final sample
2 ○ Yes Straightliner => Redirect to Invalidates due to quality parameters

Researcher notes: Translator: no translation required

Q96 | qual2 | Quality-Check: Speeder **Single coded**

Dummy

Code "Yes", if total answering time below 8 minutes

1 ○ No Speeder => stay in final sample
2 ○ Yes Speeder => Redirect to Invalidates due to quality parameters

Researcher notes: Translator: no translation required

T19 | outro0 | Outro	Text

Thank you
... for your completed participation in this survey.

You've earned it!
The bonus points for this project will be paid within the 14 days after the study has closed.

As mentioned earlier, you have a chance to win an extra bonus. With only a little bit of luck you will be amoung the winners who will soon receive a note with the extra amount.

APPENDIX C – STATISTICAL MODELS

APPENDIX C - STATISTICAL MODELS

Model 1 – Online experiments on TFA

BINOMINAL LOGISTIC REGRESSION - TFA CHOICE 1 - WITHOUT POLICY OPTIONS

TFA choice 1 = healthy product A		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**-1,971**	,299	**,000**				***
Awareness (rc.: no awaress of fat types/ no zooming)	Healthy image TFA	-,236	,168	,159	,790	,569	1,097	
	Unhealthy image TFA	**,283**	,097	**,003**	1,327	1,098	1,604	**
	Healthy image PHO	,180	,158	,255	1,197	,878	1,633	
	Unhealthy image PHO	-,081	,148	,585	,922	,691	1,232	
	Healthy image FHO	-,057	,164	,726	,944	,685	1,301	
	Unhealthy image FHO	-,070	,144	,629	,933	,704	1,236	
	Healthy image saturates	,095	,120	,428	1,100	,869	1,393	
	Unhealthy image saturates	,176	,097	,070	1,192	,986	1,442	
	Zoom ingredients task 1	**,268**	,102	**,009**	1,307	1,070	1,596	**
	Zoom country of origin task	**-1,138**	,095	**,000**	,320	,266	,386	***
	Zoom nutrition facts task 1	**1,225**	,086	**,000**	3,404	2,875	4,030	***
Habits	Diet / Weight loss	,084	,111	,451	1,087	,875	1,351	
	Crisps buyer	,053	,146	,716	1,054	,792	1,404	
	Look at saturates of crisps	,182	,102	,076	1,199	,981	1,465	
	Look at calories of crisps	,138	,092	,133	1,148	,959	1,373	
	Look at ingredients of	**,208**	,082	**,011**	1,231	1,048	1,445	*
Motives and attitudes (rc.: expert shopper)	Healthy planner	-,143	,118	,223	,866	,688	1,091	
	Rushed quality shopper	**-,279**	,113	**,014**	,757	,606	,945	*
	Self-determined shopper	-,209	,131	,111	,811	,627	1,049	
	Bargain hunter	**-,326**	,133	**,014**	,722	,557	,936	*
	Frustrated shopper	**-,282**	,140	**,043**	,754	,573	,992	*
	Look at food info label	,093	,055	,095	1,097	,984	1,223	
Age (rc.: 35-54 years)	Age (18 - 34 years)	,222	,100	,026	1,249	1,028	1,518	
	Age (55 and more years)	,045	,097	,641	1,046	,865	1,266	
Gender (rc.: woman)	Man	-,086	,080	,281	,917	,784	1,073	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,163	,093	,079	1,177	,982	1,411	
	Income (30 000 and more)	-,126	,097	,192	,881	,729	1,065	
Education (rc.: finished education with 17-22 years)	Still study	-,247	,160	,122	,781	,570	1,069	
	Education terminal age max. 17	-,121	,122	,322	,886	,697	1,126	
	Education terminal age 22+	**-,185**	,088	**,035**	,831	,699	,987	*
Living status (rc.: singles)	**Hh 2+ persons with children**	**,262**	,118	**,027**	1,299	1,031	1,637	*
	Hh 2+ persons without	**,299**	,111	**,007**	1,348	1,084	1,675	**
BMI (rc.: BMI under 25)	Overw eight (BMI 25+)	-,011	,080	,894	,989	,846	1,157	
Countries (rc.: Poland)	United Kingdom	-,289	,162	,074	,749	,545	1,029	
	France	-,110	,155	,478	,896	,661	1,214	
	Germany	-,107	,158	,495	,898	,660	1,223	
	Italy	,058	,148	,697	1,059	,793	1,415	
	Spain	-,217	,148	,143	,805	,602	1,076	
	Finland	,065	,164	,691	1,067	,774	1,471	
	Romania	,020	,152	,895	1,020	,758	1,373	
N = 3.945 - Nagelkerke's R^2 = 0,144								

Model 2 – Online experiments on TFA

BINOMINAL LOGISTIC REGRESSION - TFA CHOICE 1 - WITH POLICY OPTIONS

TFA choice 1 = healthy product A		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**-4,519**	,383	**,000**				***
Policy options (rc.: control group)	Policy: Education on TFA	-,175	,174	,315	,839	,597	1,181	
	Policy: Label info TFA	**2,558**	,146	**,000**	12,911	9,707	17,172	***
	Policy: Combination of education and information	**,840**	,201	**,000**	2,317	1,561	3,438	***
Awareness (rc.: no awaress of fat types/ no zooming)	Healthy image TFA	-,262	,197	,183	,769	,523	1,132	
	Unhealthy image TFA	**,456**	,117	**,000**	1,577	1,254	1,983	***
	Healthy image PHO	,279	,186	,133	1,322	,918	1,904	
	Unhealthy image PHO	-,208	,177	,240	,812	,573	1,150	
	Healthy image FHO	-,077	,191	,687	,926	,637	1,347	
	Unhealthy image FHO	,026	,173	,882	1,026	,731	1,440	
	Healthy image saturates	,221	,143	,124	1,247	,941	1,651	
	Unhealthy image saturates	**,233**	,114	**,041**	1,263	1,009	1,580	*
	Zoom ingredients task 1	**,844**	,126	**,000**	2,325	1,815	2,979	***
	Zoom country of origin task	**-,661**	,115	**,000**	,516	,412	,646	***
	Zoom nutrition facts task 1	**1,389**	,101	**,000**	4,011	3,290	4,890	***
Habits	Diet / Weight loss	,255	,134	,058	1,290	,991	1,679	
	Crisps buyer	,049	,173	,777	1,050	,748	1,474	
	Look at saturates of crisps	,207	,123	,092	1,230	,967	1,564	
	Look at calories of crisps	**,251**	,110	**,023**	1,285	1,035	1,596	*
	Look at ingredients of	**,221**	,099	**,025**	1,247	1,028	1,513	*
Motives and attitudes (rc.: expert shopper)	Healthy planner	,018	,142	,900	1,018	,771	1,345	
	Rushed quality shopper	-,238	,135	,079	,788	,605	1,028	
	Self-determined shopper	-,129	,157	,412	,879	,645	1,196	
	Bargain hunter	-,232	,158	,142	,793	,582	1,081	
	Frustrated shopper	**-,347**	,166	**,036**	,707	,511	,978	*
	Look at food info label	**,152**	,065	**,020**	1,164	1,024	1,322	*
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	**,283**	,119	**,017**	1,327	1,051	1,675	*
	Age (55 and more years)	-,091	,115	,427	,913	,729	1,143	
Gender (rc.: woman)	Man	-,039	,095	,683	,962	,798	1,159	
Income (rc.: 10 000 - 29 999)	**Income (0 - 9 999)**	**,246**	,110	**,026**	1,279	1,030	1,587	*
	Income (30 000 and more)	-,034	,116	,771	,967	,771	1,213	
Education (rc.: finished education with 17-22 years)	Still study	-,373	,190	,050	,689	,475	1,000	
	Education terminal age max. 17	-,098	,145	,497	,906	,682	1,204	
	Education terminal age 22+	-,168	,105	,111	,845	,688	1,039	
Living status (rc.: singles)	**Hh 2+ persons with children**	**,303**	,140	**,030**	1,354	1,029	1,782	*
	Hh 2+ persons without	**,319**	,131	**,015**	1,375	1,064	1,778	*
BMI (rc.: BMI under 25)	Overw eight (BMI 25+)	-,031	,095	,743	,969	,805	1,168	
Countries (rc.: Poland)	United Kingdom	-,220	,192	,252	,802	,550	1,169	
	France	-,131	,184	,475	,877	,612	1,257	
	Germany	-,149	,189	,429	,862	,595	1,247	
	Italy	,087	,178	,625	1,091	,770	1,545	
	Spain	-,232	,176	,187	,793	,561	1,120	
	Finland	-,023	,196	,908	,978	,666	1,435	
	Romania	-,051	,180	,776	,950	,667	1,353	
N = 3.945 - Nagelkerke's R^2 = 0,463								

Model 3 – Online experiments on TFA

BINOMINAL LOGISTIC REGRESSION - TFA CHOICE 2 - WITHOUT POLICY OPTIONS

TFA choice 2 = healthy product C		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**-1,792**	,280	**,000**				***
Awareness (rc.: no awaress of fat types/ no zooming)	Healthy image TFA	,010	,156	,950	1,010	,744	1,370	
	Unhealthy image TFA	-,020	,093	,827	,980	,816	1,176	
	Healthy image PHO	-,068	,152	,652	,934	,693	1,258	
	Unhealthy image PHO	-,032	,141	,821	,968	,734	1,278	
	Healthy image FHO	,016	,156	,917	1,016	,749	1,380	
	Unhealthy image FHO	,081	,138	,558	1,084	,828	1,420	
	Healthy image saturates	-,183	,115	,111	,833	,665	1,043	
	Unhealthy image saturates	**,710**	,091	**,000**	2,035	1,703	2,431	***
	Zoom ingredients task 2	**,328**	,103	**,002**	1,389	1,134	1,701	**
	Zoom country of origin task	-,100	,088	,260	,905	,761	1,077	
	Zoom nutrition facts task 2	**1,237**	,081	**,000**	3,445	2,939	4,038	***
Habits	Diet / Weight loss	,128	,107	,234	1,136	,921	1,401	
	Crisps buyer	,199	,138	,147	1,221	,932	1,599	
	Look at saturates of crisps	**,198**	,100	**,049**	1,219	1,001	1,484	*
	Look at calories of crisps	,075	,089	,395	1,078	,906	1,283	
	Look at ingredients of crisps	,113	,078	,149	1,119	,961	1,304	
Motives and attitudes (rc.: expert shopper)	Healthy planner	-,041	,114	,720	,960	,768	1,200	
	Rushed quality shopper	-,055	,108	,609	,946	,766	1,170	
	Self-determined shopper	-,237	,125	,059	,789	,617	1,009	
	Bargain hunter	-,042	,125	,740	,959	,750	1,226	
	Frustrated shopper	-,227	,132	,086	,797	,616	1,032	
	Look at food info label	**,106**	,052	**,041**	1,111	1,004	1,230	*
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	**,237**	,095	**,012**	1,268	1,053	1,526	*
	Age (55 and more years)	-,135	,091	,139	,874	,730	1,045	
Gender (rc.: woman)	Man	-,050	,075	,508	,951	,821	1,103	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	-,022	,088	,806	,979	,823	1,164	
	Income (30 000 and more)	,048	,091	,600	1,049	,878	1,253	
Education (rc.: finished education with 17-22 years)	Still study	,072	,153	,637	1,075	,797	1,450	
	Education terminal age max. 17	-,083	,115	,473	,921	,734	1,154	
	Education terminal age 22+	-,059	,083	,476	,942	,801	1,109	
Living status (rc.: singles)	Hh 2+ persons with children	-,067	,108	,535	,935	,756	1,156	
	Hh 2+ persons without children	-,105	,102	,303	,900	,737	1,099	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	-,024	,075	,748	,976	,842	1,132	
Countries (rc.: Poland)	United Kingdom	,199	,154	,196	1,220	,903	1,650	
	France	,017	,146	,910	1,017	,763	1,355	
	Germany	,146	,149	,325	1,158	,865	1,549	
	Italy	-,147	,144	,307	,864	,652	1,144	
	Spain	,109	,141	,438	1,116	,846	1,471	
	Finland	**-,361**	,159	**,023**	,697	,511	,951	*
	Romania	-,021	,145	,884	,979	,737	1,301	
N = 3.945 - Nagelkerke's R^2 = 0,184								

Model 4 – Online experiments on TFA

BINOMINAL LOGISTIC REGRESSION - TFA CHOICE 2 - WITH POLICY OPTIONS

TFA choice 2 = healthy product C		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**-1,622**	,289	**,000**				***
Policy options (rc.: control group)	Policy: Education on TFA	,161	,098	,101	1,175	,969	1,425	
	Policy: Label info TFA	**-,295**	,100	**,003**	,745	,613	,906	**
	Policy: Combination of	-,263	,139	,059	,769	,585	1,010	
Awareness (rc.: no awaress of fat types/ no zooming)	Healthy image TFA	-,002	,157	,991	,998	,734	1,357	
	Unhealthy image TFA	-,031	,094	,742	,970	,807	1,165	
	Healthy image PHO	-,069	,153	,652	,933	,692	1,259	
	Unhealthy image PHO	-,017	,143	,903	,983	,743	1,299	
	Healthy image FHO	,008	,157	,959	1,008	,741	1,372	
	Unhealthy image FHO	,065	,139	,640	1,067	,813	1,400	
	Healthy image saturates	-,198	,115	,086	,820	,654	1,028	
	Unhealthy image saturates	**,715**	,091	**,000**	2,045	1,709	2,446	***
	Zoom ingredients task 2	**,293**	,105	**,005**	1,340	1,092	1,645	**
	Zoom country of origin task	**-,190**	,091	**,037**	,827	,692	,988	*
	Zoom nutrition facts task 2	**1,263**	,082	**,000**	3,536	3,012	4,150	***
Habits	Diet / Weight loss	,115	,108	,283	1,122	,909	1,386	
	Crisps buyer	,202	,138	,143	1,224	,934	1,604	
	Look at saturates of crisps	**,213**	,101	**,036**	1,237	1,015	1,509	*
	Look at calories of crisps	,073	,089	,416	1,075	,903	1,281	
	Look at ingredients of crisps	,116	,079	,140	1,123	,963	1,310	
Motives and attitudes (rc.: expert shopper)	Healthy planner	-,058	,114	,611	,943	,754	1,181	
	Rushed quality shopper	-,068	,109	,534	,935	,755	1,157	
	Self-determined shopper	**-,258**	,126	**,041**	,772	,603	,989	*
	Bargain hunter	-,073	,126	,565	,930	,726	1,191	
	Frustrated shopper	-,236	,132	,075	,790	,610	1,024	
	Look at food info label	**,103**	,052	**,048**	1,108	1,001	1,227	*
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	**,246**	,095	**,010**	1,280	1,062	1,542	*
	Age (55 and more years)	-,114	,092	,214	,892	,745	1,068	
Gender (rc.: woman)	Man	-,056	,076	,458	,945	,815	1,097	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	-,029	,089	,741	,971	,816	1,156	
	Income (30 000 and more)	,030	,091	,744	1,030	,861	1,232	
Education (rc.: finished education with 17-22 years)	Still study	,078	,154	,614	1,081	,800	1,460	
	Education terminal age max. 17	-,091	,116	,432	,913	,727	1,146	
	Education terminal age 22+	-,075	,084	,373	,928	,788	1,094	
Living status (rc.: singles)	Hh 2+ persons with children	-,064	,109	,557	,938	,758	1,161	
	Hh 2+ persons without children	-,095	,103	,355	,910	,744	1,112	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	-,023	,076	,759	,977	,842	1,134	
Countries (rc.: Poland)	United Kingdom	,184	,155	,235	1,202	,887	1,629	
	France	,009	,147	,952	1,009	,756	1,347	
	Germany	,141	,149	,345	1,151	,859	1,543	
	Italy	-,159	,144	,271	,853	,643	1,132	
	Spain	,099	,142	,485	1,104	,836	1,458	
	Finland	**-,359**	,159	**,024**	,699	,511	,955	*
	Romania	-,023	,146	,874	,977	,734	1,300	
N = 3.945 - Nagelkerke's R^2 = 0,196								

Model 5 – Online experiments on TFA

BINOMINAL LOGISTIC REGRESSION - TFA CHOICE 1+2 - WITHOUT POLICY OPTIONS

TFA choice 1+2=healthy product A/C		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**-1,529**	,203	**,000**				***
Choice architecture (rc.: task 2)	**TFA choice task 1**	**-,651**	,050	**,000**	,522	,473	,575	***
Awareness (rc.: no awaress of fat types/ no zooming)	Healthy image TFA	-,106	,112	,341	,899	,722	1,119	
	Unhealthy image TFA	,120	,066	,069	1,127	,991	1,283	
	Healthy image PHO	,054	,109	,620	1,055	,853	1,306	
	Unhealthy image PHO	-,057	,101	,570	,944	,776	1,150	
	Healthy image FHO	-,023	,112	,840	,978	,785	1,217	
	Unhealthy image FHO	,003	,098	,974	1,003	,828	1,215	
	Healthy image saturates	-,050	,083	,549	,951	,809	1,119	
	Unhealthy image saturates	**,452**	,065	**,000**	1,571	1,382	1,787	***
	Zoom ingredients	**,308**	,071	**,000**	1,361	1,184	1,564	***
	Zoom country of origin	**-,595**	,063	**,000**	,552	,488	,624	***
	Zoom nutrition facts	**1,206**	,059	**,000**	3,341	2,977	3,749	***
Habits	Diet / Weight loss	,105	,076	,167	1,111	,957	1,289	
	Crisps buyer	,136	,099	,169	1,146	,943	1,392	
	Look at saturates of crisps	**,182**	,071	**,010**	1,199	1,044	1,377	*
	Look at calories of crisps	,105	,063	,095	1,111	,982	1,256	
	Look at ingredients of	**,153**	,056	**,006**	1,166	1,045	1,300	**
Motives and attitudes (rc.: expert shopper)	Healthy planner	-,084	,081	,301	,919	,784	1,078	
	Rushed quality shopper	**-,159**	,077	**,040**	,853	,733	,993	*
	Self-determined shopper	**-,228**	,090	**,011**	,796	,668	,949	*
	Bargain hunter	**-,176**	,089	**,049**	,839	,704	,999	*
	Frustrated shopper	**-,246**	,095	**,009**	,782	,649	,941	**
	Look at food info label	**,096**	,037	**,010**	1,101	1,023	1,184	*
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	**,220**	,067	**,001**	1,247	1,092	1,423	**
	Age (55 and more years)	-,052	,066	,430	,949	,834	1,080	
Gender (rc.: woman)	Man	-,065	,054	,231	,937	,843	1,042	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,056	,063	,378	1,057	,934	1,196	
	Income (30 000 and more)	-,033	,065	,609	,967	,851	1,099	
Education (rc.: finished education with 17-22 years)	Still study	-,059	,108	,586	,943	,762	1,166	
	Education terminal age max. 17	-,088	,083	,287	,916	,779	1,077	
	Education terminal age 22+	-,112	,060	,061	,894	,795	1,005	
Living status (rc.: singles)	Hh 2+ persons with children	,073	,078	,349	1,076	,923	1,254	
	Hh 2+ persons without children	,074	,074	,311	1,077	,933	1,244	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	-,019	,054	,720	,981	,882	1,091	
Countries (rc.: Poland)	United Kingdom	-,040	,110	,717	,961	,775	1,191	
	France	-,044	,105	,677	,957	,779	1,176	
	Germany	,018	,107	,869	1,018	,825	1,255	
	Italy	-,047	,102	,647	,954	,781	1,166	
	Spain	-,044	,101	,660	,957	,785	1,165	
	Finland	-,170	,113	,132	,843	,676	1,053	
	Romania	-,006	,104	,954	,994	,811	1,219	
N = 3.945 - Nagelkerke's R^2 = 0,165								

Model 6 – Online experiments on TFA

BINOMINAL LOGISTIC REGRESSION - TFA CHOICE 1+2 - WITH POLICY OPTIONS

TFA choice 1+2=healthy product A/C		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**-2,155**	,214	**,000**				***
Choice architecture (rc.: task 2)	**TFA choice task 1**	**-,695**	,051	**,000**	,499	,452	,552	***
Policy options (rc.: control group)	Policy: Education on TFA	,036	,075	,627	1,037	,896	1,200	
	Policy: Label info TFA	**,785**	,074	**,000**	2,191	1,896	2,532	***
	Policy: Combination of education and information	**,229**	,102	**,024**	1,258	1,030	1,535	*
Awareness (rc.: no awaress of fat types/ no zooming)	Healthy image TFA	-,086	,114	,450	,917	,734	1,147	
	Unhealthy image TFA	**,135**	,067	**,046**	1,144	1,003	1,306	*
	Healthy image PHO	,068	,111	,538	1,070	,862	1,330	
	Unhealthy image PHO	-,083	,103	,419	,921	,753	1,125	
	Healthy image FHO	-,023	,114	,837	,977	,782	1,221	
	Unhealthy image FHO	,038	,100	,702	1,039	,854	1,263	
	Healthy image saturates	-,030	,085	,721	,970	,822	1,146	
	Unhealthy image saturates	**,473**	,067	**,000**	1,605	1,408	1,830	***
	Zoom ingredients	**,424**	,073	**,000**	1,529	1,326	1,763	***
	Zoom country of origin	**-,382**	,065	**,000**	,683	,601	,775	***
	Zoom nutrition facts	**1,199**	,060	**,000**	3,316	2,948	3,730	***
Habits	Diet / Weight loss	,141	,078	,070	1,151	,988	1,341	
	Crisps buyer	,138	,102	,175	1,148	,940	1,401	
	Look at saturates of crisps	**,168**	,072	**,020**	1,183	1,027	1,362	*
	Look at calories of crisps	,122	,064	,057	1,130	,996	1,281	
	Look at ingredients of	**,146**	,057	**,011**	1,157	1,035	1,294	*
Motives and attitudes (rc.: expert shopper)	Healthy planner	-,038	,083	,648	,963	,818	1,133	
	Rushed quality shopper	-,130	,079	,099	,878	,752	1,025	
	Self-determined shopper	**-,195**	,092	**,033**	,822	,687	,984	*
	Bargain hunter	-,127	,091	,166	,881	,736	1,054	
	Frustrated shopper	**-,248**	,097	**,011**	,781	,645	,944	*
	Look at food info label	**,108**	,038	**,005**	1,114	1,034	1,200	**
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	**,219**	,069	**,001**	1,245	1,087	1,424	**
	Age (55 and more years)	-,099	,067	,140	,906	,794	1,033	
Gender (rc.: woman)	Man	-,051	,055	,353	,950	,852	1,059	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,066	,065	,306	1,068	,941	1,212	
	Income (30 000 and more)	,007	,067	,912	1,007	,884	1,148	
Education (rc.: finished education with 17-22 years)	Still study	-,070	,111	,526	,932	,750	1,158	
	Education terminal age max. 17	-,072	,084	,392	,930	,788	1,098	
	Education terminal age 22+	-,092	,061	,133	,912	,810	1,028	
Living status (rc.: singles)	Hh 2+ persons with children	,064	,080	,421	1,066	,912	1,247	
	Hh 2+ persons without children	,059	,075	,436	1,060	,915	1,229	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	-,027	,055	,625	,973	,873	1,085	
Countries (rc.: Poland)	United Kingdom	,004	,112	,973	1,004	,806	1,250	
	France	-,034	,108	,752	,967	,783	1,193	
	Germany	,026	,109	,813	1,026	,828	1,271	
	Italy	-,039	,105	,711	,962	,784	1,181	
	Spain	-,021	,103	,837	,979	,801	1,197	
	Finland	-,201	,116	,082	,818	,652	1,026	
	Romania	-,014	,106	,893	,986	,801	1,214	
N = 3.945 - Nagelkerke's R^2 = 0,165								

Model 7 – Online experiments on TFA

BINOMINAL LOGISTIC REGRESSION - ZOOMING BEHAVIOUR IN TFA CHOICES 1+2

Zooming any relevant labels in both TFA choices		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**,489**	,201	**,015**				*
Choice architecture (rc.: task 2)	**TFA choice task 1**	**-,132**	,051	**,009**	,876	,793	,968	**
Policy (rc.: no education)	**Policy: Education on TFA**	**,190**	,051	**,000**	1,209	1,094	1,337	***
Awareness (rc.: no awaress)	**Healthy image TFA**	**-,396**	,110	**,000**	,673	,543	,835	***
	Unhealthy image TFA	,031	,071	,663	1,032	,897	1,186	
	Healthy image PHO	,044	,110	,690	1,045	,842	1,298	
	Unhealthy image PHO	,013	,108	,906	1,013	,819	1,253	
	Healthy image FHO	-,163	,112	,145	,850	,682	1,058	
	Unhealthy image FHO	,125	,105	,235	1,133	,922	1,393	
	Healthy image saturates	**,273**	,082	**,001**	1,315	1,120	1,543	**
	Unhealthy image saturates	**,498**	,066	**,000**	1,646	1,446	1,875	***
Habits	**Diet / Weight loss**	**,248**	,083	**,003**	1,281	1,088	1,509	**
	Crisps buyer	,150	,095	,116	1,161	,964	1,399	
	Look at saturates of crisps	**,215**	,080	**,007**	1,240	1,061	1,449	**
	Look at calories of crisps	-,030	,068	,664	,971	,850	1,109	
	Look at ingredients of	**,375**	,060	**,000**	1,456	1,295	1,637	***
Motives and attitudes (rc.: expert shopper)	**Healthy planner**	**-,512**	,088	**,000**	,599	,504	,712	***
	Rushed quality shopper	**-,355**	,085	**,000**	,701	,594	,828	***
	Self-determined shopper	**-,422**	,095	**,000**	,656	,545	,790	***
	Bargain hunter	**-,323**	,096	**,001**	,724	,599	,875	**
	Frustrated shopper	**-,487**	,098	**,000**	,615	,507	,745	***
	Look at food info label	**,103**	,037	**,006**	1,109	1,031	1,193	**
Age (rc.: 35-54 years)	Age (18 - 34 years)	,099	,070	,160	1,104	,962	1,266	
	Age (55 and more years)	-,058	,067	,380	,943	,828	1,075	
Gender (rc.: woman)	**Man**	**-,324**	,055	**,000**	,723	,650	,806	***
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	-,021	,066	,749	,979	,861	1,114	
	Income (30 000 and more)	-,022	,067	,745	,979	,858	1,116	
Education (rc.: finished education with 17-22 years)	Still study	,205	,120	,088	1,227	,970	1,553	
	Education terminal age max. 17	-,053	,082	,522	,949	,808	1,114	
	Education terminal age 22+	,029	,062	,642	1,029	,912	1,161	
Living status (rc.: singles)	Hh 2+ persons with children	-,097	,079	,221	,908	,778	1,060	
	Hh 2+ persons without children	-,082	,074	,268	,921	,796	1,065	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	-,019	,055	,738	,982	,880	1,094	
Countries (rc.: Poland)	United Kingdom	-,123	,112	,272	,884	,709	1,102	
	France	-,047	,107	,659	,954	,774	1,176	
	Germany	,037	,109	,735	1,038	,838	1,285	
	Italy	-,058	,107	,585	,943	,765	1,163	
	Spain	-,145	,104	,165	,865	,705	1,061	
	Finland	,032	,115	,781	1,032	,825	1,293	
	Romania	**,331**	,112	**,003**	1,392	1,119	1,733	**

N = 3.945 - Nagelkerke's R^2 = 0,077

Model 8 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICE 1 WITHOUT POLICY OPTIONS

Allergy choice 1 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**-2,588**	1,269	**,041**				
Awareness	**Zoom ingredients task 1**	**4,236**	,349	**,000**	69,097	34,844	137,022	***
	Zoom country of origin task	**-,869**	,334	**,009**	,419	,218	,807	**
	Zoom nutrition facts task 1	**-,877**	,322	**,006**	,416	,221	,782	**
Habits	Muesli bought last 6 months	,032	,452	,943	1,033	,426	2,507	
	Look at allergen info of muesli	,408	,399	,306	1,504	,688	3,285	
	Look at country of origin of	-,162	,423	,701	,850	,371	1,946	
	Look at ingredients of muesli	,017	,428	,967	1,018	,440	2,353	
	Make a list before shopping	-,032	,138	,816	,969	,740	1,268	
	Search for special deals	-,017	,150	,908	,983	,732	1,319	
	Buy always same products	-,269	,202	,183	,764	,515	1,135	
	Frequent allergy info reading	,401	,356	,259	1,493	,744	2,998	
Goals & attitudes (rc.: moderate/ medium)	Allergy/intolerance mild	,097	,325	,765	1,102	,583	2,085	
	Allergy/intolerance severe	,556	,405	,170	1,744	,789	3,856	
	Strong relevance of label	,160	,341	,639	1,173	,601	2,289	
	Choose healthier alternative	,157	,363	,665	1,170	,575	2,382	
	Don't compromise quality for	,151	,324	,641	1,163	,616	2,197	
	Brand loyal	-,182	,323	,573	,834	,442	1,570	
	Low self-control	,149	,313	,635	1,160	,628	2,143	
	High risk aversion	-,482	,327	,140	,617	,325	1,172	
	May contain traces - not safe	,454	,633	,474	1,574	,455	5,444	
	May contain - not safe	-,130	,622	,835	,878	,259	2,972	
	Cannot guarantee - not safe	**1,145**	,415	**,006**	3,144	1,393	7,094	**
	Made in a facility - not safe	,156	,433	,718	1,169	,500	2,733	
	Contains nuts - not safe	-,326	,567	,565	,722	,238	2,191	
	No information given - not	**-,771**	,318	**,015**	,463	,248	,862	*
Age (rc.: 35-54 years)	Age (18 - 34 years)	,600	,389	,123	1,822	,850	3,906	
	Age (55 and more years)	,687	,391	,079	1,987	,923	4,278	
Gender (rc.: woman)	Man	,102	,314	,744	1,108	,599	2,049	
Income (rc.: 10 000 - 29 999)	**Income (0 - 9 999)**	**,719**	,360	**,045**	2,053	1,015	4,155	*
	Income (30 000 and more)	-,599	,387	,122	,549	,257	1,173	
Education (rc.: finished education with 17-22 years)	Still study	-,832	,558	,136	,435	,146	1,299	
	Education terminal age max. 17	-,227	,531	,668	,797	,281	2,254	
	Education terminal age 22+	,578	,339	,088	1,782	,917	3,462	
Living status (rc.: singles)	Hh 2+ persons with children	,820	,485	,091	2,271	,878	5,874	
	Hh 2+ persons without children	,491	,442	,267	1,634	,687	3,888	
Countries (rc.: Germany)	United Kingdom	1,031	,682	,130	2,805	,737	10,678	
	France	-1,324	,790	,094	,266	,057	1,253	
	Italy	-1,144	,617	,064	,319	,095	1,068	
	Spain	**-2,579**	,784	**,001**	,076	,016	,353	**
	Finland	,413	,538	,442	1,512	,527	4,341	
	Poland	-,707	,595	,235	,493	,153	1,583	
	Romania	-1,156	,631	,067	,315	,091	1,085	
N = 586 - Nagelkerke R^2 = 0,698								

Model 9 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICE 1 WITH POLICY OPTIONS

Allergy choice 1 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		-2,317	1,306	,076				
Policy options (rc.: split 1: may contain)	Split 2: May contain traces	-,054	,435	,901	,947	,404	2,223	
	Split 3: Cannot guarantee	-,356	,409	,384	,700	,314	1,561	
	Split 4: Made in a facility	-,667	,411	,105	,513	,229	1,149	
Awareness	**Zoom ingredients task 1**	**4,337**	,362	**,000**	76,475	37,592	155,578	***
	Zoom country of origin task	**-,919**	,340	**,007**	,399	,205	,777	**
	Zoom nutrition facts task 1	**-,890**	,323	**,006**	,411	,218	,774	**
Habits	Muesli bought last 6 months	,011	,457	,981	1,011	,413	2,477	
	Look at allergen info of muesli	,437	,400	,274	1,548	,707	3,389	
	Look at country of origin of	-,172	,425	,685	,842	,366	1,935	
	Look at ingredients of muesli	,026	,431	,952	1,026	,441	2,386	
	Make a list before shopping	-,026	,139	,849	,974	,742	1,278	
	Search for special deals	-,026	,151	,861	,974	,725	1,309	
	Buy always same products	-,275	,202	,175	,760	,511	1,130	
	Frequent allergy info reading	,406	,358	,257	1,500	,744	3,028	
Goals & attitudes (rc.: moderate/ medium)	Allergy/intolerance mild	,162	,329	,622	1,176	,617	2,243	
	Allergy/intolerance severe	,578	,406	,155	1,782	,804	3,948	
	Strong relevance of label	,206	,347	,552	1,229	,623	2,424	
	Choose healthier alternative	,151	,370	,683	1,163	,563	2,400	
	Don't compromise quality for	,135	,327	,678	1,145	,604	2,172	
	Brand loyal	-,213	,328	,517	,808	,425	1,538	
	Low self-control	,157	,315	,617	1,170	,632	2,169	
	High risk aversion	-,466	,328	,155	,627	,330	1,193	
	May contain traces - not safe	,522	,634	,411	1,685	,486	5,839	
	May contain - not safe	-,155	,625	,804	,856	,252	2,912	
	Cannot guarantee - not safe	**1,115**	,417	**,008**	3,048	1,346	6,907	**
	Made in a facility - not safe	,220	,433	,611	1,247	,534	2,912	
	Contains nuts - not safe	-,330	,578	,569	,719	,231	2,235	
	No information given - not	**-,785**	,322	**,015**	,456	,243	,857	*
Age (rc.: 35-54 years)	Age (18 - 34 years)	,599	,392	,127	1,821	,844	3,926	
	Age (55 and more years)	,665	,392	,090	1,945	,901	4,197	
Gender (rc.: woman)	Man	,136	,317	,668	1,145	,615	2,133	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,688	,362	,058	1,989	,978	4,044	
	Income (30 000 and more)	-,566	,388	,144	,568	,265	1,214	
Education (rc.: finished education with 17-22 years)	Still study	-,859	,567	,130	,424	,140	1,286	
	Education terminal age max. 17	-,222	,538	,681	,801	,279	2,300	
	Education terminal age 22+	,583	,339	,086	1,791	,921	3,483	
Living status (rc.: singles)	Hh 2+ persons with children	,833	,488	,088	2,300	,884	5,985	
	Hh 2+ persons without children	,499	,444	,262	1,647	,689	3,936	
Countries (rc.: Germany)	United Kingdom	,984	,688	,152	2,676	,695	10,301	
	France	-1,343	,787	,088	,261	,056	1,221	
	Italy	**-1,246**	,622	**,045**	,288	,085	,974	*
	Spain	**-2,637**	,786	**,001**	,072	,015	,334	**
	Finland	,353	,544	,517	1,423	,490	4,134	
	Poland	-,713	,598	,234	,490	,152	1,584	
	Romania	-1,227	,634	,053	,293	,085	1,017	
N = 586 - Nagelkerke R^2 = 0,702								

Model 10 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICE 2 WITHOUT POLICY OPTIONS

Allergy choice 2 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		,002	1,339	,999				
Awareness	**Zoom ingredients task 2**	**4,654**	,385	**,000**	104,993	49,409	223,110	***
	Zoom country of origin task	-,590	,366	,107	,554	,271	1,135	
	Zoom nutrition facts task 2	**-1,499**	,381	**,000**	,223	,106	,471	***
Habits	Muesli bought last 6 months	-,430	,478	,368	,650	,255	1,660	
	Look at allergen info of muesli	,189	,423	,655	1,208	,527	2,766	
	Look at country of origin of	,023	,445	,960	1,023	,427	2,449	
	Look at ingredients of muesli	,248	,448	,580	1,282	,532	3,086	
	Make a list before shopping	-,066	,141	,641	,936	,710	1,235	
	Search for special deals	-,127	,159	,424	,880	,644	1,203	
	Buy always same products	-,181	,215	,399	,834	,548	1,271	
	Frequent allergy info	**-,841**	,406	**,038**	,431	,195	,956	*
Goals & attitudes (rc.: moderate/ medium)	Allergy/intolerance mild	-,125	,342	,716	,883	,452	1,726	
	Allergy/intolerance severe	,371	,431	,390	1,449	,622	3,375	
	Strong relevance of label	**,747**	,365	**,041**	2,111	1,031	4,320	*
	Choose healthier alternative	-,669	,391	,087	,512	,238	1,101	
	Don't compromise quality for	,127	,351	,719	1,135	,570	2,259	
	Brand loyal	,111	,335	,739	1,118	,580	2,156	
	Low self-control	-,138	,332	,678	,871	,455	1,670	
	High risk aversion	-,459	,357	,199	,632	,314	1,273	
	May contain traces - not safe	,490	,727	,500	1,632	,393	6,781	
	May contain - not safe	1,125	,687	,102	3,080	,801	11,842	
	Cannot guarantee - not safe	,449	,472	,341	1,567	,622	3,949	
	Made in a facility - not safe	-,586	,497	,239	,557	,210	1,475	
	Contains nuts - not safe	-,764	,630	,226	,466	,135	1,603	
	No information given - not	**-,692**	,327	**,035**	,501	,264	,951	*
Age (rc.: 35-54 years)	Age (18 - 34 years)	,537	,420	,201	1,711	,752	3,897	
	Age (55 and more years)	,029	,414	,944	1,029	,457	2,318	
Gender (rc.: woman)	Man	-,357	,335	,287	,700	,363	1,350	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,056	,389	,885	1,058	,493	2,269	
	Income (30 000 and more)	-,026	,408	,950	,975	,438	2,169	
Education (rc.: finished education with 17-22 years)	Still study	-,705	,612	,250	,494	,149	1,642	
	Education terminal age max. 17	-,361	,526	,492	,697	,248	1,954	
	Education terminal age 22+	,053	,355	,881	1,054	,526	2,112	
Living status (rc.: singles)	Hh 2+ persons with children	1,019	,535	,057	2,771	,970	7,915	
	Hh 2+ persons without	**,980**	,480	**,041**	2,663	1,039	6,829	*
Countries (rc.: Germany)	United Kingdom	,448	,679	,510	1,565	,413	5,928	
	France	-1,704	,922	,065	,182	,030	1,108	
	Italy	-,371	,627	,555	,690	,202	2,361	
	Spain	**-2,824**	,854	**,001**	,059	,011	,317	**
	Finland	,042	,577	,942	1,043	,337	3,230	
	Poland	-1,119	,644	,082	,327	,092	1,155	
	Romania	-1,204	,691	,082	,300	,077	1,163	
N = 586 - Nagelkerke R^2 = 0,733								

Model 11 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICE 2 WITH POLICY OPTIONS

Allergy choice 2 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		,133	1,372	,923				
Policy options (rc.: split 1: may contain)	Split 2: May contain traces	-,034	,440	,939	,967	,408	2,290	
	Split 3: Cannot guarantee	-,398	,441	,367	,672	,283	1,595	
	Split 4: Made in a facility	-,191	,430	,657	,826	,356	1,918	
Awareness	**Zoom ingredients task 2**	**4,697**	,390	**,000**	109,651	51,014	235,684	***
	Zoom country of origin task 2	-,577	,368	,117	,562	,273	1,155	
	Zoom nutrition facts task 2	**-1,507**	,382	**,000**	,222	,105	,469	***
Habits	Muesli bought last 6 months	-,445	,481	,355	,641	,250	1,644	
	Look at allergen info of muesli	,209	,424	,622	1,232	,537	2,828	
	Look at country of origin of	,013	,446	,976	1,013	,422	2,431	
	Look at ingredients of muesli	,236	,449	,598	1,266	,526	3,051	
	Make a list before shopping	-,065	,143	,650	,937	,708	1,240	
	Search for special deals	-,139	,160	,385	,870	,636	1,190	
	Buy always same products	-,185	,216	,392	,831	,544	1,269	
	Frequent allergy info	**-,826**	,407	**,043**	,438	,197	,973	*
Goals & attitudes (rc.: moderate/ medium)	Allergy/intolerance mild	-,078	,346	,821	,925	,470	1,820	
	Allergy/intolerance severe	,397	,432	,359	1,487	,637	3,469	
	Strong relevance of label	**,773**	,369	**,036**	2,167	1,051	4,466	*
	Choose healthier alternative	-,715	,394	,069	,489	,226	1,058	
	Don't compromise quality for	,168	,355	,635	1,183	,590	2,375	
	Brand loyal	,098	,342	,774	1,103	,564	2,157	
	Low self-control	-,118	,334	,725	,889	,462	1,710	
	High risk aversion	-,436	,359	,224	,646	,320	1,307	
	May contain traces - not safe	,519	,728	,476	1,681	,403	7,007	
	May contain - not safe	1,127	,696	,106	3,085	,788	12,076	
	Cannot guarantee - not safe	,457	,475	,335	1,579	,623	4,003	
	Made in a facility - not safe	-,548	,497	,271	,578	,218	1,533	
	Contains nuts - not safe	-,826	,642	,199	,438	,124	1,542	
	No information given - not	**-,688**	,329	**,037**	,503	,264	,958	*
Age (rc.: 35-54 years)	Age (18 - 34 years)	,536	,419	,201	1,709	,751	3,887	
	Age (55 and more years)	,013	,416	,976	1,013	,448	2,288	
Gender (rc.: woman)	Man	-,337	,338	,319	,714	,368	1,385	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,073	,392	,853	1,075	,498	2,321	
	Income (30 000 and more)	-,004	,414	,993	,996	,443	2,241	
Education (rc.: finished education with 17-22 years)	Still study	-,726	,621	,242	,484	,143	1,634	
	Education terminal age max. 17	-,349	,528	,509	,706	,251	1,985	
	Education terminal age 22+	,052	,354	,882	1,054	,526	2,110	
Living status (rc.: singles)	Hh 2+ persons with children	1,041	,540	,054	2,832	,983	8,162	
	Hh 2+ persons without	**,980**	,483	**,043**	2,664	1,033	6,872	*
Countries (rc.: Germany)	United Kingdom	,398	,686	,561	1,489	,388	5,708	
	France	-1,710	,925	,065	,181	,029	1,109	
	Italy	-,443	,638	,487	,642	,184	2,242	
	Spain	**-2,889**	,870	**,001**	,056	,010	,306	**
	Finland	,025	,582	,966	1,025	,328	3,209	
	Poland	-1,102	,645	,087	,332	,094	1,175	
	Romania	-1,244	,693	,073	,288	,074	1,121	
N = 586 - Nagelkerke R^2 = 0,734								

Model 12 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICE 3 WITHOUT POLICY OPTIONS

Allergy choice 3 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		-,933	1,296	,472				
Awareness	**Zoom ingredients task 3**	**4,586**	,387	**,000**	98,091	45,985	209,238	***
	Zoom country of origin task 3	,082	,377	,828	1,086	,518	2,274	
	Zoom nutrition facts task 3	**-2,221**	,420	**,000**	,109	,048	,247	***
Habits	Muesli bought last 6 months	,579	,459	,208	1,784	,725	4,389	
	Look at allergen info of muesli	,780	,420	,063	2,182	,959	4,969	
	Look at country of origin of	,126	,423	,766	1,134	,495	2,596	
	Look at ingredients of muesli	-,487	,430	,257	,615	,265	1,427	
	Make a list before shopping	,087	,145	,546	1,091	,822	1,450	
	Search for special deals	,118	,160	,459	1,125	,823	1,539	
	Buy always same products	-,156	,219	,479	,856	,557	1,316	
	Frequent allergy info reading	-,058	,380	,878	,943	,447	1,988	
Goals & attitudes (rc.: moderate/ medium)	Allergy/intolerance mild	,578	,346	,095	1,782	,905	3,511	
	Allergy/intolerance severe	,326	,419	,436	1,386	,610	3,149	
	Strong relevance of label	,286	,362	,430	1,331	,655	2,702	
	Choose healthier alternative	-,084	,383	,826	,919	,434	1,949	
	Don't compromise quality for	,158	,352	,653	1,172	,588	2,334	
	Brand loyal	**-,796**	,341	**,020**	,451	,231	,880	*
	Low self-control	-,579	,324	,074	,560	,297	1,059	
	High risk aversion	-,074	,354	,835	,929	,464	1,860	
	May contain traces - not safe	,508	,696	,465	1,662	,425	6,505	
	May contain - not safe	-,852	,695	,220	,427	,109	1,664	
	Cannot guarantee - not safe	,611	,406	,132	1,842	,832	4,080	
	Made in a facility - not safe	,483	,469	,303	1,621	,647	4,063	
	Contains nuts - not safe	,764	,539	,157	2,146	,745	6,178	
	No information given - not	**-,861**	,346	**,013**	,423	,215	,832	*
Age (rc.: 35-54 years)	Age (18 - 34 years)	,300	,398	,450	1,350	,619	2,943	
	Age (55 and more years)	,133	,412	,746	1,143	,510	2,560	
Gender (rc.: woman)	Man	-,056	,331	,867	,946	,495	1,809	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,223	,387	,564	1,250	,585	2,669	
	Income (30 000 and more)	-,387	,391	,321	,679	,316	1,460	
Education (rc.: finished education with 17-22 years)	Still study	-,094	,633	,882	,910	,263	3,148	
	Education terminal age max. 17	-,385	,521	,460	,681	,245	1,890	
	Education terminal age 22+	,144	,341	,674	1,155	,591	2,254	
Living status (rc.: singles)	Hh 2+ persons with children	-,406	,501	,417	,666	,249	1,778	
	Hh 2+ persons without children	-,290	,463	,532	,749	,302	1,856	
Countries (rc.: Germany)	United Kingdom	,155	,675	,819	1,167	,311	4,385	
	France	-1,532	,848	,071	,216	,041	1,138	
	Italy	-1,085	,629	,085	,338	,098	1,160	
	Spain	**-3,049**	,802	**,000**	,047	,010	,228	***
	Finland	-,360	,596	,546	,698	,217	2,243	
	Poland	**-1,533**	,658	**,020**	,216	,059	,784	*
	Romania	-1,106	,681	,104	,331	,087	1,256	
N = 586 - Nagelkerke R^2 = 0,734								

Model 13 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICE 3 WITH POLICY OPTIONS

Allergy choice 3 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		-,520	1,327	,695				
Policy options (rc.: split 1: may contain)	Split 2: May contain traces	-,393	,454	,387	,675	,277	1,643	
	Split 3: Cannot guarantee	-,804	,440	,068	,447	,189	1,060	
	Split 4: Made in a facility	-,783	,439	,074	,457	,193	1,079	
Awareness	**Zoom ingredients task 3**	**4,712**	,402	**,000**	111,229	50,597	244,518	***
	Zoom country of origin task 3	,089	,384	,817	1,093	,515	2,321	
	Zoom nutrition facts task 3	**-2,281**	,428	**,000**	,102	,044	,236	***
Habits	Muesli bought last 6 months	,573	,460	,213	1,774	,720	4,369	
	Look at allergen info of muesli	,827	,427	,053	2,287	,991	5,279	
	Look at country of origin of	,076	,433	,861	1,079	,462	2,520	
	Look at ingredients of muesli	-,481	,433	,266	,618	,265	1,444	
	Make a list before shopping	,069	,147	,638	1,072	,803	1,429	
	Search for special deals	,130	,162	,424	1,138	,829	1,563	
	Buy always same products	-,135	,221	,541	,874	,567	1,347	
	Frequent allergy info reading	-,010	,386	,979	,990	,465	2,109	
Goals & attitudes (rc.: moderate/ medium)	**Allergy/intolerance mild**	**,707**	,356	**,047**	2,027	1,009	4,074	*
	Allergy/intolerance severe	,392	,426	,356	1,481	,643	3,410	
	Strong relevance of label	,329	,366	,368	1,390	,678	2,849	
	Choose healthier alternative	-,139	,389	,720	,870	,406	1,863	
	Don't compromise quality for	,179	,354	,614	1,195	,597	2,393	
	Brand loyal	**-,830**	,349	**,017**	,436	,220	,864	*
	Low self-control	-,617	,327	,059	,539	,284	1,024	
	High risk aversion	-,049	,355	,889	,952	,475	1,908	
	May contain traces - not safe	,504	,711	,478	1,656	,411	6,671	
	May contain - not safe	-,935	,716	,192	,393	,096	1,597	
	Cannot guarantee - not safe	,573	,408	,161	1,773	,797	3,946	
	Made in a facility - not safe	,572	,475	,228	1,773	,698	4,499	
	Contains nuts - not safe	,839	,558	,133	2,314	,775	6,916	
	No information given - not	**-,839**	,352	**,017**	,432	,217	,861	*
Age (rc.: 35-54 years)	Age (18 - 34 years)	,309	,400	,440	1,362	,622	2,982	
	Age (55 and more years)	,104	,411	,800	1,110	,496	2,486	
Gender (rc.: woman)	Man	-,015	,333	,964	,985	,513	1,890	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,162	,396	,683	1,175	,541	2,555	
	Income (30 000 and more)	-,374	,396	,345	,688	,316	1,496	
Education (rc.: finished education with 17-22 years)	Still study	-,113	,646	,861	,893	,252	3,170	
	Education terminal age max. 17	-,346	,526	,511	,708	,253	1,982	
	Education terminal age 22+	,119	,344	,728	1,127	,574	2,211	
Living status (rc.: singles)	Hh 2+ persons with children	-,417	,505	,409	,659	,245	1,772	
	Hh 2+ persons without children	-,309	,466	,508	,735	,295	1,831	
Countries (rc.: Germany)	United Kingdom	,115	,680	,865	1,122	,296	4,259	
	France	-1,600	,852	,060	,202	,038	1,073	
	Italy	**-1,273**	,636	**,045**	,280	,080	,974	*
	Spain	**-3,177**	,826	**,000**	,042	,008	,210	***
	Finland	-,396	,602	,511	,673	,207	2,189	
	Poland	**-1,508**	,668	**,024**	,221	,060	,819	*
	Romania	-1,152	,685	,093	,316	,083	1,210	
N = 586 - Nagelkerke R^2 = 0,738								

Model 14 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICES 1-3 WITHOUT POLICY OPTIONS

Allergy choices 1-3 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		-1,096	,728	,132				
Context/ Choice architecture (rc.: task 3)	Allergy choice task 1	-,310	,192	,106	,733	,503	1,069	
	Allergy choice task 2	-,035	,192	,857	,966	,663	1,408	
Awareness	**Zoom ingredients**	**4,139**	,189	**,000**	62,770	43,371	90,847	***
	Zoom country of origin	**-,466**	,193	**,016**	,627	,430	,915	*
	Zoom nutrition facts	**-1,292**	,199	**,000**	,275	,186	,405	***
Habits	Muesli bought last 6 months	,026	,257	,921	1,026	,620	1,698	
	Look at allergen info of muesli	,417	,227	,067	1,518	,972	2,371	
	Look at country of origin of	,001	,237	,995	1,001	,630	1,592	
	Look at ingredients of muesli	-,041	,241	,866	,960	,599	1,540	
	Make a list before shopping	-,006	,079	,936	,994	,851	1,160	
	Search for special deals	,006	,086	,948	1,006	,849	1,191	
	Buy always same products	-,193	,117	,098	,825	,656	1,036	
	Frequent allergy info reading	-,108	,208	,603	,897	,596	1,350	
Goals & attitudes (rc.: moderate/ medium)	Allergy/intolerance mild	,169	,187	,365	1,184	,821	1,708	
	Allergy/intolerance severe	,361	,230	,117	1,435	,914	2,254	
	Strong relevance of label	,352	,197	,075	1,422	,966	2,093	
	Choose healthier alternative	-,156	,209	,456	,856	,568	1,289	
	Don't compromise quality for	,127	,189	,502	1,135	,784	1,643	
	Brand loyal	-,260	,184	,158	,771	,538	1,106	
	Low self-control	-,178	,179	,320	,837	,590	1,189	
	High risk aversion	-,310	,190	,103	,734	,506	1,065	
	May contain traces - not safe	,427	,379	,260	1,533	,729	3,222	
	May contain - not safe	-,005	,368	,989	,995	,484	2,046	
	Cannot guarantee - not safe	**,666**	,239	**,005**	1,946	1,220	3,106	**
	Made in a facility - not safe	,083	,252	,743	1,086	,662	1,781	
	Contains nuts - not safe	-,079	,319	,806	,924	,494	1,728	
	No information given - not	**-,718**	,180	**,000**	,488	,343	,694	***
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	**,468**	,223	**,035**	1,597	1,033	2,471	*
	Age (55 and more years)	,266	,222	,232	1,305	,844	2,017	
Gender (rc.: woman)	Man	-,067	,181	,713	,936	,656	1,334	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,337	,208	,106	1,401	,931	2,108	
	Income (30 000 and more)	-,280	,218	,198	,756	,493	1,157	
Education (rc.: finished education with 17-22 years)	Still study	-,525	,332	,114	,592	,309	1,134	
	Education terminal age max. 17	-,324	,290	,265	,723	,409	1,278	
	Education terminal age 22+	,257	,191	,178	1,294	,889	1,881	
Living status (rc.: singles)	Hh 2+ persons with children	,395	,279	,157	1,484	,859	2,565	
	Hh 2+ persons without children	,335	,256	,191	1,398	,846	2,310	
Countries (rc.: Germany)	United Kingdom	,516	,379	,174	1,675	,797	3,522	
	France	**-1,486**	,476	**,002**	,226	,089	,576	**
	Italy	**-,772**	,348	**,027**	,462	,234	,914	*
	Spain	**-2,545**	,445	**,000**	,078	,033	,188	***
	Finland	,055	,317	,863	1,056	,567	1,967	
	Poland	**-1,049**	,352	**,003**	,350	,176	,698	**
	Romania	**-1,065**	,369	**,004**	,345	,167	,711	**
N = 586 - Nagelkerke R^2 = 0,698								

Model 15 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICES 1-3 WITH POLICY OPTIONS

Allergy choices 1-3 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		-,851	,747	,255				
Context/ Choice architecture (rc.: task 3)	Allergy choice task 1	-,308	,192	,109	,735	,504	1,072	
	Allergy choice task 2	-,038	,193	,842	,962	,660	1,404	
Policy options (rc.: split 1: may contain)	Split 2: May contain traces	-,118	,245	,629	,888	,550	1,435	
	Split 3: Cannot guarantee	**-,477**	,237	**,045**	,621	,390	,988	*
	Split 4: Made in a facility	**-,477**	,236	**,044**	,621	,391	,986	*
Awareness	**Zoom ingredients**	**4,200**	,193	**,000**	66,705	45,733	97,294	***
	Zoom country of origin	**-,465**	,194	**,016**	,628	,429	,918	*
	Zoom nutrition facts	**-1,301**	,199	**,000**	,272	,184	,402	***
Habits	Muesli bought last 6 months	,007	,259	,978	1,007	,607	1,672	
	Look at allergen info of muesli	,447	,228	,050	1,564	1,000	2,447	
	Look at country of origin of	-,016	,238	,948	,985	,618	1,569	
	Look at ingredients of muesli	-,036	,242	,880	,964	,600	1,548	
	Make a list before shopping	-,005	,080	,947	,995	,851	1,163	
	Search for special deals	-,001	,087	,991	,999	,843	1,184	
	Buy always same products	-,190	,117	,104	,827	,658	1,040	
	Frequent allergy info reading	-,098	,209	,638	,906	,601	1,365	
Goals & attitudes (rc.: moderate/ medium)	Allergy/intolerance mild	,240	,190	,206	1,271	,877	1,843	
	Allergy/intolerance severe	,404	,231	,081	1,498	,952	2,358	
	Strong relevance of label	,386	,200	,053	1,471	,995	2,177	
	Choose healthier alternative	-,197	,212	,352	,821	,542	1,244	
	Don't compromise quality for	,132	,189	,484	1,142	,788	1,655	
	Brand loyal	-,277	,187	,139	,758	,525	1,094	
	Low self-control	-,180	,180	,316	,835	,588	1,188	
	High risk aversion	-,282	,190	,139	,754	,519	1,096	
	May contain traces - not safe	,470	,382	,219	1,600	,757	3,382	
	May contain - not safe	-,035	,373	,925	,965	,465	2,004	
	Cannot guarantee - not safe	**,642**	,240	**,007**	1,900	1,188	3,038	**
	Made in a facility - not safe	,139	,253	,584	1,149	,699	1,887	
	Contains nuts - not safe	-,096	,325	,767	,908	,480	1,717	
	No information given - not	**-,714**	,182	**,000**	,490	,343	,699	***
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	**,461**	,223	**,039**	1,586	1,024	2,456	*
	Age (55 and more years)	,253	,222	,255	1,288	,833	1,990	
Gender (rc.: woman)	Man	-,033	,183	,855	,967	,676	1,384	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,319	,210	,130	1,376	,911	2,078	
	Income (30 000 and more)	-,260	,219	,236	,771	,502	1,185	
Education (rc.: finished education with 17-22 years)	Still study	-,537	,337	,111	,585	,302	1,132	
	Education terminal age max. 17	-,317	,292	,278	,728	,411	1,292	
	Education terminal age 22+	,257	,191	,180	1,292	,888	1,880	
Living status (rc.: singles)	Hh 2+ persons with children	,406	,280	,147	1,501	,867	2,597	
	Hh 2+ persons without children	,329	,257	,201	1,389	,839	2,299	
Countries (rc.: Germany)	United Kingdom	,483	,382	,206	1,621	,767	3,428	
	France	**-1,474**	,473	**,002**	,229	,091	,579	**
	Italy	**-,869**	,351	**,013**	,419	,211	,835	*
	Spain	**-2,608**	,452	**,000**	,074	,030	,179	***
	Finland	,016	,320	,960	1,016	,542	1,904	
	Poland	**-1,035**	,353	**,003**	,355	,178	,709	**
	Romania	**-1,114**	,371	**,003**	,328	,159	,678	**
N = 586 -Nagelkerke R^2 = 0,700								

Model 16 – Online experiments on PAW

BINOMINAL LOGISTIC REGRESSION - PAW CHOICES 1-3 WITH POLICY OPTIONS AND INTERACTION VARIABLES

Allergy choices 1-3 = PAW avoiding		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		-,506	,768	,510				
Context/ Choice architecture (rc.: task 3)	Allergy choice task 1	-,312	,193	,106	,732	,501	1,069	
	Allergy choice task 2	-,048	,193	,804	,953	,653	1,392	
Policy options (rc.: split 1: may contain)	Split 2: May contain traces	-,187	,354	,597	,829	,414	1,661	
	Split 3: Cannot guarantee	**-1,190**	,374	**,001**	,304	,146	,633	**
	Split 4: Made in a facility	**-,692**	,347	**,046**	,501	,254	,988	*
	Interaction: split 3 &	**1,077**	,431	**,012**	2,936	1,261	6,836	*
	Interaction: split 2 & traces	,069	,427	,872	1,071	,464	2,474	
	Interaction: split 4 & made in	,348	,416	,403	1,416	,626	3,203	
Awareness	**Zoom ingredients**	**4,238**	,194	**,000**	69,258	47,316	101,375	***
	Zoom country of origin	**-,479**	,195	**,014**	,620	,423	,908	*
	Zoom nutrition facts	**-1,303**	,200	**,000**	,272	,184	,402	***
Habits	Muesli bought last 6 months	-,016	,261	,952	,984	,590	1,643	
	Look at allergen info of muesli	,440	,229	,054	1,553	,993	2,431	
	Look at country of origin of	-,042	,240	,860	,959	,599	1,534	
	Look at ingredients of muesli	,016	,244	,949	1,016	,629	1,640	
	Make a list before shopping	-,018	,080	,820	,982	,839	1,149	
	Search for special deals	-,005	,087	,950	,995	,839	1,179	
	Buy always same products	-,178	,118	,132	,837	,664	1,055	
	Frequent allergy info reading	-,160	,213	,452	,852	,561	1,293	
Goals & attitudes (rc.: moderate/ medium)	Allergy/intolerance mild	,238	,191	,211	1,269	,873	1,845	
	Allergy/intolerance severe	,404	,233	,084	1,498	,948	2,366	
	Strong relevance of label	**,393**	,200	**,049**	1,482	1,001	2,194	*
	Choose healthier alternative	-,248	,214	,246	,780	,513	1,186	
	Don't compromise quality for	,130	,190	,495	1,138	,784	1,652	
	Brand loyal	-,260	,189	,168	,771	,533	1,116	
	Low self-control	-,182	,181	,313	,833	,585	1,187	
	High risk aversion	-,246	,193	,200	,782	,536	1,140	
	May contain traces - not safe	,371	,407	,362	1,449	,653	3,218	
	May contain - not safe	-,091	,380	,812	,913	,433	1,925	
	Cannot guarantee - not safe	,394	,261	,132	1,483	,888	2,475	
	Made in a facility - not safe	,062	,272	,820	1,064	,624	1,814	
	Contains nuts - not safe	-,057	,331	,864	,945	,494	1,806	
	No information given - not	**-,656**	,185	**,000**	,519	,361	,746	***
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	,428	,225	,057	1,534	,987	2,385	
	Age (55 and more years)	,234	,224	,296	1,264	,815	1,961	
Gender (rc.: woman)	Man	-,064	,184	,729	,938	,654	1,345	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,322	,213	,131	1,379	,909	2,093	
	Income (30 000 and more)	-,264	,222	,235	,768	,497	1,188	
Education (rc.: finished education with 17-22 years)	Still study	-,530	,337	,116	,589	,304	1,140	
	Education terminal age max. 17	-,366	,296	,216	,693	,388	1,239	
	Education terminal age 22+	,228	,193	,238	1,256	,860	1,834	
Living status (rc.: singles)	Hh 2+ persons with children	,406	,284	,153	1,500	,860	2,618	
	Hh 2+ persons without children	,336	,261	,199	1,399	,839	2,333	
Countries (rc.: Germany)	United Kingdom	,595	,387	,124	1,813	,850	3,868	
	France	**-1,508**	,472	**,001**	,221	,088	,558	**
	Italy	**-,855**	,352	**,015**	,425	,213	,847	*
	Spain	**-2,659**	,453	**,000**	,070	,029	,170	***
	Finland	,008	,323	,980	1,008	,536	1,897	
	Poland	**-1,015**	,355	**,004**	,362	,181	,727	**
	Romania	**-1,179**	,374	**,002**	,307	,148	,640	**
N = 586	**Nagelkerke R^2 = 0,703**							

Model 17 – Online experiments on Alcohol

BINOMINAL LOGISTIC REGRESSION - ALCOHOL CHOICE 1 WITHOUT POLICY OPTIONS

Intention to reduce alcohol at specific occasion		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
Intercept		**-,871**	,411	**,034**				*
Context (ref. cat.: spirits)	Experiments about beer	-,051	,136	,709	,951	,728	1,241	
	Experiments about wine	**,275**	,130	**,035**	1,317	1,020	1,700	*
Attitude	**Health planner**	**,373**	,133	**,005**	1,451	1,118	1,884	**
	Rushed quality shopper	-,229	,136	,093	,796	,609	1,039	
	Self determined shopper	-,313	,177	,077	,731	,517	1,034	
	Bargain hunter	,157	,152	,300	1,170	,869	1,576	
	Frustrated shopper	**-,395**	,178	**,027**	,674	,475	,955	*
	Look at food info label	,069	,064	,276	1,072	,946	1,214	
	Prefer low alcoholic content	**,527**	,117	**,000**	1,693	1,345	2,131	***
	Prefer high alcoholic content	,256	,191	,180	1,292	,888	1,880	
	Prefer small serving size	,120	,146	,411	1,128	,847	1,501	
	Prefer large serving size	-,089	,222	,688	,915	,592	1,413	
	Prefer fewer calories	,258	,154	,094	1,294	,957	1,750	
	Common peer group	**-,297**	,063	**,000**	,743	,656	,842	***
	Alcohol has more advantages	**-,135**	,062	**,029**	,874	,774	,986	*
	Low self control	,149	,096	,119	1,160	,962	1,399	
	Risk aversion	,087	,130	,502	1,091	,846	1,408	
	Diet / Weight loss	**,312**	,122	**,011**	1,366	1,075	1,735	*
	Number of alcoholic bever.	,042	,061	,490	1,043	,926	1,174	
	Familiarity with drinking occasion (friends' party)	**-,243**	,092	**,008**	,784	,655	,939	**
Habits	Too much alcohol	-,005	,101	,961	,995	,817	1,213	
	Frequency of drinking	**-,141**	,068	**,039**	,869	,760	,993	*
	Alcohol volume last time	-,063	,103	,541	,939	,768	1,148	
	Alcohol volume friends' party	,069	,091	,448	1,071	,897	1,280	
Age (rc.: 35-54 years)	Age (18 - 34 years)	,107	,133	,422	1,113	,857	1,445	
	Age (55 and more years)	-,011	,112	,921	,989	,794	1,231	
Gender (rc.: woman)	**Man**	**-,209**	,103	**,043**	,811	,663	,993	*
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,112	,109	,307	1,118	,902	1,385	
	Income (30 000 and more)	,045	,121	,710	1,046	,825	1,325	
Education (rc.: finished education with 17-22 years)	Still study	,139	,210	,507	1,149	,762	1,733	
	Education terminal age max. 17	,231	,140	,099	1,260	,957	1,657	
	Education terminal age 22+	,165	,105	,118	1,179	,959	1,449	
Living status (rc.: singles)	Hh 2+ persons with child.	-,238	,134	,074	,788	,606	1,024	
	Hh 2+ persons without child.	-,112	,119	,349	,894	,708	1,130	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	,015	,096	,879	1,015	,840	1,225	
Countries (rc.: Spain)	United Kingdom	-,352	,196	,073	,703	,478	1,034	
	France	,146	,175	,404	1,157	,821	1,631	
	Germany	-,355	,192	,064	,701	,481	1,021	
	Italy	,179	,171	,295	1,196	,855	1,673	
	Finland	**-,491**	,208	**,018**	,612	,407	,921	*
	Poland	**-,478**	,190	**,012**	,620	,427	,900	*
	Romania	,236	,172	,170	1,267	,904	1,775	
N = 3.967 - Nagelkerke R^2 = 0,117								

Model 18 – Online experiments on Alcohol

BINOMINAL LOGISTIC REGRESSION - ALCOHOL CHOICE 1 WITH POLICY OPTIONS

Intention to reduce alcohol at specific occasion		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B)		
						lower bound	upper bound	
Intercept		**-1,111**	,399	**,005**				**
Policy options (ref. cat.: Split 1: Beer & Calories)	**Split 2: Beer & Limits**	**,481**	,163	**,003**	1,617	1,176	2,224	**
	Split 3: Wine & Calories	**,611**	,160	**,000**	1,842	1,345	2,521	***
	Split 4: Wine & Limits	**,507**	,163	**,002**	1,661	1,206	2,288	**
	Split 5: Spirits & Calories	,106	,188	,572	1,112	,770	1,606	
	Split 6: Spirits & Limits	**,494**	,186	**,008**	1,639	1,139	2,359	**
Awareness	Correct answer knowledge test	-,174	,116	,134	,840	,669	1,055	
Attitude	**Health planner**	**,370**	,134	**,006**	1,448	1,115	1,882	**
	Rushed quality shopper	-,242	,137	,076	,785	,600	1,026	
	Self determined shopper	-,317	,177	,074	,728	,515	1,031	
	Bargain hunter	,153	,152	,316	1,165	,864	1,570	
	Frustrated shopper	**-,386**	,178	**,030**	,680	,479	,964	*
	Look at food info label	,072	,064	,256	1,075	,949	1,218	
	Prefer low alcoholic content	**,542**	,118	**,000**	1,719	1,364	2,166	***
	Prefer high alcoholic content	,260	,192	,175	1,298	,891	1,890	
	Prefer small serving size	,141	,147	,336	1,151	,864	1,534	
	Prefer large serving size	-,097	,223	,662	,907	,586	1,405	
	Prefer fewer calories	,255	,155	,099	1,291	,953	1,748	
	Common peer group	**-,301**	,064	**,000**	,740	,653	,838	***
	Alcohol has more advantages	**-,139**	,062	**,025**	,870	,771	,983	*
	Low self control	,158	,096	,099	1,171	,971	1,413	
	Risk aversion	,088	,131	,500	1,092	,845	1,411	
Habits	**Diet / Weight loss**	**,328**	,123	**,007**	1,389	1,092	1,766	**
	Number of alcoholic bever.	,030	,061	,620	1,031	,914	1,163	
	Familiarity with drinking occasion (friends' party)	**-,244**	,092	**,008**	,783	,654	,939	**
	Too much alcohol	-,011	,101	,913	,989	,811	1,206	
	Frequency of drinking alcohol	-,134	,068	,050	,875	,765	1,000	
	Alcohol volume last time	-,059	,103	,564	,942	,770	1,153	
	Alcohol volume friends' party	,063	,091	,486	1,065	,892	1,273	
Age (rc.: 35-54 years)	Age (18 - 34 years)	,105	,134	,434	1,110	,854	1,443	
	Age (55 and more years)	-,031	,112	,781	,969	,778	1,208	
Gender (rc.: woman)	Man	-,199	,104	,055	,820	,669	1,005	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,115	,110	,295	1,122	,905	1,391	
	Income (30 000 and more)	,046	,121	,704	1,047	,826	1,328	
Education (rc.: finished education with 17-22 years)	Still study	,156	,211	,460	1,169	,773	1,766	
	Education terminal age max. 17	,225	,141	,109	1,253	,951	1,650	
	Education terminal age 22+	,175	,106	,097	1,191	,969	1,465	
Living status (rc.: singles)	Hh 2+ persons with child.	-,247	,134	,065	,781	,601	1,016	
	Hh 2+ persons without child.	-,106	,120	,374	,899	,711	1,137	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	,015	,096	,875	1,015	,840	1,226	
Countries (rc.: Spain)	United Kingdom	-,329	,197	,096	,720	,489	1,060	
	France	,152	,176	,387	1,164	,825	1,642	
	Germany	-,362	,192	,060	,696	,478	1,015	
	Italy	,169	,172	,325	1,184	,846	1,658	
	Finland	**-,483**	,209	**,021**	,617	,409	,929	*
	Poland	**-,484**	,191	**,011**	,616	,424	,895	*
	Romania	,220	,173	,203	1,246	,888	1,749	
N = 3.967 - Nagelkerke R^2 = 0,125								

Model 19 – Online experiments on Alcohol

BINOMINAL LOGISTIC REGRESSION - ALCOHOL CHOICE 2 WITHOUT POLICY OPTIONS

Intention to reduce alcohol at any occasion in future		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B)		
						lower bound	upper bound	
Intercept		**-2,355**	,496	**,000**				***
Context (ref. cat.: spirits)	Experiments about beer	-,218	,160	,172	,804	,588	1,099	
	Experiments about wine	-,074	,155	,633	,929	,685	1,258	
Intention	**Intention to drink less after education**	**3,103**	,111	**,000**	22,261	17,892	27,698	***
Attitude	Health planner	-,103	,164	,532	,902	,654	1,245	
	Rushed quality shopper	-,274	,163	,093	,760	,553	1,046	
	Self determined shopper	-,136	,197	,490	,873	,594	1,284	
	Bargain hunter	-,054	,182	,768	,948	,664	1,353	
	Frustrated shopper	-,280	,204	,170	,756	,507	1,128	
	Look at food info label	,134	,076	,078	1,144	,985	1,328	
	Prefer low alcoholic content	,111	,147	,450	1,118	,837	1,492	
	Prefer high alcoholic content	,032	,233	,892	1,032	,654	1,630	
	Prefer small serving size	,295	,178	,097	1,344	,948	1,904	
	Prefer large serving size	-,140	,272	,608	,870	,510	1,482	
	Prefer fewer calories	,131	,192	,493	1,140	,783	1,660	
	Common peer group	**-,290**	,075	**,000**	,748	,646	,867	***
	Alcohol has more advantages	**-,191**	,074	**,010**	,827	,716	,955	*
	Low self control	-,077	,113	,495	,926	,742	1,155	
	Risk aversion	**,314**	,156	**,044**	1,369	1,008	1,859	*
Habits	Diet / Weight loss	,207	,149	,165	1,230	,918	1,647	
	Number of alcoholic bever.	-,049	,071	,490	,952	,828	1,095	
	Familiarity with drinking occasion (friends' party)	-,061	,110	,580	,941	,759	1,167	
	Too much alcohol	,087	,122	,475	1,091	,859	1,385	
	Frequency of drinking alcohol	,067	,080	,404	1,069	,914	1,251	
	Alcohol volume last time	,042	,116	,719	1,043	,830	1,310	
	Alcohol volume friends' party	,131	,106	,218	1,139	,926	1,402	
Age (rc.: 35-54 years)	Age (18 - 34 years)	,157	,159	,323	1,170	,857	1,598	
	Age (55 and more years)	,002	,135	,988	1,002	,768	1,307	
Gender (rc.: woman)	Man	-,156	,123	,206	,856	,672	1,089	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,060	,132	,650	1,062	,820	1,374	
	Income (30 000 and more)	-,262	,146	,072	,769	,578	1,023	
Education (rc.: finished education with 17-22 years)	Still study	,084	,249	,738	1,087	,667	1,772	
	Education terminal age max. 17	-,172	,166	,302	,842	,608	1,166	
	Education terminal age 22+	-,110	,125	,381	,896	,701	1,145	
Living status (rc.: singles)	Hh 2+ persons with child.	-,046	,159	,774	,955	,700	1,304	
	Hh 2+ persons without child.	,014	,141	,922	1,014	,768	1,338	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	,173	,116	,135	1,189	,947	1,491	
Countries (rc.: Spain)	United Kingdom	,136	,233	,560	1,146	,725	1,810	
	France	**,511**	,215	**,017**	1,668	1,095	2,540	*
	Germany	**,554**	,222	**,013**	1,741	1,126	2,692	*
	Italy	,220	,215	,307	1,246	,817	1,900	
	Finland	-,039	,249	,875	,962	,590	1,566	
	Poland	,009	,226	,968	1,009	,649	1,570	
	Romania	-,119	,219	,589	,888	,578	1,365	
N = 3.967 - Nagelkerke R^2 = 0,415								

Model 20 – Online experiments on Alcohol

BINOMINAL LOGISTIC REGRESSION - ALCOHOL CHOICE 2 WITH POLICY OPTIONS

Intention to reduce alcohol at any occasion in future		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B)		
						lower bound	upper bound	
Intercept		**-2,740**	,480	**,000**				***
Policy options (rc.: Split 1: Beer & Calories)	Split 2: Beer & Limits	,268	,192	,162	1,307	,898	1,904	
	Split 3: Wine & Calories	,370	,189	,051	1,448	,999	2,099	
	Split 4: Wine & Limits	,230	,192	,232	1,258	,864	1,833	
	Split 5: Spirits & Calories	,372	,214	,083	1,451	,953	2,208	
	Split 6: Spirits & Limits	,366	,218	,093	1,442	,941	2,208	
Awareness	Correct answer knowledge test	,112	,133	,400	1,119	,861	1,452	
Intention	**Intention to drink less after education**	**3,099**	,112	**,000**	22,186	17,815	27,629	***
Attitude	Health planner	-,108	,165	,512	,898	,650	1,240	
	Rushed quality shopper	-,279	,163	,086	,756	,549	1,041	
	Self determined shopper	-,132	,197	,502	,876	,596	1,289	
	Bargain hunter	-,051	,182	,780	,950	,665	1,358	
	Frustrated shopper	-,286	,205	,162	,751	,503	1,122	
	Look at food info label	,135	,076	,077	1,145	,986	1,329	
	Prefer low alcoholic content	,118	,148	,422	1,126	,843	1,504	
	Prefer high alcoholic content	,034	,234	,883	1,035	,655	1,636	
	Prefer small serving size	,299	,178	,094	1,348	,950	1,913	
	Prefer large serving size	-,155	,273	,571	,857	,502	1,463	
	Prefer fewer calories	,117	,192	,542	1,124	,771	1,639	
	Common peer group	**-,291**	,075	**,000**	,748	,645	,867	***
	Alcohol has more advantages	**-,191**	,074	**,009**	,826	,715	,954	**
	Low self control	-,073	,113	,521	,930	,745	1,160	
	Risk aversion	,307	,157	,050	1,359	1,000	1,847	
	Diet / Weight loss	,203	,149	,174	1,225	,914	1,642	
	Number of alcoholic bever.	-,048	,072	,505	,953	,828	1,098	
	Familiarity with drinking occasion (friends' party)	-,062	,110	,571	,940	,758	1,166	
Habits	Too much alcohol	,082	,122	,499	1,086	,855	1,379	
	Frequency of drinking alcohol	,066	,080	,415	1,068	,912	1,250	
	Alcohol volume last time	,045	,117	,702	1,046	,832	1,314	
	Alcohol volume friends' party	,128	,106	,228	1,136	,923	1,399	
Age (rc.: 35-54 years)	Age (18 - 34 years)	,160	,159	,315	1,173	,859	1,603	
	Age (55 and more years)	,004	,136	,977	1,004	,769	1,310	
Gender (rc.: woman)	Man	-,153	,123	,216	,859	,674	1,093	
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,062	,132	,638	1,064	,822	1,377	
	Income (30 000 and more)	-,264	,146	,069	,768	,577	1,021	
Education (rc.: finished education with 17-22 years)	Still study	,080	,250	,749	1,083	,664	1,767	
	Education terminal age max. 17	-,169	,166	,309	,844	,609	1,170	
	Education terminal age 22+	-,103	,125	,410	,902	,706	1,153	
Living status (rc.: singles)	Hh 2+ persons with child.	-,043	,159	,789	,958	,702	1,308	
	Hh 2+ persons without child.	,015	,142	,914	1,015	,769	1,340	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	,170	,116	,142	1,186	,945	1,488	
Countries (rc.: Spain)	United Kingdom	,122	,234	,602	1,130	,714	1,788	
	France	**,511**	,215	**,017**	1,668	1,095	2,540	*
	Germany	**,554**	,222	**,013**	1,740	1,125	2,691	*
	Italy	,223	,215	,301	1,250	,819	1,906	
	Finland	-,047	,249	,851	,954	,586	1,555	
	Poland	,011	,226	,960	1,011	,650	1,574	
	Romania	-,118	,220	,590	,888	,578	1,366	
N = 3.967 - Nagelkerke R^2 = 0,416								

Model 21 – Online experiments on Food Waste

BINOMINAL LOGISTIC REGRESSION - AVOIDING OUTDATED FOOD

Not eating outdated food		B	Std. error	Sig.	Exp(B)	Exp(B) bound	Exp(B) bound	
	Intercept	-,260	,141	,064				
Misconceptions (rc.: no misconceptions)	**best before = safety limit**	**,602**	,057	**,000**	1,825	1,633	2,040	***
	use by = quality limit	-,079	,068	,247	,924	,808	1,056	
	no food waste	,002	,053	,968	1,002	,904	1,111	
Habits (rc.: not reading)	**Reading expiry dates when shopping crisps**	**,167**	,060	**,005**	1,182	1,051	1,330	**
	Reading expiry dates when shopping muesli	**,137**	,063	**,030**	1,147	1,013	1,298	*
Motives (rc.: rushed quality shopper)	**expert_shopper**	**,169**	,077	**,029**	1,184	1,018	1,378	*
	health_planner	**,186**	,084	**,026**	1,205	1,022	1,421	*
	self_determined_shopper	**-,337**	,087	**,000**	,714	,602	,847	***
	bargain_hunter	**-,269**	,087	**,002**	,764	,645	,906	**
	frustrated_shopper	**-,292**	,089	**,001**	,747	,628	,889	**
Attitudes	Low self-control	,093	,054	,083	1,098	,988	1,220	
	High risk-aversion	**,270**	,068	**,000**	1,310	1,146	1,497	***
Age (rc.: 35-54 years)	Age (18 - 34 years)	-,136	,071	,054	,873	,759	1,003	
	Age (55 and more years)	-,023	,063	,712	,977	,863	1,106	
Gender	**Man**	**,236**	,053	**,000**	1,267	1,142	1,405	***
Income (rc.: 10 000 - 29 999)	Income (0 - 9 999)	,022	,065	,733	1,022	,900	1,161	
	Income (30 000 and more)	**-,143**	,064	**,026**	,867	,765	,983	*
Education (rc.: finished education with 17-22 years)	Still study	**-,248**	,116	**,033**	,781	,622	,980	*
	Education terminal age max. 17	,068	,078	,381	1,070	,919	1,246	
	Education terminal age 22+	**-,151**	,060	**,012**	,860	,765	,967	*
Living status (rc.: singles)	Hh 2+ persons with child.	,025	,074	,733	1,026	,886	1,187	
	Hh 2+ persons without child.	,009	,068	,900	1,009	,883	1,153	
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	-,100	,053	,057	,904	,815	1,003	
Countries (rc.: UK)	**France**	**-,883**	,100	**,000**	,413	,340	,503	***
	Germany	**-,990**	,101	**,000**	,372	,305	,453	***
	Italy	,069	,101	,495	1,071	,879	1,304	
	Spain	**-,564**	,098	**,000**	,569	,469	,689	***
	Finland	,119	,101	,237	1,126	,925	1,372	
	Poland	**,630**	,109	**,000**	1,877	1,517	2,323	***
	Romania	**1,011**	,127	**,000**	2,748	2,142	3,525	***

N = 7717 - Nagelkerke R^2 = 0,201

Model 22 – Online experiments on Food Waste

BINOMINAL LOGISTIC REGRESSION - THROWING AWAY NOT-OUTDATED FOOD

Throwing away not-outdated food		B	Std. error	Sig.	Exp(B)	Exp(B) bound	bound	
	Konstanter Term	**-,858**	,139	**,000**				***
Misconceptions (rc.: no misconceptions)	**best before = safety limit**	**,135**	,056	**,015**	1,145	1,027	1,277	*
	use by = quality limit	,001	,068	,991	1,001	,876	1,144	
	no food waste	-,002	,053	,972	,998	,900	1,107	
Habits (rc.: not reading)	Reading expiry dates when	,038	,058	,510	1,039	,927	1,165	
	Reading expiry dates when	,014	,061	,823	1,014	,899	1,143	
Motives (rc.: rushed quality shopper)	**expert_shopper**	**-,199**	,076	**,008**	,819	,706	,950	**
	health_planner	**-,205**	,081	**,011**	,815	,696	,955	*
	self_determined_shopper	**,167**	,085	**,048**	1,182	1,001	1,395	*
	bargain_hunter	-,074	,086	,386	,928	,785	1,098	
	frustrated_shopper	-,013	,087	,884	,987	,832	1,172	
Attitudes	**Low self-control**	**,223**	,053	**,000**	1,250	1,127	1,387	***
	High risk-aversion	**,152**	,068	**,024**	1,164	1,020	1,329	*
Age (rc.: 35-54 years)	**Age (18 - 34 years)**	**,467**	,067	**,000**	1,595	1,399	1,819	***
	Age (55 and more years)	**-,428**	,062	**,000**	,652	,577	,736	***
Gender	**Man**	**-,170**	,052	**,001**	,844	,763	,934	**
Income (rc.: 10 000 - 29 999)	**Income (0 - 9 999)**	**-,145**	,063	**,021**	,865	,765	,979	*
	Income (30 000 and more)	,095	,063	,132	1,100	,972	1,245	
Education (rc.: finished education with 17-22 years)	Still study	-,095	,109	,387	,910	,734	1,127	
	Education terminal age max. 17	-,050	,080	,534	,951	,813	1,114	
	Education terminal age 22+	,062	,057	,280	1,064	,951	1,191	
Living status (rc.: singles)	Hh 2+ persons with child.	,055	,074	,460	1,056	,913	1,222	
	Hh 2+ persons without	**,148**	,068	**,030**	1,160	1,014	1,326	*
BMI (rc.: BMI under 25)	Overweight (BMI 25+)	,036	,052	,490	1,036	,936	1,147	
Countries (rc.: UK)	France	-,126	,103	,218	,881	,721	1,078	
	Germany	,050	,101	,622	1,051	,862	1,283	
	Italy	-,052	,104	,618	,949	,774	1,164	
	Spain	-,167	,102	,102	,846	,692	1,034	
	Finland	,179	,103	,084	1,196	,976	1,464	
	Poland	,106	,107	,325	1,111	,901	1,371	
	Romania	**,890**	,116	**,000**	2,435	1,940	3,055	***
N = 7717 - Nagelkerke R^2 = 0,084								

Model 23 – Offline store experiments on TFA

BINOMINAL LOGISTIC REGRESSION - INITIAL CHOICE 1 - WITH POLICY OPTIONS

Initial choice 1 = healthier Product B		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
	Intercept	-,829	,473	,080				
Context (rc: biscuits)	**pizza**	**-,841**	**,210**	**,000**	**,431**	**,286**	**,651**	***
	yoghurt	**-,936**	**,234**	**,000**	**,392**	**,248**	**,621**	***
Policy (rc: control group - no TFA info)	**policy1 (with TFA info)**	**,407**	**,175**	**,020**	**1,503**	**1,067**	**2,117**	*
Awareness Q41 (rc: unhealthy)	Saturates = DK/healthy	-,117	,159	,464	,890	,651	1,216	
	PHO = DK/healthy	-,265	,178	,137	,767	,541	1,088	
	TFA = DK/healthy	-,236	,163	,148	,790	,574	1,087	
	Sugar = DK/healthy	,014	,251	,954	1,015	,620	1,659	
	Salt = DK/healthy	,101	,169	,552	1,106	,794	1,541	
Access Q32 (rc: no access)	**Fat**	**2,383**	**,208**	**,000**	**10,841**	**7,207**	**16,308**	***
	Salt	-,528	,316	,095	,590	,318	1,095	
	Sugar	**-1,803**	**,268**	**,000**	**,165**	**,098**	**,278**	***
	Nutrition fact panel	,315	,188	,093	1,371	,948	1,981	
	Ingredients list	,168	,172	,331	1,182	,844	1,657	
	Irrelevant labels or nothing	**-,887**	**,184**	**,000**	**,412**	**,287**	**,591**	***
Observation duration Q4-9 (rc: medium)	short (< 15 seconds)	,292	,181	,106	1,339	,940	1,907	
	long (60 seconds plus)	-,014	,199	,942	,986	,667	1,456	
Shelf behaviour Q10 (rc: grab&go)	reading at shelf before selection to buy	-,312	,202	,123	,732	,492	1,089	
Reading habits at shelf Q25/26 (rc: no reading)	Fat	,071	,283	,802	1,073	,617	1,868	
	Nutrition fact panel	,039	,314	,901	1,040	,562	1,923	
	Sugar	,164	,313	,600	1,179	,638	2,178	
	Ingredients list	**,541**	**,210**	**,010**	**1,718**	**1,139**	**2,591**	*
Influenced by shopping company Q11/12 (rc: alone)	**was influenced**	**,532**	**,231**	**,021**	**1,702**	**1,083**	**2,675**	*
	not influenced	,140	,203	,489	1,151	,774	1,711	
Shopping frequency Q16 (rc: every 2-3 weeks)	less often	,299	,212	,159	1,348	,890	2,042	
	more often	,114	,203	,572	1,121	,754	1,668	
Planned to shop before Q22 (rc: yes)	not planned before	-,120	,165	,465	,887	,642	1,225	
Bought before Q24 (rc: yes)	no, bought first time	,016	,193	,933	1,016	,696	1,484	
Main shopping goal Q28 (rc: not chosen)	I look for food info ...	-,143	,289	,621	,867	,492	1,527	
	I want to get in and out ... as fast as I can	-,135	,280	,629	,874	,505	1,512	
	I want a lot of variety ...	-,203	,216	,348	,816	,534	1,247	
	I like looking for new and ...	-,134	,201	,505	,875	,590	1,296	
Relevance of **health** Q27 (rc: medium)	health impact = weak	-,295	,201	,142	,744	,502	1,104	
	health impact = strong	,223	,200	,265	1,250	,844	1,851	
Relevance of **convenience** Q27 (rc: medium)	**convenience = weak**	**-,519**	**,202**	**,010**	**,595**	**,400**	**,884**	*
	convenience = strong	**-,539**	**,183**	**,003**	**,583**	**,408**	**,834**	**
Gender	man	-,215	,174	,218	,807	,573	1,135	
Age (rc: 35-54 years)	young (16-34 years)	-,139	,192	,470	,871	,598	1,268	
	old (55+ years)	-,059	,211	,779	,943	,624	1,424	
hhsize (rc: 2 persons)	single	,002	,221	,993	1,002	,649	1,546	
	3+ persons	-,071	,184	,698	,931	,650	1,335	
Occupation (rc: part-time)	full-time (AC)	,144	,210	,494	1,155	,765	1,744	
	work_other (EFGHJL)	-,107	,224	,634	,899	,579	1,394	
Education (rc: medium)	low_edu (AB)	,203	,205	,322	1,225	,820	1,832	
	high_edu (EFH)	,051	,177	,774	1,052	,744	1,487	
Income (rc: medium)	low_inc (up to 2000 €)	,218	,215	,310	1,244	,816	1,897	
	high_inc (3000 € plus)	,089	,224	,691	1,093	,704	1,696	
	na_inc (no answer)	,392	,246	,111	1,480	,914	2,398	
N = 1851 - Nagelkerke R^2 = 0,339								

Model 24 – Offline store experiments on TFA

BINOMINAL LOGISTIC REGRESSION - INITIAL CHOICE 1 - WITHOUT POLICY

Initial choice 1 = healthier Product B		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
	Intercept	-,509	,452	,260				
Context (rc: biscuits)	**pizza**	**-,811**	**,210**	**,000**	**,444**	**,294**	**,671**	***
	yoghurt	**-,976**	**,233**	**,000**	**,377**	**,239**	**,595**	***
Awareness Q41 (rc: unhealthy)	Saturates = DK/healthy	-,123	,159	,442	,885	,647	1,209	
	PHO = DK/healthy	-,250	,178	,160	,778	,549	1,104	
	TFA = DK/healthy	-,235	,163	,148	,791	,575	1,087	
	Sugar = DK/healthy	-,020	,250	,937	,980	,601	1,600	
	Salt = DK/healthy	,120	,169	,476	1,128	,810	1,569	
Access Q32 (rc: no access)	**Fat**	**2,362**	**,208**	**,000**	**10,608**	**7,056**	**15,946**	***
	Salt	-,598	,315	,058	,550	,296	1,020	
	Sugar	**-1,783**	**,267**	**,000**	**,168**	**,100**	**,284**	***
	Nutrition fact panel	,250	,186	,179	1,284	,892	1,847	
	Ingredients list	,125	,171	,467	1,133	,810	1,585	
	Irrelevant labels or nothing	**-,853**	**,184**	**,000**	**,426**	**,297**	**,611**	***
Observation duration Q4-9	short (< 15 seconds)	,253	,179	,157	1,288	,907	1,829	
	long (60 seconds plus)	,012	,199	,951	1,012	,685	1,495	
Shelf behaviour Q10 (rc: grab&go)	reading at shelf before selection to buy	-,301	,202	,136	,740	,498	1,099	
Reading habits at shelf Q25/26 (rc: no reading)	Fat	,101	,282	,720	1,106	,637	1,921	
	Nutrition fact panel	-,008	,314	,979	,992	,536	1,834	
	Sugar	,217	,312	,486	1,243	,675	2,288	
	Ingredients list	**,555**	**,209**	**,008**	**1,743**	**1,156**	**2,626**	**
Influenced by shopping company Q11/12 (rc: alone)	**was influenced**	**,510**	**,230**	**,027**	**1,665**	**1,060**	**2,615**	*
	not influenced	,128	,203	,529	1,136	,764	1,690	
Shopping frequency Q16 (rc: every 2-3 weeks)	less often	,279	,212	,187	1,322	,873	2,001	
	more often	,140	,202	,490	1,150	,774	1,708	
Planned to shop before Q22 (rc:	not planned before	-,103	,164	,533	,903	,654	1,245	
Bought before Q24 (rc: yes)	no, bought first time	,042	,193	,829	1,043	,715	1,521	
Main shopping goal Q28 (rc: not chosen)	I look for food info …	-,161	,288	,576	,851	,483	1,498	
	I want to get in and out ... as fast as I can	-,166	,279	,552	,847	,490	1,463	
	I want a lot of variety …	-,247	,216	,253	,781	,512	1,192	
	I like looking for new and …	-,139	,200	,488	,870	,588	1,289	
Relevance of **health** Q27 (rc:	health impact = weak	-,310	,201	,124	,734	,495	1,088	
	health impact = strong	,216	,200	,279	1,241	,839	1,837	
Relevance of **convenience** Q27 (rc: medium)	**convenience = weak**	**-,540**	**,202**	**,007**	**,583**	**,392**	**,866**	**
	convenience = strong	**-,528**	**,182**	**,004**	**,590**	**,413**	**,843**	**
Gender	man	-,185	,173	,285	,831	,592	1,167	
Age (rc: 35-54 years)	young (16-34 years)	-,124	,191	,516	,883	,607	1,285	
	old (55+ years)	-,045	,210	,830	,956	,633	1,443	
hhsize (rc: 2 persons)	single	-,005	,221	,983	,995	,646	1,535	
	3+ persons	-,084	,183	,646	,919	,642	1,316	
Occupation (rc: part-time)	full-time (AC)	,119	,209	,571	1,126	,747	1,697	
	work_other (EFGHJL)	-,144	,223	,519	,866	,559	1,342	
Education (rc: medium)	low_edu (AB)	,171	,205	,403	1,186	,795	1,772	
	high_edu (EFH)	,070	,176	,689	1,073	,760	1,515	
Income (rc: medium)	low_inc (up to 2000 €)	,203	,215	,345	1,225	,804	1,867	
	high_inc (3000 € plus)	,113	,223	,614	1,119	,723	1,734	
	na_inc (no answer)	,373	,246	,130	1,452	,896	2,353	
N = 1851 - Nagelkerke R^2 = 0,335								

Model 25 – Offline store experiments on TFA

BINOMINAL LOGISTIC REGRESSION - INITIAL CHOICE 2 - WITH POLICY

Initial choice 2 = healthier Product X		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
	Intercept	,406	,407	,319				
Context (rc: biscuits)	**pizza**	**-,990**	**,191**	**,000**	**,372**	**,256**	**,540**	***
	yoghurt	**-,917**	**,179**	**,000**	**,400**	**,281**	**,568**	***
Policy (rc: control group - no TFA info)	policy1 (with TFA info)	,058	,145	,691	1,059	,797	1,408	
Awareness Q41 (rc: unhealthy)	Saturates = DK/healthy	-,248	,134	,064	,780	,600	1,015	
	PHO = DK/healthy	,081	,146	,578	1,084	,815	1,442	
	TFA = DK/healthy	,207	,144	,151	1,231	,927	1,633	
	Sugar = DK/healthy	**-,505**	**,227**	**,026**	**,604**	**,387**	**,941**	*
	Salt = DK/healthy	-,099	,143	,490	,906	,684	1,200	
Access Q32 (rc: no access)	**Fat**	**,505**	**,183**	**,006**	**1,657**	**1,157**	**2,372**	**
	Salt	**3,088**	**,306**	**,000**	**21,931**	**12,035**	**39,963**	***
	Sugar	**2,179**	**,201**	**,000**	**8,838**	**5,965**	**13,097**	***
	Nutrition fact panel	**,926**	**,158**	**,000**	**2,525**	**1,851**	**3,444**	***
	Ingredients list	**-,934**	**,158**	**,000**	**,393**	**,288**	**,536**	***
	Irrelevant labels or nothing	**-,845**	**,154**	**,000**	**,430**	**,318**	**,581**	***
Observation duration Q4-9	short (< 15 seconds)	,136	,159	,392	1,146	,839	1,564	
	long (60 seconds plus)	-,062	,164	,705	,940	,682	1,295	
Shelf behaviour Q10 (rc: grab&go)	reading at shelf before selection to buy	-,151	,159	,344	,860	,630	1,175	
Reading habits at shelf Q25/26 (rc: no reading)	Fat	-,036	,238	,880	,965	,605	1,539	
	Nutrition fact panel	,219	,279	,433	1,245	,720	2,153	
	Sugar	-,131	,286	,648	,878	,501	1,537	
	Ingredients list	-,009	,208	,967	,991	,660	1,490	
Influenced by shopping company Q11/12 (rc: alone)	was influenced	,008	,205	,969	1,008	,674	1,508	
	not influenced	,140	,173	,418	1,150	,820	1,614	
Shopping frequency Q16 (rc: every 2-3 weeks)	less often	-,021	,195	,913	,979	,668	1,435	
	more often	,007	,174	,969	1,007	,716	1,416	
Planned to shop before Q22 (rc:	not planned before	-,159	,144	,270	,853	,643	1,131	
Bought before Q24 (rc: yes)	no, bought first time	-,123	,165	,456	,884	,640	1,221	
Main shopping goal Q28 (rc: not chosen)	I look for food info …	,348	,255	,172	1,416	,859	2,335	
	I want to get in and out ... as fast as I can	-,195	,248	,432	,823	,506	1,337	
	I want a lot of variety …	**,399**	**,180**	**,027**	**1,491**	**1,047**	**2,123**	*
	I like looking for new and …	,136	,176	,440	1,146	,811	1,619	
Relevance of **health** Q27 (rc:	**health impact = weak**	**-,376**	**,169**	**,026**	**,686**	**,493**	**,955**	*
	health impact = strong	-,247	,172	,151	,781	,558	1,094	
Relevance of **convenience** Q27 (rc: medium)	convenience = weak	,236	,176	,181	1,266	,896	1,787	
	convenience = strong	,084	,164	,607	1,088	,789	1,499	
Gender	man	-,266	,149	,073	,766	,572	1,025	
Age (rc: 35-54 years)	young (16-34 years)	,213	,163	,192	1,237	,899	1,703	
	old (55+ years)	-,114	,182	,532	,893	,625	1,275	
hhsize (rc: 2 persons)	**single**	**-,580**	**,201**	**,004**	**,560**	**,378**	**,830**	**
	3+ persons	-,222	,155	,153	,801	,591	1,086	
Occupation (rc: part-time)	full-time (AC)	,029	,178	,869	1,030	,727	1,458	
	work_other (EFGHJL)	-,037	,188	,842	,963	,666	1,393	
Education (rc: medium)	**low_edu (AB)**	**-,378**	**,180**	**,036**	**,685**	**,481**	**,976**	*
	high_edu (EFH)	-,069	,149	,643	,933	,698	1,249	
Income (rc: medium)	low_inc (up to 2000 €)	-,202	,185	,275	,817	,569	1,174	
	high_inc (3000 € plus)	-,092	,182	,614	,912	,638	1,304	
	na_inc (no answer)	-,166	,214	,438	,847	,558	1,288	
N = 1851 - Nagelkerke R^2 = 0,502								

Model 26 – Offline store experiments on TFA

BINOMINAL LOGISTIC REGRESSION - INITIAL CHOICE 2 - WITHOUT POLICY

Initial choice 2 = healthier Product X		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
	Intercept	,455	,389	,242				
Context (rc: biscuits)	**pizza**	**-,988**	**,191**	**,000**	**,372**	**,256**	**,541**	***
	yoghurt	**-,925**	**,178**	**,000**	**,397**	**,280**	**,563**	***
Awareness Q41 (rc: unhealthy)	Saturates = DK/healthy	-,248	,134	,064	,780	,600	1,015	
	PHO = DK/healthy	,082	,146	,575	1,085	,816	1,443	
	TFA = DK/healthy	,207	,144	,151	1,230	,927	1,633	
	Sugar = DK/healthy	**-,510**	**,227**	**,024**	**,601**	**,385**	**,937**	*
	Salt = DK/healthy	-,098	,143	,495	,907	,685	1,201	
Access Q32 (rc: no access)	**Fat**	**,499**	**,183**	**,006**	**1,647**	**1,152**	**2,357**	**
	Salt	**3,081**	**,306**	**,000**	**21,784**	**11,964**	**39,665**	***
	Sugar	**2,177**	**,201**	**,000**	**8,820**	**5,953**	**13,068**	***
	Nutrition fact panel	**,920**	**,157**	**,000**	**2,508**	**1,842**	**3,416**	***
	Ingredients list	**-,942**	**,157**	**,000**	**,390**	**,287**	**,530**	***
	Irrelevant labels or nothing	**-,841**	**,154**	**,000**	**,431**	**,319**	**,583**	***
Observation duration Q4-9	short (< 15 seconds)	,131	,158	,408	1,140	,836	1,555	
	long (60 seconds plus)	-,059	,163	,720	,943	,685	1,299	
Shelf behaviour Q10 (rc: grab&go)	reading at shelf before selection to buy	-,148	,159	,351	,862	,631	1,177	
Reading habits at shelf Q25/26 (rc: no reading)	Fat	-,030	,238	,899	,970	,609	1,547	
	Nutrition fact panel	,215	,280	,441	1,240	,717	2,145	
	Sugar	-,124	,285	,664	,883	,505	1,546	
	Ingredients list	-,005	,208	,981	,995	,663	1,495	
Influenced by shopping company Q11/12 (rc: alone)	was influenced	,007	,205	,974	1,007	,673	1,506	
	not influenced	,141	,173	,415	1,151	,821	1,616	
Shopping frequency Q16 (rc: every 2-3 weeks)	less often	-,025	,195	,897	,975	,666	1,428	
	more often	,010	,174	,954	1,010	,719	1,420	
Planned to shop before Q22 (rc:	not planned before	-,158	,144	,272	,854	,644	1,132	
Bought before Q24 (rc: yes)	no, bought first time	-,118	,164	,472	,888	,644	1,226	
Main shopping goal Q28 (rc: not chosen)	I look for food info ...	,347	,255	,173	1,415	,858	2,333	
	I want to get in and out ... as fast as I can	-,197	,248	,426	,821	,505	1,334	
	I want a lot of variety ...	**,395**	**,180**	**,028**	**1,484**	**1,043**	**2,112**	*
	I like looking for new and ...	,135	,176	,444	1,144	,810	1,617	
Relevance of **health** Q27 (rc:	**health impact = weak**	**-,378**	**,169**	**,025**	**,685**	**,492**	**,953**	*
	health impact = strong	-,248	,172	,149	,780	,557	1,093	
Relevance of **convenience** Q27 (rc: medium)	convenience = weak	,233	,176	,185	1,262	,894	1,782	
	convenience = strong	,084	,164	,606	1,088	,790	1,500	
Gender	man	-,263	,149	,076	,769	,574	1,028	
Age (rc: 35-54 years)	young (16-34 years)	,214	,163	,189	1,239	,900	1,705	
	old (55+ years)	-,113	,182	,536	,893	,625	1,276	
hhsize (rc: 2 persons)	**single**	**-,581**	**,201**	**,004**	**,559**	**,378**	**,829**	**
	3+ persons	-,223	,155	,150	,800	,590	1,084	
Occupation (rc: part-time)	full-time (AC)	,025	,177	,889	1,025	,724	1,450	
	work_other (EFGHJL)	-,042	,188	,825	,959	,664	1,386	
Education (rc: medium)	**low_edu (AB)**	**-,381**	**,180**	**,034**	**,683**	**,480**	**,972**	*
	high_edu (EFH)	-,067	,148	,652	,935	,699	1,251	
Income (rc: medium)	low_inc (up to 2000 €)	-,204	,185	,270	,816	,568	1,171	
	high_inc (3000 € plus)	-,091	,182	,619	,913	,639	1,305	
	na_inc (no answer)	-,169	,213	,427	,844	,556	1,282	
N = 1851 - Nagelkerke R^2 = 0,501								

Model 27 – Offline store experiments on TFA

BINOMINAL LOGISTIC REGRESSION WITHOUT INTERACTIONS - HEALTHY CHOICE 1 - WITH POLICIES

Healthy choice 1 = Product B		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
	Intercept	-,771	,346	,026				
Context (rc: biscuits)	pizza	,175	,145	,227	1,192	,897	1,584	
	yoghurt	**1,505**	**,163**	**,000**	**4,502**	**3,272**	**6,195**	***
Policy (rc: control group - no TFA info)	**TFA info without education**	**,275**	**,132**	**,037**	**1,316**	**1,017**	**1,703**	*
	TFA info with short education (< 45 seconds)	**,421**	**,173**	**,015**	**1,523**	**1,085**	**2,138**	*
	TFA info with long education (45+ seconds)	**,837**	**,162**	**,000**	**2,310**	**1,682**	**3,173**	***
Awareness Q41 (rc: unhealthy)	Saturates = DK/healthy	-,204	,110	,063	,815	,658	1,011	
	PHO = DK/healthy	**-,276**	**,120**	**,022**	**,759**	**,599**	**,961**	*
	TFA = DK/healthy	-,189	,116	,104	,828	,659	1,039	
	Sugar = DK/healthy	-,066	,177	,707	,936	,662	1,323	
	Salt = DK/healthy	,053	,119	,657	1,054	,835	1,331	
Access Q53 (rc: no access)	Education	,194	,292	,506	1,214	,685	2,153	
	Ingredients list	**-,331**	**,131**	**,012**	**,718**	**,555**	**,929**	*
	Nutrition fact panel	**,558**	**,159**	**,000**	**1,747**	**1,280**	**2,386**	***
	Irrelevant areas or none	**-,632**	**,165**	**,000**	**,532**	**,385**	**,734**	***
Observation duration Q4-9	short (< 15 seconds)	-,064	,132	,627	,938	,724	1,215	
	long (60 seconds plus)	-,165	,135	,221	,848	,651	1,104	
Shelf behaviour Q10 (rc: grab & go)	reading at shelf before selection to buy	,165	,130	,202	1,180	,915	1,520	
Reading habits at shelf Q25/26 (rc: no reading)	Fat	,160	,197	,416	1,174	,798	1,727	
	Nutrition fact panel	-,237	,246	,334	,789	,488	1,277	
	Sugar	-,190	,236	,420	,827	,521	1,312	
	Ingredients list	,140	,166	,398	1,150	,831	1,592	
Influenced by shopping company Q11/12 (rc: alone)	was influenced	,089	,166	,592	1,093	,790	1,513	
	not influenced	-,044	,142	,755	,957	,724	1,264	
Shopping frequency Q16 (rc: every 2-3 weeks)	less often	,127	,154	,408	1,136	,840	1,536	
	more often	-,149	,141	,290	,862	,654	1,135	
Planned to shop before Q22 (rc: yes)	not planned before	,125	,116	,284	1,133	,902	1,423	
Bought before Q24 (rc: yes)	no, bought first time	,063	,132	,631	1,066	,823	1,380	
Main shopping goal Q28 (rc: not chosen)	I look for food info …	,054	,212	,797	1,056	,697	1,599	
	I want to get in and out ... as fast as I can	,025	,194	,898	1,025	,702	1,498	
	I want a lot of variety …	,022	,146	,882	1,022	,767	1,361	
	I like looking for new and …	-,146	,141	,301	,865	,656	1,139	
Relevance of **health** Q27 (rc:	health impact = weak	-,206	,136	,128	,813	,623	1,061	
	health impact = strong	,010	,140	,946	1,010	,767	1,330	
Relevance of **convenience** Q27 (rc: medium)	convenience = weak	**-,447**	**,146**	**,002**	**,639**	**,480**	**,852**	**
	convenience = strong	**-,319**	**,132**	**,016**	**,727**	**,561**	**,942**	*
Gender	**man**	**-,243**	**,119**	**,041**	**,784**	**,621**	**,990**	*
Age (rc: 35-54 years)	young (16-34 years)	,225	,133	,091	1,252	,965	1,625	
	old (55+ years)	,020	,148	,892	1,020	,763	1,365	
hhsize (rc: 2 persons)	single	,202	,156	,195	1,224	,901	1,662	
	3+ persons	-,057	,127	,656	,945	,736	1,213	
Occupation (rc: part-time)	full-time (AC)	-,057	,146	,699	,945	,710	1,258	
	work_other (EFGHJL)	,140	,157	,372	1,150	,846	1,564	
Education (rc: medium)	low_edu (AB)	,015	,145	,917	1,015	,764	1,348	
	high_edu (EFH)	,083	,121	,495	1,086	,857	1,377	
Income (rc: medium)	low_inc (up to 2000 €)	-,120	,148	,416	,887	,664	1,184	
	high_inc (3000 € plus)	,196	,147	,182	1,217	,912	1,622	
	na_inc (no answer)	,022	,178	,902	1,022	,722	1,448	
N = 1851 - Nagelkerke R^2 = 0,183								

Model 28 – Offline store experiments on TFA

BINOMINAL LOGISTIC REGRESSION WITHOUT INTERACTIONS
- HEALTHY CHOICE 1 - WITHOUT POLICIES

Healthy choice 1 = Product B		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
	Intercept	-,360	,326	,269				
Context (rc: biscuits)	pizza	,183	,143	,201	1,201	,907	1,589	
	yoghurt	**1,448**	**,161**	**,000**	**4,255**	**3,105**	**5,830**	***
Awareness Q41 (rc: unhealthy)	Saturates = DK/healthy	-,205	,109	,060	,815	,658	1,009	
	PHO = DK/healthy	**-,256**	**,119**	**,032**	**,774**	**,613**	**,978**	*
	TFA = DK/healthy	-,202	,115	,079	,817	,652	1,024	
	Sugar = DK/healthy	-,109	,175	,535	,897	,637	1,264	
	Salt = DK/healthy	,074	,118	,530	1,077	,855	1,357	
Access Q53 (rc: no access)	**Education**	**,580**	**,280**	**,038**	**1,786**	**1,032**	**3,090**	*
	Ingredients list	**-,393**	**,128**	**,002**	**,675**	**,525**	**,868**	**
	Nutrition fact panel	**,503**	**,156**	**,001**	**1,654**	**1,219**	**2,244**	**
	Irrelevant areas or none	**-,655**	**,162**	**,000**	**,520**	**,378**	**,714**	***
Observation duration Q4-9	short (< 15 seconds)	-,130	,131	,320	,878	,680	1,134	
	long (60 seconds plus)	-,108	,133	,414	,897	,692	1,164	
Shelf behaviour Q10 (rc: grab & go)	reading at shelf before selection to buy	,192	,128	,131	1,212	,944	1,556	
Reading habits at shelf Q25/26 (rc: no reading)	Fat	,217	,194	,264	1,242	,849	1,817	
	Nutrition fact panel	-,269	,241	,264	,764	,476	1,225	
	Sugar	-,124	,231	,593	,884	,562	1,390	
	Ingredients list	,185	,164	,260	1,203	,872	1,658	
Influenced by shopping company Q11/12 (rc: alone)	was influenced	,091	,164	,578	1,095	,795	1,510	
	not influenced	-,059	,141	,673	,942	,715	1,241	
Shopping frequency Q16 (rc: every 2-3 weeks)	less often	,108	,153	,480	1,114	,826	1,502	
	more often	-,126	,140	,368	,882	,671	1,160	
Planned to shop before Q22 (rc: yes)	not planned before	,145	,116	,210	1,156	,921	1,450	
Bought before Q24 (rc: yes)	no, bought first time	,094	,131	,472	1,099	,850	1,420	
Main shopping goal Q28 (rc: not chosen)	I look for food info ...	,050	,208	,809	1,052	,699	1,582	
	I want to get in and out ... as fast as I can	,016	,191	,935	1,016	,698	1,477	
	I want a lot of variety ...	-,028	,145	,847	,973	,732	1,291	
	I like looking for new and ...	-,159	,140	,254	,853	,649	1,121	
Relevance of **health** Q27 (rc:	health impact = weak	-,247	,135	,066	,781	,600	1,017	
	health impact = strong	-,006	,139	,968	,995	,757	1,306	
Relevance of **convenience** Q27 (rc: medium)	**convenience = weak**	**-,478**	**,145**	**,001**	**,620**	**,467**	**,824**	**
	convenience = strong	**-,337**	**,131**	**,010**	**,714**	**,553**	**,923**	*
Gender	man	-,229	,118	,052	,795	,631	1,002	
Age (rc: 35-54 years)	young (16-34 years)	,235	,132	,076	1,264	,976	1,638	
	old (55+ years)	,033	,147	,824	1,033	,774	1,379	
hhsize (rc: 2 persons)	single	,199	,155	,199	1,220	,901	1,653	
	3+ persons	-,051	,126	,688	,951	,743	1,216	
Occupation (rc: part-time)	full-time (AC)	-,102	,144	,480	,903	,681	1,198	
	work_other (EFGHJL)	,099	,155	,521	1,104	,815	1,496	
Education (rc: medium)	low_edu (AB)	,009	,143	,948	1,009	,762	1,337	
	high_edu (EFH)	,094	,120	,435	1,098	,868	1,389	
Income (rc: medium)	low_inc (up to 2000 €)	-,136	,146	,351	,872	,655	1,162	
	high_inc (3000 € plus)	,228	,146	,118	1,256	,944	1,670	
	na_inc (no answer)	-,006	,175	,975	,994	,706	1,401	

N = 1851 - Nagelkerke R^2 = 0,165

Model 29 – Offline store experiments on TFA

BINOMINAL LOGISTIC REGRESSION WITHOUT INTERACTIONS - HEALTHY CHOICE 2 - WITH POLICIES

Healthy choice 2 = Product X[a]		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
	Intercept	-,355	,404	,379				
Context (rc: biscuits)	**pizza**	**-,647**	**,171**	**,000**	**,523**	**,375**	**,731**	***
	yoghurt	**-1,123**	**,177**	**,000**	**,325**	**,230**	**,460**	***
Policy (rc: control group - no TFA info)	TFA info without education	,086	,150	,567	1,090	,811	1,464	
	TFA info with short education (< 45 seconds)	**-,408**	**,198**	**,039**	**,665**	**,451**	**,980**	*
	TFA info with long education (45+ seconds)	,170	,188	,367	1,185	,819	1,715	
Awareness Q41 (rc: unhealthy)	Saturates = DK/healthy	,034	,127	,788	1,035	,807	1,328	
	PHO = DK/healthy	,139	,139	,316	1,149	,875	1,509	
	TFA = DK/healthy	,012	,136	,927	1,012	,776	1,321	
	Sugar = DK/healthy	**-,410**	**,200**	**,041**	**,664**	**,448**	**,984**	*
	Salt = DK/healthy	-,151	,137	,272	,860	,657	1,126	
Access Q48 (rc: no access)	Education	,021	,333	,949	1,021	,532	1,961	
	Ingredients list	**-,417**	**,140**	**,003**	**,659**	**,501**	**,868**	**
	Nutrition fact panel	**2,334**	**,180**	**,000**	**10,315**	**7,246**	**14,683**	***
	Irrelevant areas or none	**-,879**	**,176**	**,000**	**,415**	**,294**	**,586**	***
Observation duration Q4-9	short (< 15 seconds)	,034	,151	,820	1,035	,770	1,392	
	long (60 seconds plus)	,043	,158	,786	1,044	,766	1,423	
Shelf behaviour Q10 (rc: grab & go)	reading at shelf before selection to buy	-,130	,151	,390	,878	,652	1,181	
Reading habits at shelf Q25/26 (rc: no reading)	Fat	-,143	,230	,533	,866	,552	1,360	
	Nutrition fact panel	-,130	,273	,634	,878	,514	1,499	
	Sugar	,308	,275	,263	1,361	,793	2,334	
	Ingredients list	-,002	,196	,990	,998	,679	1,466	
Influenced by shopping company Q11/12 (rc: alone)	was influenced	-,063	,193	,744	,939	,643	1,371	
	not influenced	,271	,167	,105	1,311	,945	1,818	
Shopping frequency Q16 (rc: every 2-3 weeks)	less often	-,167	,177	,345	,846	,598	1,197	
	more often	,047	,165	,776	1,048	,758	1,448	
Planned to shop before Q22 (rc: yes)	not planned before	-,022	,135	,870	,978	,750	1,275	
Bought before Q24 (rc: yes)	no, bought first time	,188	,156	,229	1,207	,888	1,640	
Main shopping goal Q28 (rc: not chosen)	I look for food info …	-,086	,243	,725	,918	,570	1,478	
	I want to get in and out ... as fast as I can	-,378	,220	,085	,685	,446	1,054	
	I want a lot of variety …	-,149	,172	,387	,862	,615	1,207	
	I like looking for new and …	-,236	,166	,153	,790	,571	1,092	
Relevance of **health** Q27 (rc:	health impact = weak	-,297	,161	,065	,743	,542	1,018	
	health impact = strong	-,157	,167	,347	,855	,617	1,185	
Relevance of **convenience** Q27 (rc: medium)	convenience = weak	,122	,170	,472	1,130	,810	1,576	
	convenience = strong	-,073	,155	,635	,929	,686	1,258	
Gender	**man**	**-,271**	**,138**	**,049**	**,762**	**,582**	**,999**	*
Age (rc: 35-54 years)	young (16-34 years)	,240	,153	,118	1,271	,941	1,717	
	old (55+ years)	-,019	,170	,909	,981	,703	1,368	
hhsize (rc: 2 persons)	single	-,275	,182	,130	,760	,532	1,084	
	3+ persons	-,071	,147	,628	,931	,698	1,242	
Occupation (rc: part-time)	full-time (AC)	,244	,171	,154	1,276	,912	1,784	
	work_other (EFGHJL)	-,148	,179	,408	,862	,607	1,225	
Education (rc: medium)	low_edu (AB)	,224	,168	,182	1,251	,900	1,740	
	high_edu (EFH)	,250	,143	,080	1,284	,971	1,698	
Income (rc: medium)	low_inc (up to 2000 €)	,027	,170	,876	1,027	,735	1,435	
	high_inc (3000 € plus)	,246	,175	,160	1,279	,907	1,803	
	na_inc (no answer)	-,285	,203	,161	,752	,505	1,120	
N = 1851 - Nagelkerke R^2 = 0,464								

Model 30 – Offline store experiments on TFA

BINOMINAL LOGISTIC REGRESSION WITHOUT INTERACTIONS - HEALTHY CHOICE 2 - WITHOUT POLICIES

Healthy choice 2 = Product X[a]		B	Std. error	Sig.	Exp(B)	95% conf. interval for Exp(B) lower bound	upper bound	
	Intercept	-,383	,387	,321				
Context (rc: biscuits)	**pizza**	**-,696**	**,169**	**,000**	**,498**	**,358**	**,694**	***
	yoghurt	**-1,142**	**,176**	**,000**	**,319**	**,226**	**,451**	***
Awareness Q41 (rc: unhealthy)	Saturates = DK/healthy	,037	,127	,769	1,038	,810	1,331	
	PHO = DK/healthy	,127	,139	,359	1,136	,865	1,491	
	TFA = DK/healthy	,022	,135	,872	1,022	,784	1,332	
	Sugar = DK/healthy	**-,417**	**,201**	**,037**	**,659**	**,445**	**,976**	*
	Salt = DK/healthy	-,162	,137	,237	,851	,651	1,112	
Access Q48 (rc: no access)	Education	,038	,318	,906	1,038	,557	1,936	
	Ingredients list	**-,408**	**,138**	**,003**	**,665**	**,508**	**,870**	**
	Nutrition fact panel	**2,360**	**,179**	**,000**	**10,594**	**7,461**	**15,042**	***
	Irrelevant areas or none	**-,872**	**,175**	**,000**	**,418**	**,297**	**,590**	***
Observation duration Q4-9	short (< 15 seconds)	,033	,150	,827	1,033	,770	1,387	
	long (60 seconds plus)	,067	,157	,669	1,069	,786	1,455	
Shelf behaviour Q10 (rc: grab & go)	reading at shelf before selection to buy	-,153	,150	,308	,858	,639	1,152	
Reading habits at shelf Q25/26 (rc: no reading)	Fat	-,152	,228	,505	,859	,549	1,343	
	Nutrition fact panel	-,163	,271	,547	,850	,500	1,444	
	Sugar	,317	,274	,248	1,373	,802	2,349	
	Ingredients list	,003	,195	,989	1,003	,684	1,470	
Influenced by shopping company Q11/12 (rc: alone)	was influenced	-,088	,192	,649	,916	,628	1,336	
	not influenced	,289	,166	,082	1,335	,964	1,850	
Shopping frequency Q16 (rc: every 2-3 weeks)	less often	-,147	,177	,404	,863	,610	1,220	
	more often	,049	,164	,763	1,051	,762	1,448	
Planned to shop before Q22 (rc: yes)	not planned before	-,030	,135	,823	,970	,745	1,263	
Bought before Q24 (rc: yes)	no, bought first time	,198	,156	,204	1,219	,898	1,655	
Main shopping goal Q28 (rc: not chosen)	I look for food info ...	-,053	,242	,828	,949	,591	1,524	
	I want to get in and out ... as fast as I can	-,371	,218	,089	,690	,450	1,059	
	I want a lot of variety ...	-,134	,171	,431	,874	,626	1,222	
	I like looking for new and ...	-,215	,165	,193	,807	,584	1,114	
Relevance of **health** Q27 (rc: medium)	health impact = weak	-,299	,160	,062	,742	,542	1,015	
	health impact = strong	-,166	,167	,320	,847	,611	1,174	
Relevance of **convenience** Q27 (rc: medium)	convenience = weak	,134	,169	,428	1,143	,821	1,592	
	convenience = strong	-,051	,154	,739	,950	,703	1,284	
Gender	man	-,261	,137	,057	,770	,588	1,008	
Age (rc: 35-54 years)	young (16-34 years)	,244	,153	,110	1,277	,946	1,723	
	old (55+ years)	,006	,169	,974	1,006	,721	1,402	
hhsize (rc: 2 persons)	single	-,295	,181	,102	,745	,523	1,061	
	3+ persons	-,081	,146	,577	,922	,692	1,227	
Occupation (rc: part-time)	full-time (AC)	,262	,170	,123	1,299	,931	1,812	
	work_other (EFGHJL)	-,153	,178	,390	,858	,605	1,217	
Education (rc: medium)	low_edu (AB)	,234	,167	,162	1,263	,910	1,754	
	high_edu (EFH)	,221	,142	,118	1,248	,945	1,647	
Income (rc: medium)	low_inc (up to 2000 €)	,025	,170	,883	1,025	,735	1,430	
	high_inc (3000 € plus)	,232	,174	,183	1,261	,896	1,774	
	na_inc (no answer)	-,273	,202	,177	,761	,512	1,131	
N = 1851 - Nagelkerke R^2 = 0,460								