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Food Scares: Reflections and Reactions

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ABSTRACT

The aim of this study is to investigate consumers' reflections and reactions to a food scare news story. Previous studies indicate that risk communication not always is able to influence people's behavior and that pre-existing attitudes may influence people's reactions and reflections. In this study, we investigate how consumers critically reflect and emotionally react to a food scare, here defined as risk communication that spirals public anxiety over food safety incidents, and leads to an unwanted escalation in media attention.

Fall 2014, a researcher from the Norwegian Institute of Public Health said in a newspaper interview that she never touched chicken with her bare hands. This interview was the beginning of a media storm, which resulted in a dramatic drop in sales of chicken. In this study, we explore a small group of consumers' reflections and reactions to this news article. Data from five focus group interviews with Norwegian consumers of chicken were transcribed, content analyzed, and coded, before we conducted a multiple correspondence analysis and a hierarchical cluster analysis in JMP Pro 12. The findings indicate that consumers do reflect when confronted with a food scare story. Some question the research behind the news, others compare the food scare's danger to other risks. Even though consumers do reflect around the facts in the food scare article, their emotions seem to affect their behavior more systematic than their reflections.

Keywords: *Food Scare, Consumer Behavior, Antibiotic resistance, Reflections, Emotions*

1 Introduction

Under food safety threats, authorities deem risk communication with consumers to be important. They wish to reduce negative consequences by disseminating scientifically based knowledge of the hazards and inform about the likely health consequences. Authorities also want to advice consumers how to handle the risk. However, if not handled properly, risk communication can result in a so-called food scare. Sometimes well-meant risk communication spirals public anxiety over food safety incidents, and leads to an escalation in media attention, and, consequently, in a food scare (Knowles, Moody, McEacharm, 2016).

Risk communication is an integral part of both national and international food safety systems, and is ideally a dialogue between authorities, consumers, industry, the academic community, and other parties

interested in food hazards and risks (Codex Alimentarius. 2007. CAC/GL 62-2007 Working principles for Risk analysis for food safety for application by Governments. www.fao.org). The European Food Safety Agency's (EFSA) advisory group on risk communication states that risk communication needs to provide information on hazards and risks to the public, as well as inform about the process of conducting risk assessments and risk management decisions (EFSA, 2012). They suggest that the assessed risk (the likelihood that someone could be harmed by being exposed to "something" in their diet) should be communicated as *none/negligible, low, medium, high or unknown*. The risk management process does not only take into consideration the assessed risk and uncertainties, but also economic consequences of alternative managing strategies. Thus, risk communication aims to make value chain members (including consumers) able to make a balanced judgment about the risk, taking into consideration both their own and the society's interests and values. In ambiguous situations, for example when there is a conflict between long-term consequences for the society (combating antibiotic resistance) and short term consequences for the individual (an acute situation demanding behavioral change), one may question if we understand consumers' behavior sufficiently to be able to inform without creating unnecessary scares. In this paper, we want to increase our understanding of how consumers respond to food scares. We will do so by exploring how a small group of people reflect and react when exposed to a food scare news article.

1.1 Food Scare Reflections

Mark Twain once said that "A lie can get halfway around the world before the truth can even get its boots on" (Heath and Heath, 2007). A catchy food scare story, a story with all the right ingredients may have a stronger ability to change behavior than a story with more balanced and scientifically correct information. Studies of consumers' attitudes towards genetically modified (GM) products have found that information proclaiming GM benefits have a negative effect on consumers' probability to choose a GM product (Scholderer and Frewer, 2003). According to the authors, one plausible explanation for this observed negative effect is that the information material made consumers' pre-existing attitudes more accessible. Giving a person with negative attitudes towards GM information about the health or sustainability benefits from GM, makes the negative attitudes even stronger. Pre-existing negative attitude structures seem to be so strong that they override any (also positive and neutral) given external information.

With food scares, the information offered is not beneficial, but risk related. However, if the argumentation presented in Scholderer and Frewer (2003) holds, we can expect food scare information to also make pre-existing attitudes more accessible, and thereby trigger action in the attitudes' direction. Food scare information should make a person with positive attitudes more likely to accept supporting information, while the opposite could be the case for a person with negative attitudes. Following this argument, we expect food scare information to trigger both beliefs (acceptance of the argument offered) and disbeliefs (skepticisms towards the argument). In this study, we want to explore how people reflect when exposed to information about a food scare story.

1.2 Food Scare Reactions

Within risk literature (see the discussion of emotions and risk in Kahnemann, 2011, p. 137-140), affect is described as a heuristic that influences people's judgments and decisions. People consult their feelings when forming opinions and making choices. The easy question "How do I feel about it?" serves as an answer to the much harder question "What do I think about it?". In a demonstration of the affect heuristic, Alhakami and Slovic (1994) found that when people were favorably disposed towards a technology (water fluoridation, chemical plants, food preservatives, cars etc.), they rated it as offering large benefits and imposing little risk, while the opposite was the case when people disliked a technology, where disadvantages and high risk came to mind. In a conceptual paper published in Risk Analysis, Slovic (1999) claims that *"the public is not irrational. Their judgments about risk are influenced by emotion and affect in a way that is both simple and sophisticated"*. In this paper, Slovic discusses the complex and subjective nature of risk. While a danger is real, a risk is a subjective construction, a construction aiming at helping us in situations of high uncertainty. According to Slovic, since risk perception is subjective, we should not be surprised that many interesting and provocative aspects occur when people judge risks, and that in addition to emotional affect, factors such as gender, race, political worldviews, affiliation, and trust strongly correlate with risk judgments. In a recent review of emotion and decision-making in the Annual Review of Psychology, Lerner, Li, Valdesolo, and Kassam (2015), found that many psychological scientists now assume that emotions are the dominant driver of most meaningful decisions in life. Emotions guide everyday attempts at avoiding negative feelings (e.g. guilt and regret) and increasing positive feelings (e.g. pride and happiness), and they do so often without awareness. While a negative view of emotions' role in reasoning has dominated much of Western thought (for a discussion see Keltner & Lerner, 2010), we can now observe a movement in support of Hume (1978). Hume argued that the

dominant predisposition towards viewing emotions as secondary to reason is entirely backwards: "*Reason is, and ought only to be, the slave of the passions, and can never pretend to any other office than to serve and obey them* (p. 415)". In this study, we want to explore how people emotionally react when exposed to information about a food scare.

2 Methodology

2.1 The Case

The food scare case investigated in this paper relates to antibiotic-resistant *E. coli* in chicken in Norway. WHO has defined antibiotic resistance as a global health problem and as one of the largest threats to modern medicine. Internationally we observe an increase in reported cases of patients infected with bacteria resistant to antibiotics, and within EU/EEA 25 000 deaths are annually estimated to be due to antibiotic resistance (EFSA 2017). In general, use and misuse of antibiotics, both for humans and animals, are considered to be the main causes of increasing incidence of bacteria resistant to antibiotics. The occurrence of antibiotic resistant bacteria in animals and foods varies considerably between countries, and food safety authorities advise consumers to protect themselves from pathogenic and antibiotic resistant bacteria through hygienic handling of raw meats and thorough cooking (EFSA 2017).

Due to restricted use of antibiotics, the occurrence of antibiotic resistance in animals has been low in Norway. In 2012, the surveillance program conducted by the Food Safety Authority in Norway reported ESBL (Extended Spectrum Beta-lactamase, resistance mechanism for penicillin and cephalosporin) producing *E. coli* in 32.2% of poultry fillets. This program detected also the first quinolone-resistant *E. coli* in chicken. In 2014, the occurrence of quinolone-resistance had increased to 70% of chicken fillets in Norway. Probably explained by increased import of breeding stocks with resistant bacteria and / or improved methodology for detection. One should note that in this context, *E. coli* is used as an indicator organism and possible reservoir of antibiotic resistance genes, thus exposure is not associated with foodborne illness but with possible spread of antibiotic resistance to other bacteria. Internationally, it is a concern that ESBL may be transferred from *E. coli* to Salmonella, but Norwegian poultry are free from this pathogen (Norwegian veterinary institute, 2016). In summary, exposure would not lead to foodborne illness, and risk assessment concluded that the probability of exposure to resistant bacteria from poultry for consumers was non-negligible, and that there was no strong evidence on negative impact on human health (http://www.vkm.no/dav/d7081aa340.pdf). Authorities advised consumers to manage risk through good kitchen hygiene and safe cooking practices.

13th of September 2014, one of the first news articles in Norway about antibiotic resistance and chicken was presented in Nationen (a daily national newspaper with a specific focus on farming and agriculture). In this article, a researcher from the Norwegian Institute of Public Health suggests a health warning on all Norwegian chicken. The article had the title: **Researcher suggests health warning on Norwegian chicken**, and had the ingress: *Antibiotic resistant bacteria is so common in Norwegian chicken that the authority should consider to label them*. After the title and ingress, the researcher's own personal rule followed: "I never touch chicken with my bare fingers". This news article, that presented the spokesperson as an expert on antibiotic resistance and an experienced researcher within the field, started a media storm; a storm that corresponded well with a large decrease in the sales of chicken.

Title: Scientist suggests health warning on Norwegian poultry.

Antibiotic resistant bacteria are so common in Norwegian poultry that a scientist is of the opinion that the authorities should consider labeling the poultry. Scientist suggests health warning on Norwegian poultry.

"I never touch chicken with my bare fingers," Marianne Sunde, researcher at the Norwegian Institute of Public Health, says. She was a member of the officially appointed expert group that two weeks ago submitted a report to the Government on antibiotic resistance in Norway. Sunde has researched antibiotic resistance for years at both the Public Health Institute and the Veterinary Institute. The report from the expert group showed that 32 percent of all chicken fillets sold in stores in 2012 were infected with the antibiotic resistant bacterium ESBL. 43 percent of the poultry were infected with these bacteria in 2011. The ESBL bacteria can cause resistance to the most common antibiotics such as penicillin. In addition, resistance to quinolones is high in poultry. Quinolones are antibiotics of critical importance for use on severely ill people.

The expert group describes in the report the status for antibiotic resistance in Norway. Even though current situation on resistance in Norwegian livestock is good compared to other countries, the exception is for poultry production. Sunde is of the opinion that Norwegian poultry should be handled like risk products. The consequences for people handling the products are unknown. "We do not know if resistance in chicken can be transferred to humans and cause resistance towards antibiotics in humans," Sunde says.

She is of the opinion that the packaging for chicken products should be better labeled compared to current practice. One should consider whether labeling should indicate that chicken products are risk products. Furthermore, consumers should show strict adherence to food safety practices in the kitchen and show utmost care when handling the products. Ole Nafstad, section leader in livestock production in Animalia, Norwegian Meat and Poultry Research Center, says that importers must demand guaranties that poultry imported from Scotland via Sweden should be produced without use of antibiotics. However, a major problem is that the ESBL-bacterium can survive in the surrounding environment even after slaughtering of the livestock and decontamination of the premises. "We have too little knowledge of how the bacterium survives or how to get rid of it. I agree that there is a knowledge gap, but I still mean that there is little reason to post a warning against chicken on the packaging," Nafstad says.

Solfrid Åmdal, section leader for domestic animals and livestock personnel in Norwegian Food Safety Authority, is worried about the development in poultry. When it comes to handling of chicken, people need to know the correct practices for handling food.

"We have good advice on our web-pages", Åmdal says. "The problem is that the bacterium is very common. We must first gather more knowledge and then decide on which measures to implement. What works best and what are the costs from a societal perspective."

Figure 1: News article in Nationen 13th of September 2014, translated from Norwegian to English

2.2 Participants and procedure

Five semi-structured focus group interviews, consisting of a total of 29 Norwegian respondents (62 % females), where conducted in the beginning of June 2015 in the Oslo area. We recruited a convenience sample of people preparing and eating chicken. In these focus groups, the participants were presented with the article mentioned above (see Figure 1 for an English translation of the article). An experienced moderator handed out a copy of the article, read aloud the content and asked for the respondents' reflections and reactions. The interviews were tape recorded and transcribed.

2.3 Data analysis

The reflections and reactions reported by the participants were categorized according to a classification system that was developed while reading the transcripts (see Table 1 for the classification system and the frequency of the observations). The five transcribed focus group interviews consisted of many different text blocks with different statements from different respondents. All of these text blocks were coded (1 if a variable is present, 0 if a variable is not present). To reveal the closeness of the reported reflections and reactions, a multiple correspondence analysis (MCA) was applied using JMP Pro 12. MCA is a type of Principal Component Analysis (PCA) of categorical data. It is a method of identifying the dimensions explaining maximum variation in contingency tables, and can be understood as a "visual decomposition" of the χ^2-statistic where the results are displayed in bi-plots (See Greenacre, 1984; Blasius and Greenacer,

2006 for more details). To correct for the artificially inflated inertia (i.e. variance), which is due to the coding of one categorical variable within several columns in MCA, we applied Benzécri (1979) correction formula (Abdi and Valentin, 2007). A hierarchical cluster analysis was also conducted on the individual variables' MCA scores, and the results presented in a dendrogram (Figure 2).

Table 1.
Classification system and frequency of observations

Categories	Subcategories	Frequency
Reactions	Scared	39
	Scared in the beginning	18
	Not scared	37
	Surprised	12
Reflections	A chicken problem	67
	Narasin in feed is bad	20
	Unethical production	25
	New problem in Norway	34
	Larger problem abroad	44
	Not dangerous for me	16
	Uncertain long term effects	15
	Important to clean and fry	57
	Dilemma	40
	Journalists quality differs	15
	Skeptical to findings	18
	Only one researcher/ bad research	19
	Holistic perspective important	60
	Medicine use is the problem	14
	Reading between the lines	15
	Don't understand	25
	Forgot the case	30
Behavior	Reduced consumption	41
	Unchanged consumption	69
	Changed practices	55
	Unchanged practices	15
Total		805

3 Results

Figure 2 illustrates that the dimension that explains most of the inertia in the data set, MCA 1: 40.69 % (see Table 2: Benzecri Adjusted Inertia Decomposition), relates to behavior and emotional reactions. This axis goes from *unchanged practices and unchanged consumption* that co-occur with the feeling of being "*Scared in the beginning"* (left), via *changed practices, reduced consumption* and *scared*, to the feeling of *surprise* (right). Respondents expressing *scared* and *surprised* feelings regarding the news about antibiotic resistant bacteria in chicken are those that state they have reduced their consumption or changed handling practices. On the other hand, those who are not scared (never been or only in the beginning) are the ones that continue as before with the same consumption and handling practices of chicken. MCA 2 that explains 23.59 % of the inertia, goes from a *reflective perspective* (lower level of figure) to a more *solution oriented perspective* (upper level of figure). When we look into the specific statements behind the variables (table 1 expresses number of statements per variable), we can see that for instance those with a reflective perspective perceive antibiotic resistance to be related to increased use of antibiotics among humans and to have little to do with animal feed. Statements as "*Everything is dangerous, but we need to eat*", "*Fat, sugar, chemicals, alcohol, and pesticides affects our health more than food safety and bacteria*", "*It is important with a holistic perspective. The alternative to buy is to have your own farm"*, "*We need to use common sense*", and "*Relax, this will pass by*" exemplify the reflective perspective. On the other end of the axis, we find statements that describe a more solution oriented, hands-on perspective where people highlight the importance of changing their handling practices and to clean the cutting boards and fry the chicken according to the provided recommendations.

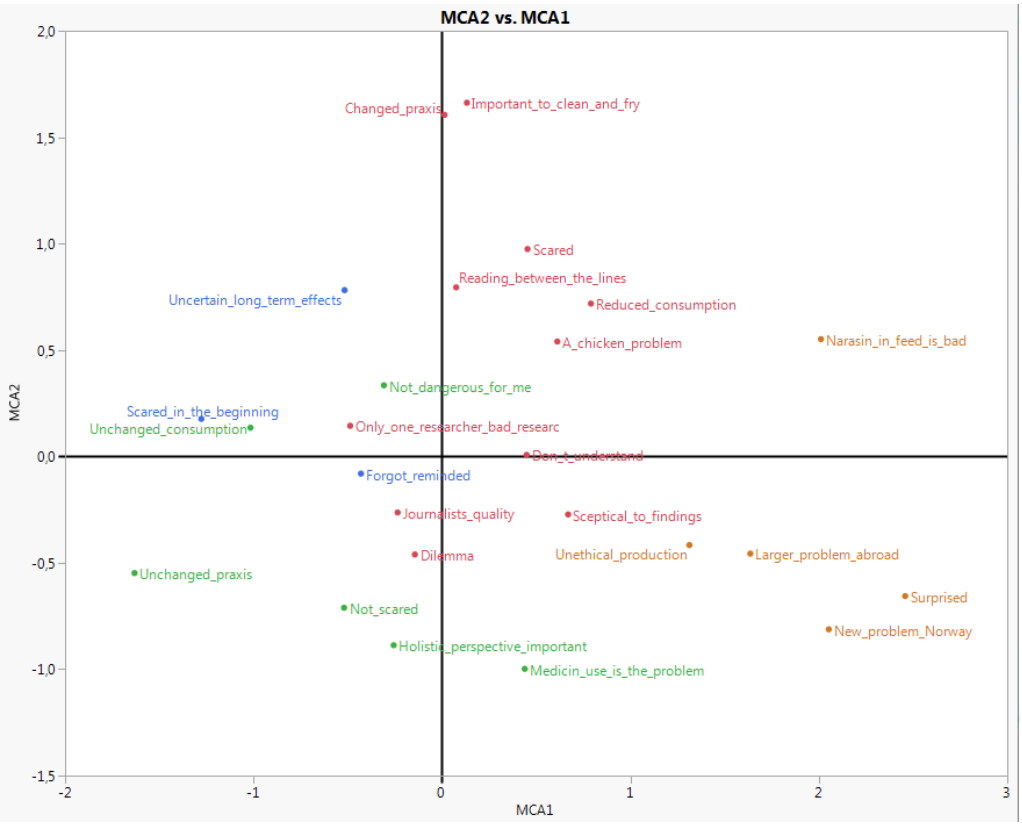

Figure 2. Multiple Correspondence Analysis bi-plot of consumers reflections and reactions

Table 2.
Benzecri Adjusted Inertia Decomposition

Benzecri Adjusted Inertia Decomposition

Principal Inertia	Adjusted Inertia	Percent	Cumulative Percent
0.10526	0.00462	40.69	40.69
0.08969	0.00268	23.59	64.29
0.07217	0.00112	9.89	74.18
0.06936	0.00094	8.24	82.41
0.06704	0.00079	6.99	89.40
0.06208	0.00053	4.66	94.06
0.06006	0.00044	3.85	97.91
0.05069	0.00012	1.09	99.00
0.04853	0.00008	0.70	99.70
0.04517	0.00003	0.26	99.95
0.04226	0.00001	0.05	100.00
	0.01136	100.00	

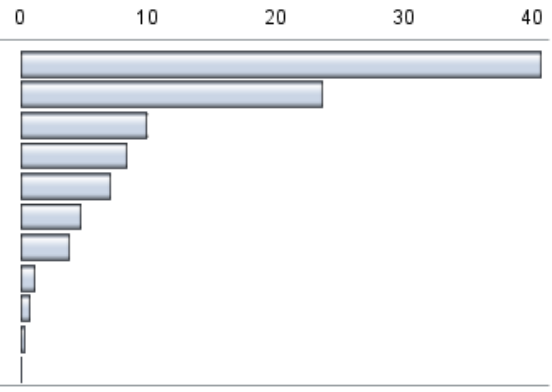

Figure 2 and Table 1 indicate that different belief categories exist among consumers. Some believe antibiotic resistance is a production problem; a problem that they expected to be larger abroad and surprised to hear existed in Norway; and some perceive this to be a chicken product problem. A few consumers also reflect about the research behind the news: "*I am questioning the findings, when the changes are that large. What's the reason?*", "*I am skeptical if there is only one researcher and no consensus. A lot of bad science exists*". Others interpret the information (Categorized as "Reading between the lines"): "*Now that they are aware of the problem, they will sort it out*" or "*Why don't anyone react to these news? Maybe it is not that bad?*". Our data show that people do reflect, but their reflections seem not to co-occur with systematic behavioral reactions or specific expressed emotions.

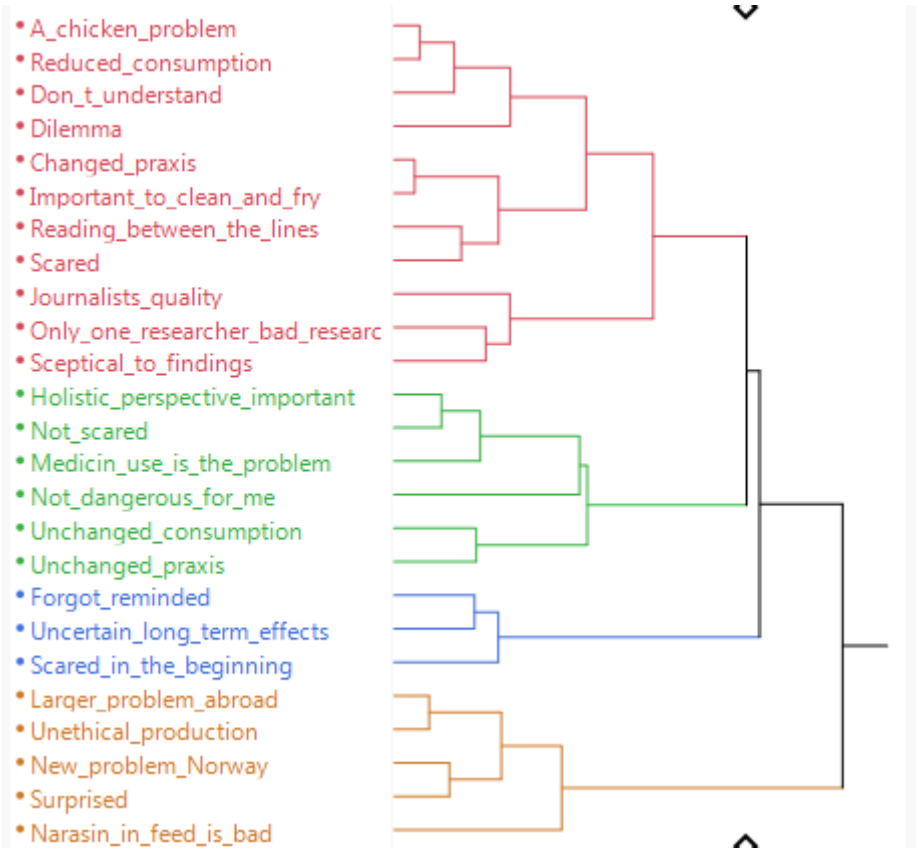

Figure 3. Dendrogram

The results from our hierarchical cluster analysis presented in Figure 3, show four clusters of different reflections and reactions that consumers talk about when presented with news about a food scare. Since we have not analyzed who said what, the clusters represents the topics discussed. Within cluster 1, people talked about how they got scared and reduced their consumption of chicken or changed their handling practices (e.g. more proper cleaning of the kitchen equipment and thorough heating). The quality of the research and the journalism behind the news were also reflected upon. In cluster 2, the discussion evolved around a more holistic perspective of the news. People talked about how the news article did not scare them or made theme change their consumption or handling. Other aspects were discussed, such as the fact that general medicine use among humans was more problematic than the antibiotic content in chicken feed. In cluster 3, people talked about how they reacted in the beginning, but quickly forgot about the case, while in cluster 4, people expressed how surprised they were to hear about the case and that they did not expect this problem in Norway. They talked about chicken production using Narasin in the feed as bad and unethical. In cluster 3 and 4, consumption or handling practices of chicken were not discussed.

4 Discussion

This study explores consumers' reflections and reactions to a food scare article about chicken and antibiotic resistant bacteria. By presenting and discussing a specific news article about this topic, we aimed to gain insight into how food scare news may influence consumers' reflections and reactions.

In the news article (See Figure 1), an expert within the area scared people by stating that chicken should be handled with utmost care and maybe even labeled with a health warning. To get her point across, she personalized the story and said she never would touch raw chicken with her bare fingers. This information was much stronger then the advice given from food safety authorities claiming that the probability of exposure to resistant bacteria from poultry could be avoided by normal kitchen hygiene and safe cooking practices. The Norwegian Food Safety Authorities and the industry represented by Animalia (Norwegian Meat and Poultry Research Center) claiming they did not know enough of the consequences and needed more research on chicken and antibiotic resistance, probably escalated the food scare. In this study, we investigated a small group of respondents' reflections and reactions related to this news article.

We observed that respondents reflect. They try to put the story into a larger, more holistic picture; they question the research behind the news; and they aim to read between the lines. However, we cannot see a systematic, clear link between their reflections and their behavior.

We also observed that the respondents interviewed fell into two groups: Those who got scared and changed their consumption or practices, and those who continued as before. In Table 1, we can see that respondents talked about being scared 39 times and not scared 37 times. Since we do not know anything about the respondents pre-existing attitude towards chicken, we cannot claim that this close to 50-50 split in emotional reactions discussed is due to attitudes. However, we can clearly see that different consumers perceived the same food scare news article differently. While "the chicken problem" was mentioned 67 times, the importance of "a holistic perspective" was mentioned 60 times. Some seemed to accept the information from the food scare news article, while others critically reflected upon the information offered.

Two different emotional reactions were mentioned: fear and surprise. That a food scare story triggered fear was expected. After all, fear is the emotion that mobilizes us to cope with danger. When exposed to a threat of harm, either physical or psychological, the feeling of fear warns us and protects us against the potential harm (Grey 1982; Olsen, Røssvoll, Langsrud, Scholderer, 2014). According to Grey's (1982) reinforcement sensitivity theory, perception of a food risk triggers the avoidance motivation system. Reported reactions as: "*I am afraid of antibiotic resistance", "Chicken and antibiotics scare me. I do not understand. If I eat antibiotic resistant bacteria, will I then become resistant? Will antibiotics not work on me anymore? This scares me"* coincided with reduced chicken consumption and/ or changes in cooking practices. However, we also observed that not everybody got scared. Some reported that they only got scared in the beginning *("I remember in the beginning when I did not touch chicken. But then time goes by, busy life..," "I had almost forgotten this now. After all, chickens are full of proteins and quick to prepare"*). Others reported that they were not scared at all *("Relax", I don't think this is dangerous", "I just fry the chicken and clean the cutting-board and the knife. Nothing to be afraid of").*

Another emotion reported was surprise. Surprise is the briefest of all emotions, lasting for only a few seconds and can be both pleasant and unpleasant (Desmet & Schifferstein, 2008; Ekman, 2003). As we figure out what happens, another emotion (fear, amusement, relief, anger, disgust, and so forth) substitutes surprise. The emotion that follows the feeling of surprise depends on what surprised us. Some of the respondents were surprised that antibiotics (Narasin) in the feed was normal practice in Norway *("At the Agricultural school in Norway we learned that antibiotics in the feed was bad. This was something they did abroad. In Norway, we focused instead on good hygiene. I thought that today's producers went to the same school as me and that we had a different standard in Norway").*

Our findings support literature that claim emotions are important for judgment and decision-making. Emotions trigger action, but emotions are not the only important aspect. The increased focus on emotions observed in the literature (e.g. Thaler and Sundstein, 2003) might be too simplified. Humans are not like Pavlov's dogs. We react emotionally to stimuli, but emotional reactions are often followed by reflections. Our findings indicate that consumers do reflect when confronted with food scares: some question the research behind the news, others place the case into a more holistic perspective and wonder about the danger of this food scare compared to other risks. Critical reflections, however, seem not always to lead to changes in consumption or food handling practices in the systematic way that emotions do.

The 2-systems model of social behavior offered by Starck and Deutsch (2004), may explain our observations. Their dual process model explains behavior as a joint function of reflective and impulsive processes that follow different operating principles. The reflective system generates behavioral decisions that are based on knowledge about facts and values, whereas the impulsive system elicits behavior through associative links and motivational orientations. They propose that these two systems trigger two different behavioral schema that leads to impulsive action or reasoned action, and where the reflective system competes with the impulsive system. The reflective system will most of the time be inactivated, since it is cognitive much more demanding than the impulsive system and distractions easily can happen. When activated, however, it triggers thoughts and might lead to negation. Simple said, negation means disagreement or to reverse the truth value of a proposition. Negation is resource demanding and can only be executed in the reflective system. In our case, we observe that the food scare news article triggers emotions as fear and surprise, which leads to reduced consumption of chicken or better kitchen practices. The impulsive behavioral schema could be the precautionary principle saying: better safe than sorry. Within the reflective process, a negation schema that made people question the information in the food scare article was awaken. However, for the reflective schema to outcompete the impulsive schema, it must be activated and very strong. That seem not to be the case in our case.

5 Conclusion

In this paper, we have investigated people's reflections and reactions to a food scare about antibiotic resistant bacteria in chicken in Norway. We observed that people's emotions guided their reactions. Those that reported feeling scared changed their behavior (consumed less chicken or changed their handling practices), while those not emotionally affected continued as before. We also observed that the level of reflection varied. Some critically questioned the content of the news article and tried to put the news information into a more holistic perspective, while others accepted the information offered.

What do these findings mean for risk communication? In our study, we observed that the same risk communication, a food scare news article, was perceived quite differently by different people. People's reflections and reactions varied. Previous studies claim pre-existing attitudes are the reason (Scholderer & Frewer, 2003). In food scare cases, situations where a negligible food safety risk (as described by food safety authorities) is blown up, it is reassuring that consumers critically reflect and put the news into a more holistic perspective. Moreover, that might also mean that consumers, depending on their own pre-existing attitude, will critically reflect on scientifically based high-risk information. More studies are needed for us to understand the mechanisms behind people's reflections and reactions to risk communication. Another practical implication of our research is linked to the observed co-occurrence of emotions and change in behavior. Emotions seem to trigger change, indicating that risk communication for change might need to trigger emotions to have any effect. The challenge is naturally that the emotional reactions observed seem to vary. We do not know why the same information triggers different emotional reactions. This might be explained by the previously mentioned pre-existing attitudes, but more studies would be needed to ascertain this. The third practical implication we can read from our study, has to do with how to avoid food scares. In our case, many elements went wrong. An expert went out in the media, with her own personal view, which was not along the lines of what food safety authorities advised. Food authorities and the industries created uncertainty by talking about their lack of knowledge. Skillful media training of scientists and food safety authorities, could probably have avoided this food scare in the first place. Relevant stakeholders need clear advice on *what* (scientific based information, not one's own view) and *how* (be reliable and avoid creating uncertainty) to communicate with the media. Since this was an explorative study with a very small number of observations, future studies should test our findings on a larger sample size and for other kinds of news. We still do not know how to best communicate with the market when food scares hit the fan. Different topics were discussed among the consumers, indicating that different segments of consumers exist: A scared segment that might need advice for how to handle the problem; a surprised segment that might need more information to rebuild their trust; and an unaffected segment of critical reflectors who seem to be less affected by information. Our findings indicate that some people critically reflect on what they read. We also find that people are guided by their emotions, and that emotional reactions trigger changes in behavior in a more systematic way than reflections. However, how other emotions than fear and surprise, such as disgust and sadness, influence reactions and reflections are still unknown. Accordingly, more studies are needed to dive deeper into these topics.

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