



# Pathway for Emerging Food Safety Risk Communication in Europe

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# Background

*“The research aims to understand public perception and improving a comprehensive framework of risk communication for mitigating emerging food safety risks, ensuring the prevention of any hazards in the food supply.”*

# Objectives and Rationale:

*Climate change has a significant impact on emerging food safety risks.*

A holistic food risk assessment in the food production and consumption for emerging food safety risks-benefit and hazards understanding (FSA, industries, researchers, consumer/citizen)

Citizen Science/Priorities: socio-economic and sustainability to human health and environment impacts (better understanding and increased trust for food safety risks identification) -- for cognitive behavioural approaches

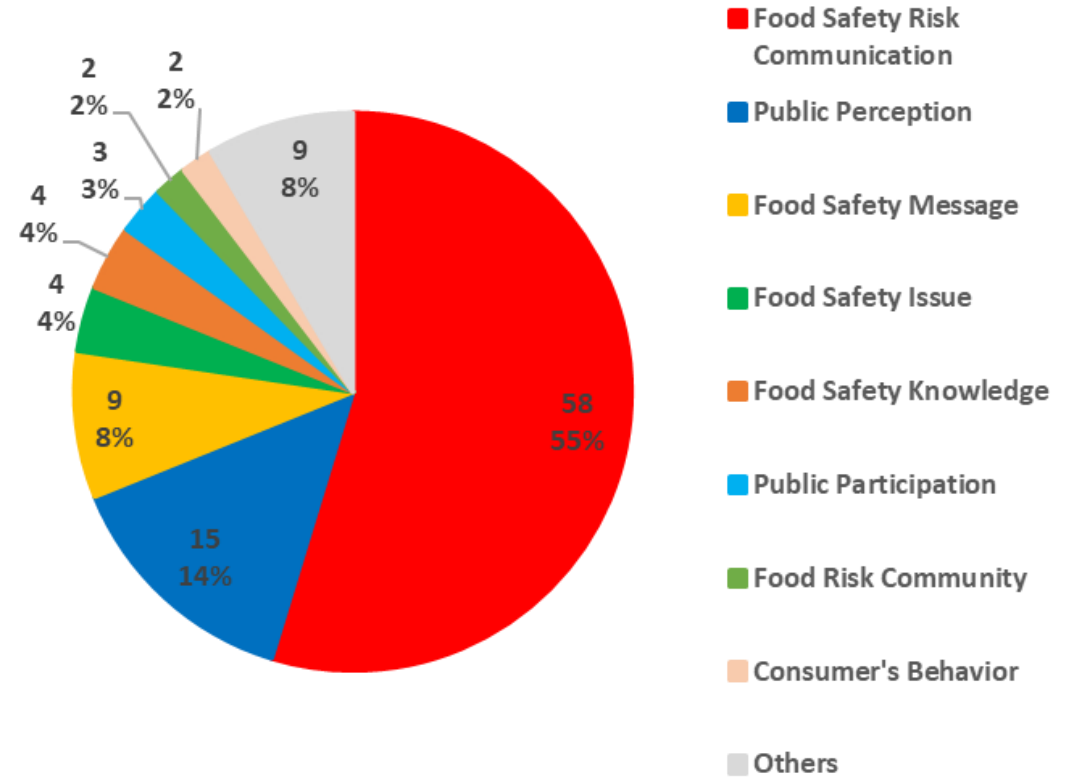
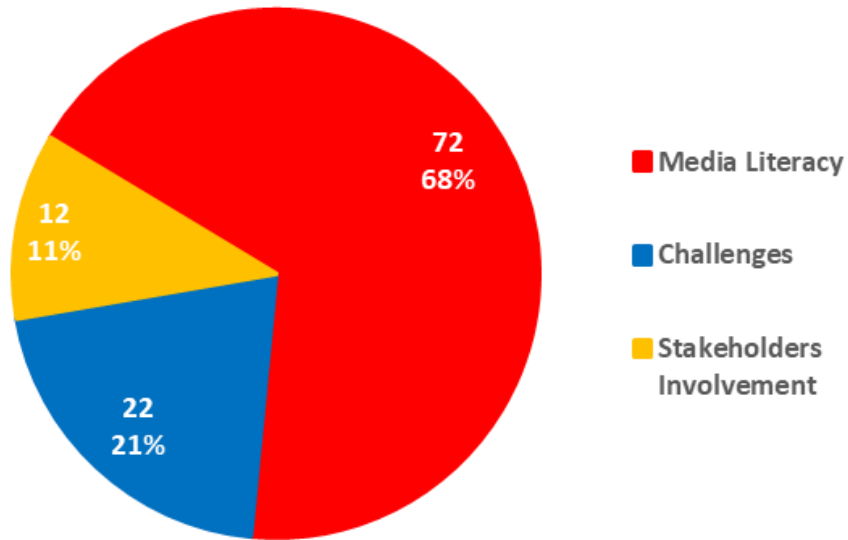
Develop effective communication strategies for emerging food safety risks identification in the food production and consumption through citizen sciences.

Improved interaction between various end-users in co-design risk communication for mitigation and adaptation

**Mapping  
Review:  
108 Articles,  
2016-2023**

MAIN ISSUE/THEME	SUB-THEME
Media Literacy	Food Safety Risk Communication
	Food Safety Message
	Food Additives
	Precautionary Measure
	Healthy Food Sources
	Food Safety Policy
	Food Source Risk
Challenges	Public Perception
	Food Safety Knowledge
	Consumer's Behavior
	Food Safety Regulation
Stakeholders Involvement	Food Safety Hazards
	Public Participation
	Food Safety Issue
	Food Bloggers Participation
	Consumer's Valuation of Food Safety
	Food Risk Community

# Mapping Review: 108 Articles, 2016-2023



# Nvivo Analysis: Coding

Name	Description	Files	References
<b>COGNITIVE BEHAVIOURAL APPROACH</b>		13	23
<b>Media Outlet preference</b>	Respondents' preferences for media in receiving information or content regarding food safety risk-benefits		
Key informants	Key actor(s) with credibility who has capacity to response and give the information regarding food safety (such as food industry, considering they will adhere to the regulations if they want to retain in the business).	14	36
Advertising	Media/outlet preferences where information is collected, both visual (e.g., videos, documentary) and text (e.g., leaflets/flyers), appeared on government websites, radio, television, news, or social media.	10	16
Apps or Website	A relevant and official platform that can be relied on by the public when they are looking for information regarding food safety hazards.	9	12
Social media	Media outlet (e.g., Facebook, Instagram, Tik Tok, Reddit) where information can travel and spread vastly by (individual/group) - word of mouth.	9	14
Supermarket	For any information related to food safety risk or announcement or recall products that cannot consume by consumer	7	10
Direct correspondence	media preference for high risks situation such as email, text in message or WhatsApp that you can receive directly.	8	9
<b>Education Systems</b>	Leveraging education systems for information, mitigation, and adaptation regarding food safety risks-benefits, through media literacy or feed them into education system (from elementary to secondary school).	7	13
<b>Message content and information</b>	Any topics that related to or associated with food safety risk-benefits		
Human health impacts	Information related to human health impacts, to protect and prevent food safety hazards that harm humans, or cause human health problems	17	20
Mitigation and Adaptation	Information or regulations that conveyed inform about the food risks; to address with mitigation and adaptation, advising publics against existing food safety hazards or risks (such as bacteria, fungi from contaminated foods), through a content associated with 'preparation before cooking' (e.g., washing the food/veggies/fruits), or 'how to cook' (e.g., time to cook, how to cook), refers or steering towards to people's preferences (citizen sciences).	14	29
Scale of risks (hazards)	Associated with the level of food safety risk that needs to be defined/determined accordingly (i.e., very low, low, moderate, and high) -- we can use rating if necessary	6	7

# Nvivo Analysis: Coding

Name	Description	Files	References
<b>CITIZENS PRIORITIES (PERSONAL FACTORS)</b>			
Quality	Variables that associated with food freshness, including food appearance (i.e., visual looks) with trade standards, such as due date, origin info (e.g., local products or from another country), brand of the food (associate with brand image) certificates, labels - to define the quality of foods in the convenience packages.	15	20
Environmental Factors	Aspects that associated with environmental setting (e.g., plastics, recycle, less meat, ambience), including local products, culture, availability, marketing, layout/packaging of foods; and atmosphere (e.g., global warming), or location (e.g., carbon footprint/food miles). Nevertheless, some people may be concerned, others may not.	12	15
Economic	Economics variables that influence people's decision making when buying food such as price, values	9	12
Nutrition Facts	Variables that associated with healthy, nutrition contents or facts.	10	12
Presence of Child in the household	Variables associated with food choices, selected due to the presence of child/children or family reasons.	7	12
Lifestyles	Variables that associated with or referred to the characteristics of inhabitants of a region in special time and place or their origin, influenced by culture, religions, and habits (e.g., preparing the food from the scratch, pre-cooked meals, ready meal, eat at the restaurant). It includes diet-requirement, such as vegan, organic, food allergies.	10	10
Trustworthy	Variables that make respondent(s) confidence and trust, to consume; as well to listen, adapt and follow the suggestions or message regarding food safety-benefits: It (e.g., producer; brand; individual/personal) has credibility. Information that can give a sense of assure, clear and trustworthy.	6	10
<b>SOCIAL INCLUSION</b>			
Family and Friends	Sharing information with family and friends related to food safety hazards	2	4
Local communities	Actively involve in the discourse to influence decision making	3	7
<b>HOLISTIC FOOD RISK ASSESSMENT</b>			
Supply Chain Components	Variables that related to the supply chain systems, from farmer to fork, including hygiene of the processes to the end users (i.e., consumer), to ensure no hazards or risks contaminate the foods.	6	7
Food Safety Standard-Label	Associated with the information and manifestation of food safety, which referred to the food safety risk-benefit and food safety regulations or standard (e.g., food safety act 1990, the general food law regulations 2019, food safety and hygiene), such as best before, certificate, label.	8	16

# Science to Society: Data Finding overview

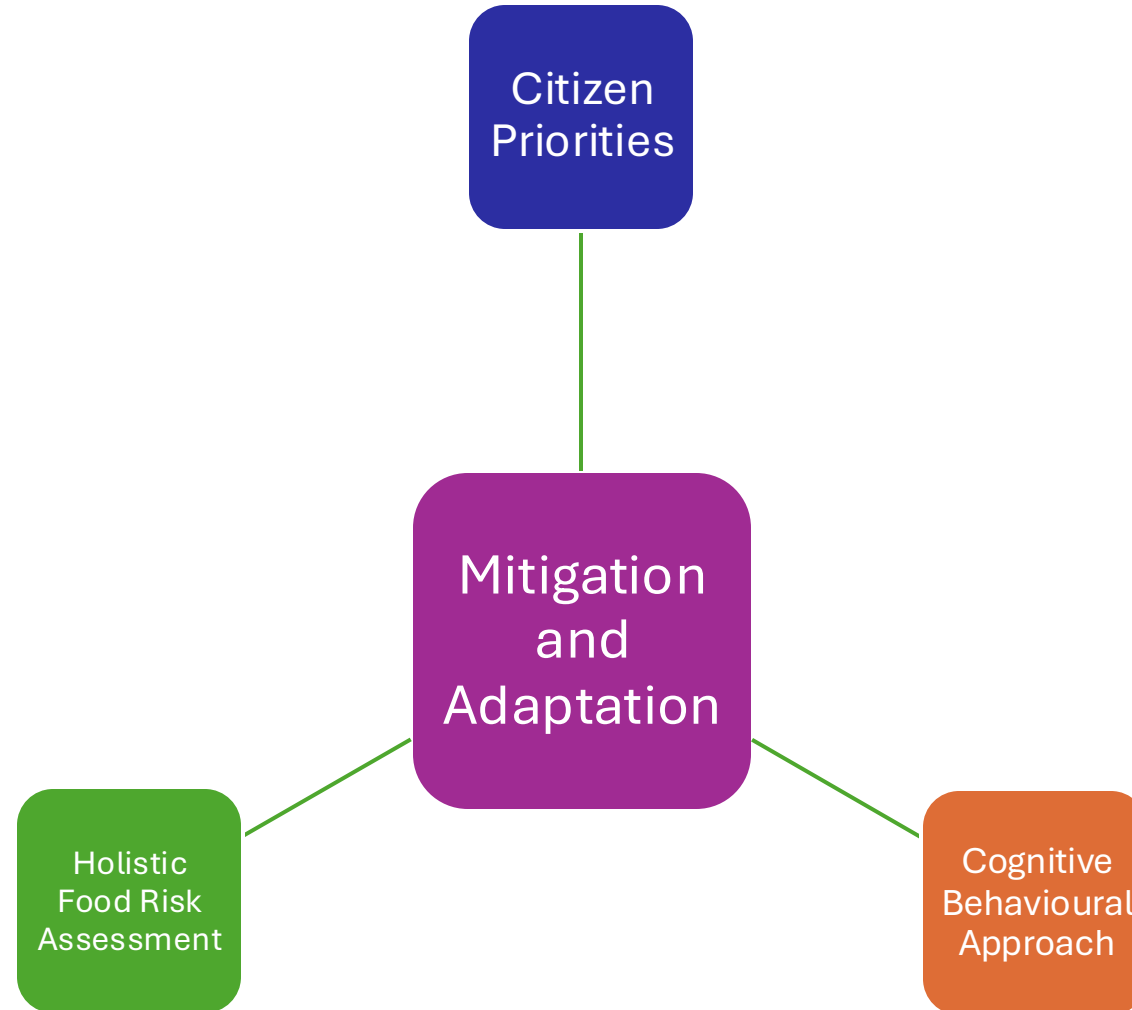
## Facts (UK case):

1. Lack of literacy regarding emerging food safety hazards in education systems and media platforms.
2. Most respondents likely cannot differentiate between existing food hazards and emerging food hazards. And some of them recognise/aware that the impacts of climate change on foodborne illness are interrelated.
3. Insufficient information regarding food safety risk assessment (e.g., food safety label or certificate, excepted on eggs which associated with 'lions' logo – in UK case), and mitigation and adaptation for emerging food risks identification, with mostly concerned on human health issues.



# Science to Society

## An Integrated Risk Communication Framework for Emerging Food Risk Identification



# Science to Society

## Public Perception on Emerging Food Safety Risks



Key Findings	Recommendations
<p><b>Citizen priorities</b> are present in the governance of the food risk benefit system (e.g., food regulations, food policies), but more can be done to represent those most deeply affected by the emerging food safety hazards.</p>	<p>To effectively address the ingrained emerging food hazards impacting food supply chain systems (i.e., from farm to fork) in terms of <b>socioeconomic and sustainability issues, as well as risks to human health and climate change-related concerns.</b></p>
<p><b>Holistic Food Risk Assessment</b> is didn't have designated policies or platforms where citizen science or priorities could be reported in integrated food risk analysis (i.e., risk assessment, risk management and risk communication).</p>	<p><b>Accountability mechanisms</b> should be in place of where citizen needs-based and resources can be distributed to address emerging food risks identification – <b>Food label/certificate for food safety hazards</b></p> <p>For example: Designing the framework or guidelines (e.g., food safety label or certificate), to address emerging food safety hazards in food supply chain systems. This measure aims to mitigate the risks associated with emerging food safety hazards, ensuring public understand the adaptations they can take to ensure their safety in such situations (e.g., foodborne illness).</p>
<p><b>Cognitive Behavioural Approach</b></p>	<p><b>Leveraging education systems</b> (from elementary to secondary school) <b>and communication access</b> for social cohesion and behaviour that will fit the environment in which the behaviour is executed, using media platforms for information, mitigation, and adaptation regarding food safety risks-benefits and emerging food safety knowledge (e.g., food safety standards and regulations) with human health and climate change related concerns.</p> <p>Government could map physical, social, and psychological risks for citizen experiencing emerging food safety hazards.</p> <p>Provide support for literacy and briefing individuals who experience and likely high risks, by involving local community and local GP, respectively.</p>
<p><b>Mitigation and Adaptation for Emerging Food Risk Identification</b></p>	<p>Connect <b>the governance of the emerging food safety hazards</b> with existing mechanisms and practices (e.g., adopted regulations and risk assessment) for mitigation and adaptation, both for crops and livestock.</p> <p>Inform the mitigation and adaptation to relevant stakeholders and enhance media literacy in local communities for social inclusion.</p>

# Recommendations

Given the facts that there are various characteristics of respondents per country with various preferences and concerns. Therefore, we can divide the framework of the risk communication approaches into three segmentations, to encounter the issues in more effective with intervention model of a dialogical framework. These are:

- **Segment 1:** *People with a lack of knowledge/literacy on emerging food safety hazards* – demographic profile for media literacy and FGD/discourse processes, promoting mitigation and adaptation through education systems, citizen assemblies and media. By composing of information regarding major food safety hazards (see WP5.3). Conducting a social action lab, an experiment test, to induce the cognitive, motivational or behavioural processes that pertain to instilling the desired behaviour in person and promoting a behaviour that will fit the in environment in which the behaviour is executed (i.e., awareness on emerging food safety hazards).

# Recommendations:

- **Segment 2:** *For people with low trust to the government bodies*, we need to provide them with newsletters, direct correspondence, and a sustainable communication framework to promote social and behavioural change and trade-offs. Conducting a social action lab to induce behavioural processes consisting of factors that pertain to instilling the desired behaviour in people (untrust into trust, awareness, participative action) and promoting a behaviour that will fit the environment in which the behaviour is executed. Focusing on memory and narrative that are embedded and emerge in the process of discourse, both in action and inaction, over rhetoric and public culture. Here, innovative experimental designs combined with the collection of online behavioural trace data. We use these data to examine communication effects on polarization, beliefs in misinformation, and attitude extremity, among other outcomes (Albarracin, 2021). The focus is on using theoretically relevant drives to incentivise news consumption in the online environment.
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  - For this, I am using innovative selection intervention media designs to test the effects of various simulations on participants' information selection from a mock website: to see the recipients' willingness to change their behaviour or perception. Ideally a field experiment on a social media platform or other test of the effects of intervention strategies on user engagement with and/or exposure to news content. Developing persuasive communication within rhetorical or/and pragmatic dialectics to shape the specific questions and designs, and envision and implement innovative technological solutions to increase the external validity of these designs (e.g., van Eemeren, 2015)

# Recommendations:

- **Segment 3:** *people has trust to the government but lack of knowledge* – media exposure using citizen science, to enhance their awareness and impact of legitimacy framing and rhetoric to Public Culture and Participatory communication

# Thank you!

Questions?



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