

Saturated Facts

An analysis of the Corporate Political Activity of the Italian meat sector

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Abstract

The meat sector is a known contributor to pressing environmental and public health problems such as climate change and antimicrobial resistance. Despite this, efforts to encourage changes in meat consumption face multiple barriers. One such obstacle is the fact that the meat industry engages in lobbying efforts to influence public opinion and delay policy formation. This study aimed to identify which CPA strategies are used by the Italian meat sector and assess the extent to which they are effective in altering people's perceptions. Additionally, attempted to identify whether receiving prior information on the existence of CPA would affect people's ability to better detect strategies once at play. To explore the industry's communication strategies, a thematic analysis was performed on articles from a website published by a consortium of meat trade associations. This analysis showed that the industry is indeed utilizing CPA practices, particularly those that aim to frame the debate and shape evidence on climate and public health issues. To investigate the effectiveness of these practices, 334 Italian students were surveyed. Participants were given excerpts from the previously analyzed website and asked questions aimed at gauging whether their perceptions had been altered. Overall, the mechanisms deployed were successful in altering their perceptions. Additionally, participants were divided into a control and experimental group, with the experimental group having been briefly informed about CPA tactics, and the control group not. Both groups were asked to identify which CPA mechanisms they thought were deployed in the excerpts. No significant difference was found between the two groups' answers, suggesting that informing the students had no effect. The overall results of this study show that efforts must be undertaken to inform the public about the existence of CPA in the meat sector and that further research needs to be conducted on this topic.

Keywords: corporate political activity; meat sector; information and communication strategies; lobbying; shape public opinion.

Executive Summary

Background and significance

The meat sector substantially contributes to negative effects on the environment and human health. Animal-based food production contributes to almost 60% of the total greenhouse gas emissions from agriculture (Xu et al., 2021). Moreover, diets featuring higher intakes of meat involve a massive use of resources such as water, land and energy thus contributing to put pressure on our planetary boundaries (Capone, 2014). The meat industry has also been linked to public health impacts, mainly the increased antimicrobial resistance (Silbergeld et al., 2008). In addition, the WHO has also issued warnings about the risks of high consumption of red meat, and the International Agency for Research and Cancer (IARC) has classified processed meat as ‘carcinogenic to humans’ and red meat in general as “probably carcinogenic” (IARC, 2015). These concerning factors highlight the need for urgently rethinking, and reshaping, the way our society structures food consumption and food production. There are, however, many barriers to changing meat consumption habits. One troubling obstruction appears to be the actions taken by companies with vested interests in meat production (Sievert et al., 2021). It appears that the meat industry is responding to calls for the need for reduced meat intake by launching lobbying campaigns aimed at protecting the industry. Deliberate attempts of a corporation to influence and shape any governmental policy are commonly referred to under the umbrella-term ‘Corporate Political Activity’ (CPA) (Hillman et al., 2004). While there has been some research carried out on CPA of industries such as tobacco, little attention has been devoted to strategies undertaken by meat industries to influence policy, especially within the European context. Furthermore, as of yet, all studies investigating CPA practices have been limited to the identification of them and their significance for the policy-making process. To date, no study has been trying to explore the extent to which such discursive strategies can be effective in influencing people’s opinions.

Aim and research questions

The aim of this thesis is to conduct a CPA analysis of the Italian meat sector, while taking a further step in exploring the effectiveness of the practices deployed by the industry in shaping people’s perceptions.

The research questions (RQs) of this thesis are as follows:

1. How is the Italian meat sector contributing to the discourse on meat consumption in Italy?

1.1. Which CPA mechanisms is the Italian meat sector deploying to do so?

2. How do these mechanisms affect the Italian youth’s perception of the meat sector?

2.1. What effect, if any, would awareness of CPA have on the Italian youth’s ability to identify CPA mechanisms?

Methodological approach

To address both RQs, a two-phase research approach was followed. The first phase consisted of an initial pre-analysis of 54 articles published on ‘carnisostenibili’, a website run by a consortium of meat trade associations. Findings coming from this were then used to carry out a more thorough thematic content analysis on a subset of 18 articles from the initial pool to delve deeper into the content and identify specific CPA practices and mechanisms utilized by the Italian meat industry. This analysis aimed to uncover the messaging tactics and communication techniques employed to shape consumer perceptions and promote the meat industry.

A framework adapted from the one developed by Mialon et al., in 2015 was used to identify the CPA mechanisms being deployed in the articles. The second phase of this research entailed a quantitative data analysis on the results of a study conducted on a sample of Italian students, with a view of gauging how effective the CPA mechanisms deployed by the Italian meat sector can be in shaping the perceptions of youth.

Strategies	Practices	Mechanisms
<u>Information and Messaging</u>	1) Stress the economic importance of the industry	1.1 Stress the number of jobs supported and the money generated for the economy
	2) Promote deregulation	2.1 Highlight the potential burden associated with regulation (losses of jobs, administrative burden)
		2.2 Demonize the ‘nanny state’
	3) Frame the debate on climate and public health-related issues	3.1 Shift the blame away from the industry
		3.2 Promote the good intentions and stress the good traits of the industry
		3.3* Emphasize the industry’s actions to address public health/environmental-related issues
		3.4* Not properly backing up statements with scientific evidence
		3.5* Playing the victim
	4) Shape the evidence base on diet and public health-related issues	3.6* Emphasize the health and environmental risks involved in moving away from meat consumption
		4.1 Cherry pick data that favours the industry
		4.2 Disseminate and use non-peer reviewed or unpublished evidence
		4.3 Provide industry-sponsored education materials
		4.4 Emphasize disagreement among scientists and focus on doubt in science
	4.5 Criticize evidence and emphasize its complexity and uncertainty	

		4.6 Fund research, including through academics, ghost writers, own research institutions and front groups
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Results

RQ1: How is the Italian meat sector contributing to the discourse on meat consumption in Italy?

1.1 Which CPA mechanisms is the Italian meat sector deploying to do so?

The results of this research have shown that the Italian meat sector is actively engaging in CPA in order to contribute to the discourse on meat consumption. While communicating to its audience through the website ‘carnisostenibili’, the Italian meat industry was found to primarily rely on two practices already identified by the framework employed: ‘Frame the debate on climate and public health issues’ and ‘Shaping evidence on diet and public health issues’. In terms of mechanisms, the most detected ones within the industry published material have been ‘Promote the good intentions and stress the good traits of the industry’; ‘Emphasise the industry’s actions to address public health/environmental-related issues’; ‘Emphasise the health and environmental risks involved in moving away from meat consumption’; ‘Shift the blame away from the industry’: ‘Cherry-pick data that favour the industry’ and ‘Emphasize disagreement among scientists and focus on doubt in science’.

RQ2 : How do these mechanisms affect the perception of the meat sector by Italian youth?

2.1 What effect, if any, would awareness of CPA have on the Italian youth ability to identify CPA mechanisms?

The findings of the quantitative study conducted to answer this question, sampling 334 Italian high-school students from Modena, have shown that mechanisms were mostly successful in altering the perception of those surveyed. Excerpts taken from the industry website, containing the mechanisms listed above, influenced the students’ perceptions on issues ranging from intensive livestock farming to the risks associated with vegan diets. This study, notwithstanding its several limitations, has also found that briefly informing survey participants about CPA did not enhance their ability in identifying the mechanisms deployed in the excerpts.

Recommendations

Recommendation for Non-Academic Audiences:

- Efforts should be made by policy-makers to find a balance in the development of policy which supports this sector, especially those involved in the sustainable production of meat, while also protecting the environment and public health.
- Those involved in the education sector should focus on equipping young people with the necessary tools to analyse information coming from corporations with vested interests.

- Actors involved in campaigning for reduced meat consumption can assist in informing the public of the existence of CPA by the meat sector, as well as educating them on how to identify when it is being carried out.
- Consumer advocates should better educate themselves on CPA practices, and investigate the actions of the meat industry in order to better defend the rights of consumers.

Recommendations for further research:

- More in-depth analysis should be carried out investigating CPA in the meat industry.
- There needs to be a shift of focus from the detection of these practices to a thorough examination of their effectiveness.
- Investigating which educational tools could enhance the public's critical thinking on the meat discourse, thus strengthening their ability in identifying CPA mechanisms, should also be prioritised by researchers.
- Greater attention should also be placed on how to keep encouraging healthy and more environmentally-friendly diets, taking into consideration the influence exerted by the meat industry.

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Abbreviations

FDI = Food & Drink Industries

CPA = Corporate Political Activity

CEO = Corporate European Observatory

COLDIRETTI = Confederazione Nazionale Coltivatori Diretti

CAP = Common Agricultural Policy

GHG = Greenhouse Gas

GDP = Gross Domestic Product

FAO = Food and Agricultural Organisation

IPCC = Intergovernmental Panel on Climate Change

IARC = International Agency for Research and Cancer

WHO = World Health Organisation

OECD = Organisation for Economic Cooperation and Development

1 Introduction

1.1 Problem Definition

Since the industrial era, improved agricultural efficiency, intensive farming and use of pesticides have made it possible to feed a population that has tripled its size since 1950 (OECD, 2021). This trend is not expected to slow down any time soon; according to a report by Organisation for Economic Cooperation and Development (OECD) and Food and Agriculture Organisation (FAO), to meet a projected population of 8.5 billion in 2030, agricultural production will increase by 15 per cent (UNFPA, 2022; OECD/FAO, 2019). This will undoubtedly add to the negative environmental impacts brought about by modern intensive farming practices such as water and air pollution, soil degradation, deforestation and greenhouse gas emissions (Filson, 2005). Intensive farming practices have also been linked to socioeconomic disadvantages. Research has shown that more intensive agriculture contributes to land concentration and the displacement of small-scale farmers, resulting in a reduction in rural livelihoods. At the same time, the widespread use of pesticides and antibiotics represents a threat for public health (Carolan, 2016).

The latest IPCC report, published in March 2022, heavily emphasises the correlation between the design and operation of the current food systems and the climate crisis. The food systems contribute to more than a third of global greenhouse gas (GHG) emissions (Xu et al., 2021). In turn, food systems are also impacted by the changing climate and other environmental challenges like fluctuating weather, extreme weather events, collapsing ecosystems and the degradation of land, soil, and waterways; all issues they contribute to causing in the first place. According to the report, by the end of the century the areas that can be farmed and grazed will reduce by 30% while limiting global temperature increase to 1.5 degrees would reduce the loss of such areas to 8% (IPCC, 2022).

Livestock grazing is proven to substantially contribute to negative effects on the environment and human health. As such, animal-based food production contributes to almost 60% of the total emissions from agriculture (Xu et al. 2021). The top five global meat and dairy industries (JBS, Tyson Foods Inc, Cargill, Dairy Farmers of America and Fonterra Group) together emit more GHG emissions than oil giants such as Shell or Exxon Mobil (IATP, 2018). Moreover, diets featuring higher intakes of meat involve a massive use of resources such as water, land and energy thus contributing to put pressure on our planetary boundaries (Capone. 2014). The meat industry has also been linked to public health impacts, mainly the increased antimicrobial resistance (Silbergeld et al., 2008). Animal husbandry accounts for the single largest use of antimicrobials worldwide (ibid.). The World Health Organisation (WHO) warns that imprudent use of antibiotics in agriculture is speeding up antimicrobial resistance, and we are heading towards a “post-antibiotic” era, where modern medicine will become ineffective (WHO, 2014). In addition, the WHO has also issued warnings about the risks of high consumption of red meat, and the International Agency for Research and Cancer (IARC) has classified processed meat as ‘carcinogenic to humans’ and red meat in general as “probably carcinogenic” (IARC, 2015).

These concerning factors highlight the need for urgently rethinking, and reshaping, the way our society structures food consumption and food production. Actively implementing changes in both is fundamental to achieve more sustainable types of food systems able to simultaneously meet the needs of an ever growing population while ensuring quality standards and the needs of future generations (Capone, 2014).

However, there are many barriers when it comes to changing meat consumption habits. One troubling obstruction appears to be the actions taken by companies with vested interests in meat production (Sievert et al., 2021). It appears that, as some consumers heed to the experts and governmental calls for decreasing their meat consumption, the meat industry is responding by launching targeted lobbying campaigns to counteract the emerging shifts away from meat. Such campaigns create doubt in the minds of consumers on whether there is any danger present in continuing business as usual (ibid). This is not the first time that doubt has been used to delay progress. Tobacco and sugar consumption, acid rain, climate change – over the years, a veil of doubt and uncertainty has been systematically cast over all these issues, delaying effective action and allowing corporations to buy time to 'adapt' and limit their losses (Porter, 2009). Such a process represents a direct threat to climate change mitigation strategies and jeopardises already strained efforts to encourage consumers to take up more sustainable food consumption behaviour (Sievert et al., 2021).

Deliberate attempts of a corporation to influence and shape any governmental policy are commonly referred to under the umbrella-term 'Corporate Political Activity' (CPA) (Hillman et al., 2004). Influence and power can be deployed by corporations in a direct way, through financial incentives, lobbying or through the commissioning of reports for better informing policy-makers (Nyberg, 2021). Corporate aims' to shape public policy can also be pursued in a more indirect way as, for example, by gaining the support of individual citizens that through their voting preference will then support a policy benefiting the corporation (ibid). This second type of CPA, is particularly dangerous as, as highlighted by Fleming and Spicer, such an indirect approach naturalises the corporate political involvement making it appear as inevitable (Fleming et al., 2014).

In recent years mounting evidence of corporate attempts to interfere in the policy-making process has been accumulating in different sectors. Researchers have focused on the way large corporations involved in businesses like tobacco and oil and gas have been actively engaged in lobbying and hiding important information from the public in order to delay policy laws that would have had bad implications for their profits (Gilmore et al., 2015; Tarmizi et al., 2022). Lately, academia has turned its gaze to the food sector, with several studies investigating how food companies behave, especially with respect to public health policies (Mialon et al., 2015 ; Mialon et al., 2020; Lauber et al., 2021; Tanrikulu et al., 2020).

Two research gaps emerge from this. First, within the realm of FDI, the CPA of the meat sector has received very little academic attention in the European context despite some evidence of its lobbying behaviour has already been detected by non-academic sources. Greenpeace France in 2022 published a report titled 'How the meat lobbies manipulate us' investigating over 20 organisations involved in the meat sector in France. The report identified several practices commonly deployed by the industry in order to shape public discourse and lobbying against corporate-unfavourable policies (GreenPeace France, 2022). As in the case of France, meat products constitute an important, and traditional, part of Italians' diets. In 2020 Italy's yearly per capita meat consumption was set at 101 kg, a figure extremely close to the European average of 102 kg, but way above the world average equivalent to 63 kg (OurWorldinData). Italian meat products' importance, they represent about one-third of the European meat products heritage, also implied that many of them came to be certified for authenticity and thus are now protected

under the European law (Dalle Zotte et al. 2017). Last March, following a lot of internal turmoil fomented by Coldiretты, the national confederation of direct farmers, Italy was the first country in the world to ban synthetic foods (EFA, 2023). Firms and trade associations like Inalca, Assica, Assocarni, Unaitalia make up the economic backbone for Coldiretti and have now been accused of funding disinformation campaigns against food innovation (Ottens, 2023). The latter three associations mentioned above, in 2013 jointly funded a website called ‘carnisostenibili’ in order to contribute to the discourse on meat in Italy. The website considers both lab-grown meat and plant-based substitutes as ‘fake’, defining them as unhealthy, less nutritious and dangerous for health and also for the environment (ibid).

The second gap, consists of the fact that studies investigating the CPA of FDI’s, as the ones cited above, have mostly been aimed at analysing documents and publicly available data in order to reveal common strategies and mechanisms used by the industries. As yet, no study has been trying to actually explore the extent to which such discursive strategies can be effective in influencing people’s opinion. This highlights a worrying lack of knowledge about both the strategies employed by the meat industry and the effects’ that these practices have on people’s perceptions. Ultimately, since the urgent need for implementing more sustainable and resilient food systems for future generations, a special focus should be paid to the youth as their food choices and perceptions will be a fundamental driver for policy change.

1.2 Aim and Research Questions

The aim of this thesis is to address the two gaps previously discussed, thus conducting a CPA analysis of the Italian meat sector, while taking a further step in exploring the effectiveness of the practices deployed by the industry in shaping people’s perceptions.

It does so by analysing how the discursive strategies used by three of the major Italian trade associations (Assocarni, Assica & Unaitalia) contribute to the discourse on meat in Italy. Published media on their website ‘carnisostenibili’ will be analysed applying a framework commonly used to characterise corporate political activity (CPA) in the food industry.

In order to explore how these strategies may affect the public, a quantitative study exploring how the perceptions of Italian youth may be altered when exposed to media from the livestock industry will be conducted. This study will also investigate how being previously informed about the existence of such strategies could affect the ability of the readers in recognizing CPA mechanisms once they are at play.

The research questions (RQs) of this thesis are as follows:

1. How is the Italian meat sector contributing to the discourse on meat consumption in Italy?

1.1. Which CPA mechanisms is the Italian meat sector deploying to do so?

2. How do these mechanisms affect the Italian youth’s perception of the meat sector?

2.1. What effect, if any, would awareness of CPA have on the Italian youth’s ability to identify CPA mechanisms?

With RQ1 this study aims to contribute to current knowledge on CPA mechanisms unveiling common strategies employed by the Italian meat sector. Moreover, through RQ2 the extent to which current communication strategies of the meat industries are successful in influencing the young generation will be explored. Finally, by measuring the potential ameliorating effects of providing information to counteract the effectiveness of CPA strategies, this research hope to contributes in uncovering the best strategies to equip the public with the right knowledge to allow for the identification of such mechanisms.

1.3 Scope and Delimitations

This study focuses on the Italian meat industry. One component of the research is to identify the Corporate Political Activity (CPA) practises deployed on a website affiliated with an ongoing campaign launched by key meat trade groups in Italy. As a result, the findings from this section of the research have national significance, encompassing the entire country. The geographic scope of the second part of the study, which seeks to evaluate the effectiveness of CPA mechanisms through a survey targeting Italian youth, is more restricted. The survey was specifically distributed to students in the Italian city of Modena. As a result, the analyses and conclusions reached from this section have a more limited geographical scope, only illustrating the perspectives and responses of the sample. This more narrowed scope may lead to some limitations in terms of the generalisability of the results for the whole of the country, but this decision was taken due to practicality purposes due to the city being the researcher's city of origin, and thus greater access to respondents was ensured. Research was conducted on CPA within this sector, focusing specifically on communications tactics, referred to in the deployed framework as "information and messaging" strategies (Mialon et al., 2015). deployed to shape discourse on meat consumption. Other CPA mechanisms, such as seeking involvement in the community or establishing relationships with policymakers, are outside of the scope of this research, but briefly mentioned in the literature review to provide context on general lobbying undertaken by the Italian meat sector.

This study also aimed to test the effectiveness of CPA information mechanisms on Italian youth. Specifically, 334 high school students, between the ages of 16-18 were involved in a survey investigating the effects of CPA mechanisms. This age group was chosen due to the fact that being just about/having just reached adulthood these students will soon have an opportunity to affect policy both through their voting preferences and their consumer' behaviour.

1.4 Ethical Considerations

The survey undertaken to answer RQ2 was administered using an online survey tool (SurveyMonkey) and distributed by teachers to students in four high schools in Modena, Italy. It was made clear to students that participation in the survey was voluntary and that no identifying information of any nature, including names, e-mail addresses and I.P addresses would be collected during the survey. At the beginning of the survey, a description of its contents was given so that students could make a more informed decision about whether they wanted to participate or not, and throughout the survey students were given the opportunity to exit the survey at any point.

The research design has been reviewed against the criteria for research requiring an ethics board review at Lund University and has been found to not require a statement from the ethics committee.

1.5 Audience

As this research aims to investigate the manifestations of lobbying in the Italian meat sector there are several groups which may be interested in the results and implications of this research. The primary audience for this research is identified as being those that work in education with young adults, primarily in the fields of social science and environmental studies. The implications of this research may be of use in guiding attempts to equip young people with the knowledge and skills necessary to avoid being affected by deliberate lobbying attempts on the part of industry.

This research is also aimed at policy-makers or campaigners working on enacting policy or enacting campaigns to encourage decreased red meat consumption due to environmental or health reasons. The findings of this study may give a more nuanced picture of the barriers involved in achieving decreased consumption, as well as putting forward suggestions as to how they may be overcome.

Consumer advocates who actively work for promoting the interests of their consumers also fall within the targeted audience of this research as increased awareness of CPA would allow them to better defend their clients.

Finally, the academic audience for this research is determined to be those who research Corporate Political Activity, particularly in the FDI or in sectors which are known for contributing to climate change. The results of this research may be of particular interest due to the fact that the study attempts to test the effectiveness of CPA mechanisms on shaping perceptions, an approach so far lacking in existing studies.

1.6 Disposition

Chapter 1 of this thesis research highlighted the importance of the problem investigated in it by providing the necessary background to understand its significance in terms of environmental sustainability. This chapter includes the aim of this study, its research questions, as well as its targeted audience and ethical considerations.

Chapter 2 provides the conceptual foundations to this work presenting and analysing the main concepts and frameworks discussed in it. The literature review contained in this chapter delves into the current knowledge of CPA both within and outside the Italian context and eventually discusses the linkages in between the youth, climate change awareness and CPA.

Chapter 3 presents the research design and methods used to collect and analyse the data in both the qualitative and quantitative phases of the research.

Chapter 4 presents and analyses the results of research from the content analysis and administered survey.

Chapter 5, after presenting an overview of the results in terms of relevant research questions, discusses them in the context of existing literature and eventually investigates their significance and implications. This chapter also contains the methodological reflections over the adopted approach and research limitations.

Chapter 6 provides overall conclusions of the research in relation to the RQs posed and ends with recommendations for non-academic audiences and recommendations for future research.

2 Literature Review

In the following literature review, the current research pertaining to CPA on the part of the meat industry is outlined, with a focus on the situation in Italy. The chapter starts with presenting the key concepts relevant to the topic of research, the main one being corporate political activity (Section 2.1). Corporate political activity is a burgeoning topic of research regarding industry actions to influence political policy, with many studies exploring various cases of corporations attempting to influence the policy formation (Cetthakriku et al., 2021; Mialon & da Silva Gomes, 2019; Kolke and Pinkse, 2007; Useem, 1986, etc.). Apart from the research that explores specific case studies of CPA, there have been attempts to develop taxonomies of CPA in various sectors. This can be seen as an attempt to integrate a somewhat fragmented field of research across different disciplines such as political science, finance, management studies, strategic management, and sociology (Hillman et al., 2004). These taxonomies, commonly presented as frameworks, are important to aid researchers, and the public, understand what strategies are being used by corporations to influence the policy-making process. In Section 2.1.2, the taxonomies relevant to this research are reviewed and used to explain the CPA in the context of the meat industry.

After this, the literature review zooms in on the case of Italy, the country in which this research takes place. An overview of the Italian livestock sector and its associated environmental impact are provided in Section 2.2.1. It follows with a background on CPA in the Italian livestock sector and the initial evidence of how the livestock sector in Italy attempts to employ discursive strategies to influence policy (Section 2.2.2). Finally, as the research aim is to understand the effects of CPA strategies used by the meat industry on youth, Section 2.2.3 will delve on the linkages in between the youth, climate change awareness and CPA.

2.1 Key Concepts and Frameworks

2.1.1 The socio-political economy of meat

Research has already identified several barriers against an effective and widespread reduction of meat consumption in favour for more plant-based diets (Graça et al., 2019). These, which often act in tandem reinforcing each other, include institutional and psychological barriers as well as issues concerning ideology, culture, and industry influence (Hundscheid et al., 2022; Graves & Roelich, 2021; Sievert et al., 2021). Main institutional barriers for the reduction of meat consumption include trade agreement conflicts and policy incoherence (Sievert et al., 2021). Similarly, James et al. argue that policies aimed at reducing the consumption of meat have often ineffectively addressed the issue in a siloed manner, ignoring the interconnected nature of the issues surrounding high levels of meat consumption (James et al., 2022).

In addition, research has found that deep-seated ideologies such as carnism have also been identified as obstacles for fast-paced change (De Groeve et al., 2022). ‘Carnism’ refers to an ideology which has been described in psychological and sociological research as the belief that meat-eating is “harmless and unavoidable and invalidates minorities with plant-based diets” (ibid). This ideological stance has been found to contribute to meat consumption, as those who espouse it legitimate the practice of consuming meat and defend the right to kill animals (Monteiro et al., 2017). Apart from entrenching existing food consumption habits, carnism has also been found to reduce the likelihood for meat eaters to accept even just to taste plant-based

products – it has been shown that those who have higher carnist beliefs expect vegan food to taste worse than those who are more neutral in their view of meat consumption (Rosenfeld et al., 2023). By carnists, vegan food is perceived as a “symbolic threat”, and by devaluing it meat eaters can defend their ideology (ibid.). Other research has focused on how social identity plays a role in stopping people from adopting more plant-based diets, due to, for example, the perceived masculinity associated with high meat consumption (Rothberger, 2013).

Apart from cultural barriers and issues with existing policy, efforts in reducing meat consumption are limited by industry actors with vested interests who use their power to preserve the status quo (Clare et al., 2022). Investigating the behaviour of such actors by focusing on how they use their power is crucial to understanding the politics behind the food legislation. A substantial amount of research has been performed to explore how large transnational food and beverage companies, referred to in the literature as 'Big Food', use their lobbying power to maintain favourable situations within markets, influence public opinion and obstruct the abrogation of laws that are oriented towards addressing health or environmental problems, which would negatively impact their profit. (Clapp & Scrinis, 2017; Stuckler & Nestle, 2012). A number of strategies used by these corporations are also emulated and repurposed by the meat industry actors to counteract political efforts to reduce meat production and consumption (Bless, 2019).

Some research on how corporations influence public opinion on the issues of human and planetary health can be found in agnotology: scholarship within the field of the sociology of knowledge that investigates the purposefully created ignorance (Legg et al., 2021). Agnotology, among other issues, seeks to uncover the methods used by pressure groups when their interests are threatened by scientific discoveries and revelations (Porter, 2009). Over the years the research in this field has mainly focused on the influence of organised economic groups, such as Big Tobacco, Big Oil, or even Big Soda, large companies selling drinks with harmful amounts of sugar (ibid.).

2.1.2 Corporate political activity in the food sector and its associated taxonomies

In the context of the food sector, CPA is one of the main barriers for the successful formation and implementation of public health policies (Hillman et al. 2004). In 2018 the food engineer Melissa Mialon and her colleagues created a framework to analyse the mechanisms used by “Big Food” to curb the uptake of the public health policy (Mialon et al., 2015). This framework was derived from Ulucanlar et al. (2016) who presented “the policy dystopia model”, which categorises corporate political activity of the tobacco industry to delay the implementation of evidence-based policies to limit the harmful effects of tobacco consumption. These frameworks categorise the CPA actions into instrumental and discursive strategies, which are then split into subcategories and relevant practice and mechanisms to exercise these strategies (Mialon et al., 2020). Specifically, instrumental strategies, also referred to as action-based strategies, involve industries using “insider” and “outsider” tactics to influence the course of policy formulation and implementation (Ulucanlar et al., 2016). Insider strategies include coalition management, which involves practices such as constituency recruitment, whereby industry actors seek to establish relations with key opinion leaders and health organisations (Mialon et al., 2015). This can be achieved through various mechanisms such as supporting health organisations financially or establishing informal relationships with opinion leaders, among others (ibid.). On the other hand, the main example of an “outsider” instrumental strategy is lobbying, which is divided into the categories of information management and direct influence (Ulucanlar et al., 2016). If direct influence is usually deployed by funding policy makers and political parties, information

management can be achieved in various ways, e.g., through constituency building by funding research or through the formation of non-governmental organisations (Mialon et al, 2015).

The food industry is already known to have used these practices to hinder the development of public health policies such as stricter regulations on the marketing of unhealthy products; higher taxes on certain types of beverages; and the inclusion of additional nutritional information on products (ibid.). One of the most striking cases is undoubtedly that of lobbying against the taxation of sugar, a policy which would impact dramatically the FDI (Tselengidis & Östergren 2019). A report by the Corporate Europe Observatory (CEO) (2016) shows how, despite increasing scientific and public knowledge about the risks associated with excessive sugar consumption, the sugar industry has been able to derail stricter regulations and even weaken existing laws (Ainger and Klein, 2016). Actions that demonstrate the food industry's influence on the legislative process include the creation of lobbies to undermine/reverse food regulations, lawsuits and complaints, bribery of regulatory bodies and other (ibid.). The meat industry seems to be no different. To date, many articles on the lobbying efforts of the animal industry to support meat production, and indeed to increase it, have already been detected on several major newspapers (Kevany, 2021) Furthermore, a Greenpeace investigation has revealed how the meat industry, accompanied by the dairy and egg industries, tried to influence the UN Food System Summit held in New York in September 2021 with an aim to increase meat consumption and promote intensive livestock farming (Boren, 2021).

Discursive strategies, also referred to as communications strategies, are used by industries to communicate to the public at large the potential risks involved in invoking policy which would be harmful to the industry in question, whilst also disputing the validity of the claims put forward which support the policy in question (Ulucanlar et al., 2016). In a more detailed version of Mialon et al's framework, the authors outline that discursive strategies are used to, for example, stress the economic importance of the industry; frame the debate on industry related issues; and shape evidence available to the public on issues related to public health (Mialon et al., 2015). The meat industry also appears to have started using a similar set of strategies, focusing its discourse not only on public health issues, but also on environmental topics given the environmental impacts more and more associated with animal husbandry. A Greenpeace report investigating the meat industry lobbying in France gives great examples of such practices. The livestock farming, even in its intensive form, is always described as part of the solution to the climate crises and never as one of its causes. Aiming at curbing any expansion of industries specialised in meat-substituting products, the French meat industry is also fighting over the rights for such industries to use terms usually attributed to meat and dairy products (rice milk, wheat steak, etc.). The report has also found that the industry has been actively playing with health messages, by maintaining the 'protein myth', and social messages while promoting deregulation. Intensifying the link between meat consumption and national identity, making eating meat a patriotic act that proves citizens' support for their country, culture, farmers, and economy (GreenPeace France, 2022).

Other research has highlighted the techniques used by the food and alcohol industry to spread public doubt. These tactics also falls under the umbrella of discursive strategies. Miller and Harkins back in 2010 investigated how food and alcohol industries manage to lobby and influence all stakeholders involved in the discourse; science, civil society, media and politics (Miller & Harkins, 2010). If delaying meaningful policy changes to match their interests is seen as their goal the strategies deployed are numerous. The authors highlight the following techniques as being central to their apparatus: the 'bending' of science in their favour; the systematic spread of uncertainty and ambiguity over an issue; attacking critics; the motto 'our opinion must also be heard'; the use of advertising; and the use of trade associations capable of influencing policy makers (ibid.).

Attempting to explain why, despite overwhelming scientific evidence linking animal food production to greenhouse gas emissions since the early 1990s, institutions are slow to act, Almiron et al. explored the role of think tanks in influencing public opinion and consequently climate policies. By focusing on 110 European think tanks, they show how most of them contributed over the years to the dissemination of a denial narrative which favoured the spreading of a collective ignorance regarding the impact of our diets on the climate (Almiron et al., 2022). This study has a twofold significance for this thesis. Firstly, think tanks, similarly trade associations, aim at influence, and shape public opinion by the construction of narratives. Secondly, in recent times numerous think tanks have been proven to funded by industries with vested interests to disseminate narratives favourable to conservative agendas, including in the field of climate change denial. A study by Jacques et al. (2008) shows that out of 114 books on scepticism of climate change that were written in 1972- 2005, 92% were linked to conservative think tanks (Jacques et al., 2008).

Bjørkdahl and Syse (2021) introduce the concept - 'Welfare Washing'. By explaining how more and more people nowadays suffer from the 'meat paradox', i.e., they eat meat while professing to care about animals, the authors show how these people live in a kind of perpetual state of denial (Bjørkdahl & Syse, 2021). Such a denial is both highly convenient and partially induced by the meat industry which has great interests in keeping consumption levels safe from the effects of the public facing up to the daunting realities of meat production (ibid.). By focusing on the rhetoric used by some Norwegian meat advertisements, Bjørkdahl and Syse identify the common theme of the producer presented as caring towards the animal in all of them. The authors conclude that techniques of 'welfare washing' are used in advertising campaigns for meat and certain by-products to persuade consumers of the welfare level of the animals that become their food (ibid.)

2.2 Current knowledge on Corporate Political Activity in the Italian context

2.2.1 The Italian livestock sector, meat consumption trends and environmental impact

According to a report published in 2019 by the COLDIRETTI, and financed by the European Union in 2018, the added value produced by the Italian agricultural system exceeded EUR 33 billion in 2018, or 2.14% of the total added value. With 912,100 people employed in agriculture, the sector contributed around 3.6% to national employment. (Coldiretti, 2019) This report is also useful to better understand the structure of the agricultural sector. In Italy there are more than one million farms and in 98% of cases, they are directly managed and predominantly employ family labour (ibid).

Before diving into the environmental impacts of this sector in the Bel Paese, for the purpose of this thesis it is important to first understand what the national current trends regarding meat consumption are and how strong Italians perceive the correlation between climate change and meat consumption to be.

Meat consumption trends

Unfortunately, the most recent data on Italians' average daily meat consumption are outdated. In fact, the last national survey carried out dates to a 2005/2006 study (Survey INRAN) on adults between 18 and 64 years (Leclercq et al. 2009). Two things emerge clearly from the survey

analysis: in the five decades preceding the study, per capita meat consumption in Italy has tripled and the Italians' diet has increasingly diverged from the traditional Mediterranean one. The Mediterranean diet, based on regular consumption of olive oil, a rich variety of plant foods such as cereals, fruit, vegetables and pulses, and moderate amounts of meat and fish, was designated as forming part of UNESCO World Heritage in 2010 (UNESCO. 2013). The FAO and WHO have also recognised its value for being beneficial to human health and the environment (Ferrè et Willet. 2021). The INRAN survey clearly shows how, compared to the 1990s, the diet of Italians is changing drastically. The Mediterranean diet guidelines include fats and proteins mainly from vegetables and legumes instead of meat. The survey data show that while the consumption of fruit and vegetables was just above the recommended minimum, that of meat was well above the recommended intake for a healthy Mediterranean lifestyle (Leclercq et al. 2009). Going into more detail, in 2006, Italians consumed an average of 791 grams of meat per week, over 37 kg per person per year. Red meat occupied a large part of the consumption, about 40 per cent (Farchi et al, 2017). These values are far from those put forward by the 'planetary healthy diet', a healthy and sustainable diet model developed by the EAT-LANCE'T commission, wherein red meat consumption should be between 5.1 and 10.2 kg per year (Willet et al. 2019). Compared to 2006, however, things are changing. In recent years, scientific and media attention to the real impacts of meat has increased exponentially. The sum of the worrying effects of meat gaining traction are also the reason why more and more people are becoming vegetarian, flexitarian (eating meat only occasionally) or vegan in recent years. A survey conducted in Italy by the 'Research Institute of Italians' (Eurispes) showed that the number of vegetarians and vegans are growing year on year, and currently stand at an estimated 8% of the total population (Eurispes, 2021). Furthermore, according to the data gathered by the association Essere Animali, throughout the decade 2010-2019 in Italy there has been a decrease in the consumption of red meat, with a consequent increase in white meat and fish, the number of slaughterings of certain species has decreased and there has been a steady increase in the consumption of plant-based milk alternatives. (EssereAnimali, 2020) Regarding the mode of rearing (intensive, organic, caged or not) the report concludes that organic production continued to represent a niche of less than 1% of total production throughout the period with the only exception being cattle for which organic starts to have a larger share at 6.7% in 2019. For cows, on the contrary, 32% of the herds have disappeared since 2010 although the number of cows kept has remained the same. This identifies an increase in the number of animals per facility underlining the growth of the intensive livestock farming model (ibid).

National Awareness

In 2014, with the aim of measuring people's global awareness of the connection between the consumption of meat and dairy products and climate change, Chatham House and the University of Glasgow commissioned Ipsos MORI the carrying out of a survey in several countries amongst which Brazil, US, UK, China and some European countries including Italy. This survey, the first of its kind, collected participants' perceptions in several areas such as their willingness to reduce the consumption of these products for environmental purposes, their awareness of the industry's CO₂ emissions, and the media they relied on to inform themselves about it (Bailey et al. 2014). When asked to indicate how much they thought various sectors of the economy, including industry, the energy sector, transport, waste treatment and meat and dairy production contributed to climate change, more than ¼ of the respondents said that the latter had little or no influence even though emissions from the latter are very similar to those from the transport sector (ibid). Results also show as a lower awareness of a sector's real contribution to climate change translates into a lower willingness on the part of individuals to change their habits in this context to reduce their ecological footprint. Indeed, more than half of those who indicated meat consumption as having little impact on the climate said they were unwilling to change their habits for environmental purposes. Conversely, an increased awareness

of the environmental impacts of a specific sector translated into a greater inclination of individuals to act accordingly (ibid).

Awareness of the environmental impacts of a phenomenon, however, does not always seem to be enough to cause a real change in people's lifestyles. Especially when it comes to food preferences, buyers often tend to prioritise personal factors such as taste, price, tradition, or trust in a certain type of product (factors indicated as very or fairly important by 90% of respondents) over community or non-personal factors such as climate change (67%) or animal welfare (81%) (ibid). Zooming in on Italy, while over 90% of the Italians interviewed agreed that human activities, including livestock farming, were responsible for climate change only 60% of them considered the latter as a 'net important' factor in their choice of meat consumption (ibid).

Environmental impacts

The environmental impact of livestock farming is increasingly becoming a hot topic in both public opinion and agricultural policy decisions. Consequently, recent decades have seen various methodologies and systems being proposed to quantify these impacts. One of these assessment tools is the Life Cycle Assessment (LCA), which is useful for determining the environmental impacts caused by each production stage of a given product (Doro, 2022; Berton, 2019; Celozzi et al. 2021). Another method that has gained popularity, especially in the field of intensive livestock farming, is the use of calculation models to calculate the greenhouse gas emissions produced by livestock raised within a specific territory or farm (Lago, 2022; Stefanon et al. 2018). These methodologies, although scientifically founded and important, limit themselves to assessing the environmental impact of livestock farms and their products without considering the natural capital present in the territories where they are located. In other words, they provide detailed and rigorous information on the consumption of natural resources and the environmental impacts caused by activities, but do not consider the availability of these resources. Thus, while they are very useful for comparing the impact of livestock end products, such as a steak or milk, with other products/processes or for comparing the overall impact of the livestock sector with other production sectors, they are unable to provide any information on the sustainability of livestock activities (Passeri et al. 2012).

Investigating on the sustainability of the Italian agriculture and animal husbandry, the University of Tuscia (Viterbo) collaborated with Greenpeace Italia in 2020 to assess whether the Italian territory can sustain the current rates of livestock farming. To do this, a different approach was used than those listed above, based on the ecological footprint. The ecological footprint allows a comparison between the demand for natural capital required by an economic activity and the supply of this capital within the same territory, defined as 'biocapacity'. The biocapacity supply of a territory should be able to compensate for the consumption of natural resources by all human activities, including cultivation and livestock farming; only in this way, according to the ecological footprint approach, can a territory be defined as sustainable (Murgese & Savini 2020). The results of the study show an overall unsustainability of the Italian agricultural system and a decisive role of livestock farming, particularly in some regions, in determining excessive pressure on the ecosystem services that agricultural areas provide to the community (ibid). According to this analysis, in fact, the livestock sector uses 39% of Italy's agricultural land resources only to offset greenhouse gas emissions from livestock. The environmental impact of all cultivation and breeding activities is about one and a half times the natural resources, the biocapacity, made available by Italian agricultural land (ibid). That of the University of Tuscia is just one of the latest studies, in order of time, showing the unsustainability of intensive livestock farming and its impacts on climate (Goodland & Anhang 2009; Garnett, 2017).

2.2.2 CPA in the Italian livestock sector

The Italian meat sector is a well-organized machine, able to generate a yearly turnover of around EUR 30 billion, of which more than EUR 20 billion comes from the processing industry, which employs 67,000 employees, representing 16.5% of those in the food industry. Italy is Europe's fourth largest producer of beef, although it has lost almost a third of its production in the last decade and has increased its reliance on foreign supplies, which are more competitive on price (La Repubblica, 2019). To guarantee the well-functioning of such a structure, Italy's meat sector is based on numerous associations in charge of ensuring its standards and competitiveness in both the local and foreign arenas. Three of the most important ones are: Assocarni, Assica and Unaitalia.

Assocarni is most representative national association of the meat as it embodies companies involved in slaughtering, cutting, processing, and marketing procedures (Assocarni, n.d).

Assica is the national trade organization that, within the Confindustria (Confederation of Italian Industry), represents companies in the production of cured meats (both pork and beef), pig slaughtering and the processing of other meat products (Assica, n.d).

Unaitalia is the trade association that protects and promotes the Italian agri-food chain of meat and eggs and represents more than 90 per cent of the entire national poultry and rabbit industry. It represents member companies vis-à-vis institutions and administrations, economic, political, trade union and social, local, national, EU and international organisations, and identifies and deals with problems that directly or indirectly affect these sectors (Unaitalia, n.d).

In 2013, these three associations jointly funded a project called 'carni sostenibili'- '*sustainable meats*' – which aims to 'cover all topics related to the world of meat' in a cross-cutting way. As described on their website, this is an unprecedented project in Italy that with an 'educational and informative' approach aims to contribute to balanced information on health, nutrition, and sustainability. Among their main objectives are cited 'to contribute to correct information', 'to communicate starting only from scientific elements', 'to give value and visibility to the good practices of the Italian livestock supply chain' (carnisostenibili, n.d).

Online platforms, however, are not the only field in which these associations move and encounter the public and their consumers. Last year Assica, as part of the European project 'Trust your taste, choose European quality', organized a two-week period of meetings and educational activities on sausage and pork in several butcher shops throughout Italy. By going to the shops, consumers were able to find information, in-depth materials and also nutritionists for dedicated advice on deli meats and pork (Edizioni Pubblicità Italia, n.d). As part of the same project, Assica also opened a new academy 'Trust your Taste' an articulated training course focused on in-depth topics ranging from the history of cured meats in Italy, to the role of meat in a healthy diet, to environmental sustainability. In 2018, Assocarni launched an information campaign on conscious consumption of beef. The aim was to inform consumers about the nutritional values of Italian beef, the importance of animal protein in the Mediterranean diet and the contribution of animal husbandry to land protection. The campaign was held online for a fortnight with video, radio and digital segments devised and produced by Rai Pubblicità, differentiated for the various Rai channels, the national public broadcasting company, (TV, web, radio, cinema in the theatres of the Rai Pubblicità circuit), on different topics: what is sustainable meat; the nutrient properties of beef; beef and environmental impact (Assocarni, n.d).

The industry has also actively taken part in campaigning directly to government actors. In 2020 Assocarni sent an open letter to both the Minister of the Environment and Energy Security, and the Minister of Agriculture, Food Sovereignty and Forestry, asking to take a firm stand against the inclusion of the beef sector in the scope of the directive, as mandated by the new policies comprised by the Common Agricultural Policy (CAP) (Edizioni Pubblicità Italia, n.d).

Through their partnership, *carnisostenibili*, these associations also undertake projects which are aimed at promoting public health. For example, they launched a project called 'Longevity Run' that has now reached its 6th edition. This project intends to promote activities aimed at investigating and disseminating scientific evidence on longevity in good physical and mental health while also creating awareness around main cardiovascular risk factors, including cholesterol (*longevityrun.it*, n.d).

One issue that the industry has made a particular effort to take a stand on is synthetic meat. In April 2023 Assocarni, Assica, and UnaItalia have joined forces with Coldiretti and Assolatte (national association representing the dairy sector) to form the first alliance against the synthetic food. The objectives of the alliance were announced at the conference 'The risks of synthetic food' held at Tuttofood, during which the presidents of the associations turned the spotlight on synthetic food, defining it as a 'business in the hands of a few, but very influential in the world, which can put economic and food democracy at risk' (Luisetto, 2023). Actively campaigning against synthetic meat, and synthetic food in general, seems to have become a top priority for all these associations. The president of Coldiretti, commenting on the matter, declared that ultra-processed products proposed as meat-substitutes are not environmentally neutral and a switch towards this replacement could hold devastating economic consequences (Orefice, 2022). According to the president of Assocarni both the EU Green Deal and Farm to Fork strategies will lead to a drop in European milk and meat production at a time when world demand for noble proteins is growing. During a speech he also insisted on the fact that consumers are free to feed themselves as they wish and that the attack on the sustainability of natural food is a 'big fake news' (*ibid*). Not surprisingly, these arguments and ideas are largely discussed and re-proposed throughout the publications of *carnisostenibili* website. What should come as a surprise, however, is that to combat what they describe in their publications as 'fake news' about the health and environmental impacts of meat, they use publications of dubious integrity. For example, a presentation by Giuseppe Pulina, President of the *carnisostenibili*, made use of two studies whose authors were previously found to have received funding/support from the meat industry. Bradley C. Johnston, emeritus epidemiologist and lead author of the report '*Unprocessed Red Meat and Processed Meat Consumption: Dietary Guideline Recommendations From NutriRECs Consortium*' which suggests that current meat consumption should not be reduced even in developed countries, previously worked for the food and meat industry (Johnston et al. 2019). In 2016, Johnston himself was the lead author of another study aimed at discrediting international guidelines on sugar consumption. Funding for that study came from the International Life Sciences Institute, ILSI, a huge agribusiness trade group, long accused by the WHO of compromising public health recommendations in order to protect corporate interests (Parker-Pope & O'Connor, 2019). The second study, entitled '*Should Dietary Guidelines Recommend Low Red Meat Intake*' published by Frederic Leroy in 2020, not only rails against the EAT Lancet report, but also concludes that risks associated with meat are not in line with evolutionary development in human history and are not supported by robust scientific evidence (Leroy and Cofnas. 2020). Again, the author's funding and conflicts of interest are more than questionable. Besides being president (albeit unpaid) of several non-profit organisations such as the Belgian Association for Meat Science and Technology; companies cited in the acknowledgments for funds received include, for example, the North Dakota Beef commission, the Turner Institute of Ecoagriculture and the Greenacres Foundation for projects that links livestock and crops to the nutritional composition of foods and human health. (*ibid*)

In addition to making use of sources of dubious integrity, *carnisostenibili* also publishes its own information material. Next month, the new book edited by Giuseppe Pulina, director of *carnisostenibili*, titled 'Meat and sausages: the new frontiers of sustainability' and published by FrancoAngeli, one of the most important Italian publishers, will be presented. This volume takes its cue from another book published in 2018 aimed at describing the "5 faces" of meat sustainability, represented by: nutrition, environmental impacts and circular economy applied to livestock farms and industry, food safety and animal welfare, economic aspects of supply chains and the fight against food waste (*carnisostenibili*, n.d).

Several of these actions highly resonates with those undertaken by other corporations in the context of CPA presented in section 2.1 of this research. Promoting the good intentions of the industry, the 'bending' of science, the fierce fight to meat-substitutes products, the 'protein myth', the use of powerful trade associations to influence policy-making processes, the dissemination of doubts. It can be said that the Italian meat sector is undoubtedly following the script. Despite the evident efforts made by the industry to organize and put out their message defending their products and debunking accusations levelled at them, there is still a worrying lack of attention being paid to their activities and to their discursive strategies. Such a research gap is where this study fits in, digging deeper into the industry's communication trying to shed light and laying the foundation stone in investigating CPA of the Italian meat sector.

2.3 Youth: ignorance and vulnerabilities

As the second research question of this research, and the quantitative study carried out in it, concerns the Italian youth it is important to have a brief section exploring the linkages in between the youth, climate change awareness and CPA.

Young generations relate to climate change in several different ways. The young generation are bound to be extremely affected by socio-economic and environmental consequences brought about by the changing climate, and at the same time they represent the next-voting class and, as such, can be seen as future environmental stewards (Han & Ahn, 2020). Although the youth is eventually starting to be perceived as a vital asset in the fight against climate change, young people have been often left out from the policy-making processes, resulting in climate mitigation strategies designed for them which did not engage them in the first place (Narksompong & Limjirakan, 2015). An increasing amount of literature has been focusing on evaluating students' awareness and comprehension of climate change and climate science in general. A 2001 study conducted in Canada found that students, despite being able to generally describe issues concerning climate change, could not identify or describe neither causes or consequences of the phenomenon on their own lives (Pruneau, 2001).

Attempting to measure students' perceptions about the usefulness of various acts and their willingness to embrace them in the context of global warming, Boyes and Stanisstreet carried out a quantitative study based on a survey (Boyes & Stanisstreet, 2012). According to their findings, two thirds of the students perceived global warming as a real phenomenon and around half of them stated that they were concerned about possible repercussions related to it. Additionally, when asked to identify main drivers of global warming and ways to curb it, most participants successfully mentioned transportation and energy production but failed to identify reduced material consumption, fertiliser use and meat intake as possible solutions (*ibid*). Similarly, another study conducted in Greece in 2011 found out that students were aware of the direct mitigation effects involved in reducing personal transportation, choosing renewables

sources of energy and re-forestation, but largely ignored less direct ones such those related to meat and material consumption (Malandrakis et al., 2011)

Such a lack of comprehension and full understanding around primary causes and effects of climate change make the youth population an easy target for manipulation and disinformation campaigns. Research has shown that marketing activity by the FDI has immediate and future effects on youth consumption patterns, and it is generally accepted that youth are more susceptible to the effects of marketing overall (Mosher, 2012). A possible explanation of this increased susceptibility towards media impact is due to youth's lacking the sufficient cognitive skills required to critically analyze media and commercial material (Wilcox et al., 2004). Studies have shown that youth exposure to aggressive marketing of ultra-processed food during early stages of development can negatively affect their decision-making abilities and make them more prone to poor health conditions at later life stages (Feldman & Wolnik, 2019). FDI have already been proved to be deploying strategies to incentivize consumption of products with potentially adverse effects on the health of young people (Mosher, 2012). In the early 2000s a distilled spirits industry has used marketing strategies specifically targeting the youth to promote a shift of alcoholic beverage preference from beer to distilled spirits (ibid).

Even though research has shown that counter marketing actions – the advertisement of healthier diets – can play a role in pushing the youngest to consume healthier foods, such a solution has not been proven effective in teaching them how to evaluate marketing strategies or develop critical thinking (Nelson & Kher, 2016). Insufficient awareness regarding the root causes of climate change, coupled with an increased susceptibility to manipulation, make the youth an immensely attractive target demographic for corporate strategies. Therefore, it is crucial to conduct further research on this group to gain deeper insights into their attitudes, knowledge, and perceptions.

3 Research Design, Materials and Methods

This research followed a mixed-method approach based on the ‘exploratory sequential’ methodology outlined in Creswell and Creswell’s book, *Research Design* (2005). This methodological choice was undertaken to simultaneously address both RQs. Furthermore, given the trans-disciplinary nature of CPA, a mixed-methods approach was the best suited one to investigate the complexity of issues related to meat consumption, perceptions of climate impacts of the meat industry and the use and effectiveness of CPA strategies.

This approach encompassed two distinct analyses: the first involved qualitative data analysis of media content, while the second entailed quantitative data analysis on a study conducted on with a sample of Italian students.

Table 3-1: Methodology for data collection and analysis

Research Phase	RQ	Methods for Data Collection	Type and source of Data	Methods for Data Analysis
<p><u>Identifying Mechanisms at Play: Literature</u></p> <p><u>Review and Content Analysis</u></p>	<p><i>RQ1. How is the Italian Meat Sector contributing to discourse on meat consumption in Italy?</i></p> <p><i>1.1. Which CPA mechanisms is the Italian Meat Sector deploying to do so?</i></p>	<p>Stage one: Purposeful sampling for preliminary analysis of media content</p> <p>Stage two: Selection of representative sample of articles based on preliminary analysis</p>	<p>Qualitative analysis: Media content from carnisostenibili website</p>	<p>Stage one: Thematic pre-analysis of 54 articles equally distributed between content published in the last three years</p> <p>Stage two: Thematic analysis of the final representative sample of media content using Nvivo software, applying Mialon et al.’s 2015 framework.</p>

<p><u>Testing Effectiveness of Mechanisms: Survey Experiment</u></p>	<p><i>RQ2. How do these mechanisms affect the Italian youth's perception of the meat sector?</i></p> <p><i>2.1. What effect, if any, would awareness of CPA have on the Italian youth ability to identify CPA mechanisms?</i></p>	<p>Experimental survey with control group and experimental group</p>	<p>Quantitative analysis: Survey results</p> <p>(An open-ended question allowed for the gather of some qualitative data by a part of the sample)</p>	<p>Survey Monkey software + SPSS software (chi test to test for statistical significance)</p> <p>Nvivo thematic analysis for results from open-ended question</p>
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As shown in Table 3-1, the first two stages of research, deployed to answer RQ1, involved a thematic pre-analysis and a thematic analysis of articles from the website *carnisostenibili*. During the last stage of research, in the attempt of answering RQ2, a survey was administered to students purposely divided into a control and an experimental group.

3.1 Methods Used to Collect Data

To identify if the Italian meat sector was trying to shape the public opinion, both content analyses made use of the previously discussed “framework to systematically identify and monitor corporate political activity of the food sector” shown in Table 3-2. (Mialon et al., 2015). While mechanisms in dark yellow came from the original taxonomy put forward by Mialon and colleagues, mechanisms 3.3, 3.4, 3.5 and 3.6 have been slightly adjusted (3.3) or added (3.4, 3.5, 3.6) during the first stage of this research.

Table 3-2: Framework for identifying CPA in the meat industry.

Strategies	Practices	Mechanisms
<u>Information and Messaging</u>	1) Stress the economic importance of the industry	1.1 Stress the number of jobs supported and the money generated for the economy
	2) Promote deregulation	2.1 Highlight the potential burden associated with regulation (losses of jobs, administrative burden)
		2.2 Demonize the ‘nanny state’
	3) Frame the debate on climate and public health-related issues	3.1 Shift the blame away from the industry
		3.2 Promote the good intentions and stress the good traits of the industry
		3.3* Emphasize the industry’s actions to address public health/environmental-related issues
		3.4* Not properly backing up statements with scientific evidence
		3.5* Playing the victim
	4) Shape the evidence base on diet and public health-related issues	3.6* Emphasize the health and environmental risks involved in moving away from meat consumption
		4.1 Cherry pick data that favours the industry
		4.2 Disseminate and use non-peer reviewed or unpublished evidence
		4.3 Provide industry-sponsored education materials
		4.4 Emphasize disagreement among scientists and focus on doubt in science
		4.5 Criticize evidence and emphasize its complexity and uncertainty
		4.6 Fund research, including through academics, ghost writers, own research institutions and front groups

Source: Adapted from (Mialon, 2015)

3.1.1 Preliminary sampling for media content

To initially obtain a comprehensive and up-to-date understanding of the Italian meat industry's communication landscape the thematic pre-analysis focused on the last three years (2021-2023). Specifically, 18 articles from each year, three from each category, were analysed for a total of 54 articles. In addition to identifying the main themes addressed in the articles, the pre-analysis also involved the identification of relevant keywords and significant quotations used by the industry to convey their messages. Notes on each article were taken in a spreadsheet (see sample provided in Appendix A).

3.1.2 Experimental Survey

The second phase of research involved conducting an experiment-style survey which tested the effectiveness of different mechanisms deployed by the meat industries, identified during the previous stage of research, on a sample of Italian students. The sample consisted of 15 classes of students from four secondary schools in Modena, the researcher's city of origin. Although the total number of participants in the survey was 337, 34 answers were not complete and therefore were excluded from the sample to ensure the validity of the answers. Following such filtration, the total number of participants in the Control group was 154 while the total number of participants in the Experimental group was 149. Specifically targeting students who were approximately 18 years old was a deliberate choice dictated by several compelling reasons. Firstly, as these students are about to become eligible voters, their opinions are bound to hold significant potential to influence policy decisions. Furthermore, with the transition into adulthood, most of them will experience a greater level of independence from their families, newly acquiring an active role in consumer decision-making. Considering these factors, the chosen sample of 18-year-old students not only offered a unique opportunity to gauge their perception around meat, but also provided valuable insights into their evolving roles as citizens and consumers.

The survey was structured in two distinct phases. In the first part, the participants were asked some broad questions aimed at investigating their diet, frequency of meat consumption, their primary reasons for consuming meat, whether they ever tried to reduce meat consumption and if they would be willing replace part of it with other products such as lab-grown meat, plant-based alternatives, insects' etcetera. The second part was instead aimed at assessing the effectiveness of the mechanisms deployed by the meat sector and, eventually, calculating the statistical difference in the way the two groups identified these mechanisms while at play.

This has been tested through a three-steps process. Prior to being exposed with excerpts taken from *carnisostenibili*¹, students were 'tested' on their perception/knowledge about a particular meat-related aspect. Then, after the exposure, the students were asked follow-up questions aimed at measuring/collecting impairments on their previous perceptions. The design of these questions involved the identification of what could have been considered as a successful outcome for each of the mechanism deployed by the industry. The 'thinking process' behind this design is shown in Table 3-3.

Table 3-3: Design to test for perceptions' alteration after exposure.

Excerpt	Practice deployed	Mechanism deployed	Practice/Mechanism Evaluation	Question devoted
N°1	1) Stress the economic importance of the industry	1.1) Stress the number of jobs supported and the money generated for the economy	Belief that the industry is extremely important for the national economy	Q12

¹ In order to minimise the research bias the text excerpts were presented to the students in the original language, Italian, precisely as they would have appeared within the articles.

N°1	2) Promote deregulation	2.1) Highlight the potential burden associated with regulation	Belief that imposing regulations on the industry will lead to economic harm.	Q13
N°2	3) Frame the debate on climate and public health-related issues	3.1) Shift the blame away from the industry.	Belief/acceptance that policies should focus more on other sectors rather than the livestock one	Q15
N°2	3) Frame the debate on climate and public health-related issues	3.5) Playing the victim	Belief that the sector received a disproportionate amount of blame	Q16
N°3	3) Frame the debate on climate and public health-related issues	3.2) Promote the good intentions and stress the good traits of the industry	Belief/ acceptance of the good traits of the industry	Q18
N°4	3) Frame the debate on climate and public health-related issues	3.3) Emphasise the industry's actions to address public health/environmental-related issues	Belief that the industry has been working intensively in order to address public health/environmental issues	Q21
N°4	3) Frame the debate on climate and public health-related issues	3.2) Promote the good intentions and stress the good traits of the industry	Belief/ acceptance of the good traits of the industry	Q22
N°5	3) Frame the debate on climate and public health-related issues	3.6) Emphasise the health/environmental risks involved in moving away from meat consumption	A heightened fear that vegan diets could be dangerous for your health	Q24
N°5	4) Shape the evidence base on diet and public health-related issues	4.4) Emphasise disagreement among scientists and focus on doubt in science	Agree with the criticism that vegan diets lack scientific support	Q25

The last part of the survey, devoted to answer sub-question 2.1, asked the participants to reflect on the text extracts they had just read and to identify which strategies they thought had been used within them. While the control group could not have expected such question to be asked, the experimental group, before starting the second part of the survey containing the excerpts

had been warned about the industry's communication strategies. Specifically, the experimental survey participants were presented with the following text before accessing the first extract:

“ In this second part of the survey, you will be presented with five text excerpts extrapolated from the website of a project funded by some of the major Italian trade associations representing the meat sector. The extracts will be presented in Italian, exactly as they are written on the website, in order to minimise potential bias during the translation. While reading the following excerpts bear in mind that other sectors such as the tobacco, sugar and the oil&gas sectors, when linked to negative health and environmental impacts, have in some cases resorted to a set of strategies in order to protect their industry from public outcry and more stringent government policies.”

To limit research bias, not all mechanisms used within the extracts were included as possible options. Among those listed, the only ones found within the text excerpts submitted to the students were 3.1, 3.2 and 3.6.

3.2 Methods used to analyse data.

3.2.1 Thematic content analysis

To gain a more comprehensive understanding of the communication strategies employed by *carnisostenibili*, a meticulous content analysis was conducted on a selected subset of articles that were initially examined during the preliminary analysis. Five articles from each of the three years were chosen to be analysed thematically using the Nvivo software. These were chosen based on how representative they were of the whole sample used in the preliminary analysis, based on their topic and CPA mechanisms contained therein. These fifteen articles were then coded abductively; whereby most of the codes came directly from Mialon et al. 's 2015 framework, on the occasion where a recurring discursive mechanism not covered by the framework arose in the texts, a new code was created (See adapted framework reported in table 1, mechanisms in light yellow).

3.2.2 Survey results analysis

Assessing the effectiveness of the mechanisms deployed

The findings from the follow-up questions were not subjected to statistical analysis but rather examined through a trend analysis approach. The primary objective was to initially gauge the participants' baseline perspectives on specific topics and subsequently observe how the sample responded to the implementation of various strategies. Despite not relying on statistical measures, this approach offered a rich overview within the research context, capturing the nuanced changes and trends within the sample's responses.

Testing statistical difference in between control and experimental groups

Both groups' answers to Q26 were analysed using SPSS, a statistical analysis software, to determine whether informing the experimental group could have a statistical difference on their ability to identify which strategies had been used by industry within their communication.

To facilitate the analysis in SPSS, a coding process was implemented. Each answer option was associated with a numerical value to enable quantitative analysis. For instance, the answer option

"not at all" was assigned a value of 1, while "to a full extent" was assigned a value of 5. This coding scheme was recorded in an Excel table, which allowed for easy organization and manipulation of the data. Once the coding process was completed, the Excel table containing the coded data was exported to SPSS.

To compare two independent groups in this study, the statistical analysis employed was the "Chi-square test for association." This test is used to determine whether a relationship exists between two categorical variables by comparing the observed frequency of each category of a variable with the expected frequency of that category based on the distribution of the other variable (Ugoni & Walker, 1995). In SPSS, a p-value is calculated to determine the statistical significance of the observed relationship. A p-value below the significance level (typically 0.05) indicates that the relationship between the variables is statistically significant, meaning that it is unlikely to have occurred by chance alone (ibid). All the values obtained from the tests performed on SPSS are collected in Appendix B.

As shown in table 2, the survey also included an open-ended question targeting a share of the sample. Based on their answer choice on Q18, some students were sent further ahead in the questionnaire while other were asked an additional open-ended question. Similarly to the approach adopted during the thematic content analysis a set of codes was created based on the most recurrent themes. Some of these qualitative answers were deemed incomplete, inconsistent, or lacking in any meaningful explanation. Examples of such answers are the absence of 'real words' (a comma or a full stop), 'i do not know', sentences without complete meaning or repetition of the question itself ('my views did not change').

4 Results & Analysis

This section presents the findings of this research, which aims to explore the Italian meat industry's contribution to the discourse on meat consumption in Italy (Section 4.1) and investigates its potential implications for Italian youths' perception of meat consumption (Section 4.2). The goal of this chapter is to provide a comprehensive overview of the research findings and address the research questions. It is divided into two sections. Section 4.1 contributes to answering RQ1 by presenting the results of the two-stage content analysis. Section 4.2 focuses on answering RQ2 by summarising the results of the quantitative data analysis from the survey.

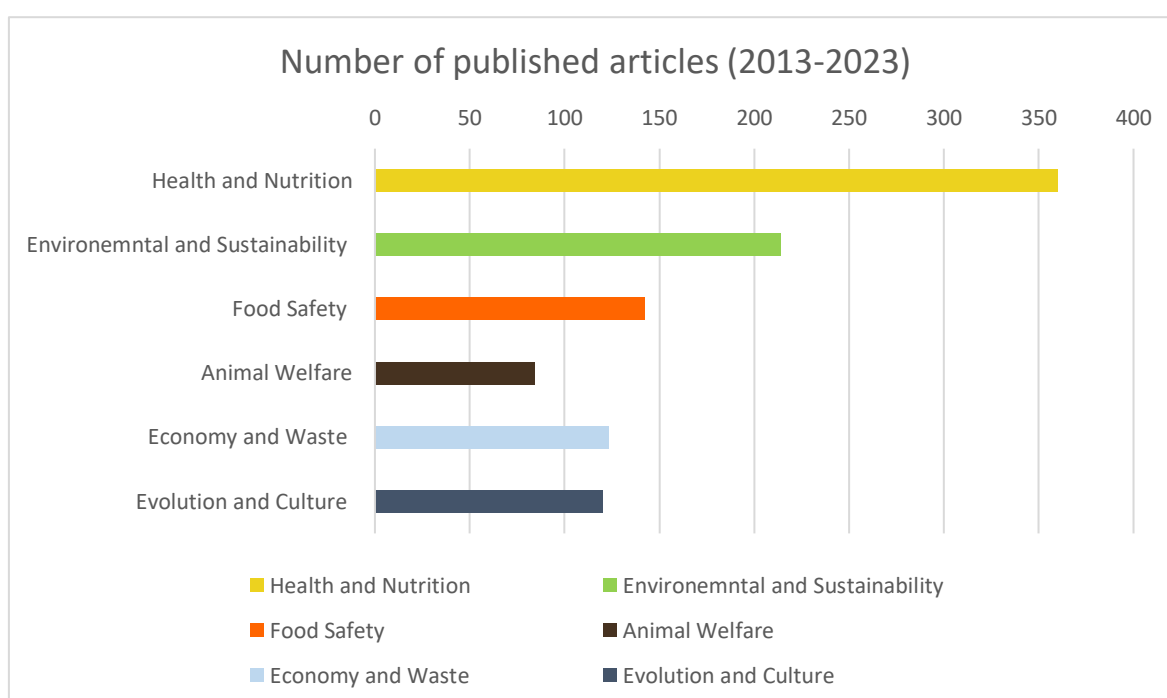
4.1 Corporate political activity mechanisms deployed by the Italian meat industry.

4.1.1 Pre analysis findings

To address RQ1, which seeks to understand how the Italian meat industry shapes the discourse on meat, the *carnisostenibili* website was examined through a thematic pre-analysis followed by a content analysis (Section 3.1).

Founded in 2013, the website has been highly active over the past decade, with almost 1 000 articles published during this period. The website content is divided into six distinct categories: 'Health and Nutrition', 'Environmental and Sustainability', 'Food Safety', 'Animal Welfare', 'Economy and Waste', 'Evolution and Culture'. Table 4-1 presents a visual summary of which categories have seen the most publications since the site was launched.

Table 4-1: *Articles published by 'carnisostenibili' visualised by category*



Recurrent topics

Table 4-2 provides a comprehensive overview of the most commonly recurring topics within the 54 articles that were examined during the thematic pre-analysis phase. The analysis revealed that the website discussed a wide range of topics, but issues like synthetic meat, greenhouse emissions, ultra-processed foods, proteins and veganism were detected way more often than other. The themes that emerged from this analysis confirmed that the categories of health and nutrition, environmental sustainability, and food safety were highly prioritised by the website.

Table 4-2: Recurrent topics discussed by the industry.

<i>RECURRENT TOPICS</i>	<i>N° of articles addressing them</i>
Lab Grown meat (also addressed as fake, synthetic, cultivated, artificial, etc.)	26
Greenhouse gas emissions	22
Health risks of ultra-processed foods	20
Environmental sustainability of the livestock sector	20
Proteins' importance in a diet	19
Vegan diet	18
Farm to Fork strategy	16
Climate change and Global warming	15
Methane emissions	15
Intensive farming	14
The importance of the Mediterranean Diet	10
Vegetarian diet	9
Antibiotics and pharmaceuticals	8
Biogas	7
Common Agriculture Policy (CAP)	5
Green New Deal	5

Recurrent mechanisms

The pre-analysis phase also aimed to answer RQ1.1 exploring the extent to which the CPA mechanisms identified by Mialon et al. have been used in the articles published on the *carnisostenibili* website.

Table 4-3: Recurrency of mechanisms deployed.

Practices	Mechanisms	N° of articles in which it was deployed
1) Stress the economic importance of the industry	1.1 Stress the number of jobs supported and the money generated for the economy	3
	2.1 Highlight the potential burden associated with regulation (losses of jobs, administrative burden)	11
2) Promote deregulation	2.2 Demonize the 'nanny state'	4
	3.1 Shift the blame away from the industry	16
3) Frame the debate on climate and public health-related issues	3.2 Promote the good intentions and stress the good traits of the industry	37
	3.3* Emphasize the industry's actions to address public health/environmental-related issues	25
	3.4* Not properly backing up statements with scientific evidence	12
	3.5* Playing the victim	16
	3.6* Emphasize the health and environmental risks involved in moving away from meat consumption	25
	4.1 Cherry pick data that favours the industry	28
4) Shape the evidence base on diet and public health-related issues	4.2 Disseminate and use non-peer reviewed or unpublished evidence	8
	4.3 Provide industry-sponsored education materials	2
	4.4 Emphasize disagreement among scientists and focus on doubt in science	18
	4.5 Criticize evidence and emphasize its complexity and uncertainty	10
	4.6 Fund research, including through academics, ghost writers, own research institutions and front groups	3

Table 4-3 presents the initial results of the pre-analysis conducted on the 54 articles taken into consideration at this stage of the project. The greyscale colour coding indicates the frequency of communication mechanisms identified in the articles. The results indicate that some communication practices are more commonly used on the website than others. As can be seen, practices 1 and 2, which respectively stand for 'stressing the economic importance of the industry' and 'promoting deregulation', were not frequently detected. In contrast, practice 4, 'shaping evidence on diet and public health issues', and practice 3, 'framing the debate on climate and public health issues', were frequently observed in the analysed articles.

These results provided initial insights into the website's communication strategies and shed light on the emphasis placed by Italian meat companies on certain topics related to meat consumption.

The subsequent phase of this research, an in-depth thematic content analysis performed using the Nvivo Software, focused on 18 articles, 3 per year per category, aimed at further investigating the industry communication.

4.1.2 Content Analysis Findings

Having established that the Mialon et al. framework was an appropriate analytical tool for analysing the communication mechanisms present on the *carnisostenibili* website, a more in-depth content analysis was performed on 18 selected articles. As shown in the table 4-4, the results of this analysis found that, much like in the pre-analysis, practises 3 and 4 were the most used in the material covered.

Table 4-4: Practices detected during the thematic analysis of ‘*carnisostenibili*’

Name	Files	References	Color
> ○ Frame the debate on climate and public health-related issues	17	106	●
> ○ Shape the evidence base on diet and public health-related issues	16	78	●
> ○ Promote deregulation	5	8	●
> ○ Stress the economic importance of the industry	3	5	●

Table 4-5: Mechanisms detected during the thematic analysis of ‘*carnisostenibili*’

✓ ○ Frame the debate on climate and public health-related issues	17	106	●
○ Promote the good intentions and stress the good traits of t...	13	28	●
○ Emphasize the industry's actions to address public health...	12	18	●
○ Shift the blame away from the industry	10	19	●
○ Emphasize the health and environmental risks involved in...	9	21	●
○ Playing the victim	9	11	●
○ Not properly backing up statements with scientific evidence	5	9	●
✓ ○ Shape the evidence base on diet and public health-related is...	16	78	●
○ Emphasize disagreement among scientists and focus on d...	11	19	●
○ Cherry pick data that favours the industry	10	22	●
○ Criticize evidence and emphasize its complexity and uncer...	10	16	●
○ Disseminate and use non-peer reviewed or unpublished ev...	6	8	●
○ Fund research, including through academics, ghost writers...	6	8	●
○ Provide industry-sponsored education materials	4	5	●
✓ ○ Promote deregulation	3	6	●
○ Highlight the potential burden associated with regulation (l...	3	4	●
○ Demonize the ‘nanny state’	2	2	●
✓ ○ Stress the economic importance of the industry	3	3	●
○ Stress the number of jobs supported and the money gener...	3	3	●

As shown in Table 4-5, as with the practices, some mechanisms were found to be deployed more frequently than others.

For example, within the context of practice 3, the most detected mechanisms were those aimed at promoting the good intentions and traits of the industry, those emphasising the industry's efforts in addressing public health and environmental related issues and those trying to shift the blame away from the sector. Within practice 4, cherry-picking favourable data, emphasising disagreement over science, and critiquing evidence were the most encountered mechanisms.

These results reiterate what had already emerged in the pre-analysis phase. The Italian meat industry prioritises shifting the blame from its activities through the enhancement of the industry's good traits and good intentions. By doing this, especially in the realm of public health and climate change, the industry seeks to protect its reputation and avoid negative connotations. A detailed overview of the findings will be presented in the next sections in ascending order from the most abundant to the least abundant practice.

Practice 3: Frame the debate on climate and public-health related issues:

Of the four categories in the adapted framework, practice 3 was found to be the most deployed one with 17 of 18 articles detecting this practice. In total 106 instances of this practice were observed. Of the six mechanisms in this category, the most detected one was 3.4, "Promote the good intentions and stress the good traits of the industry".

The following excerpt, taken from different articles and translated using a translation software, serve as an example of this mechanism in action.

" [...] Meat and processed-meat products, like all foods of animal origin with a high nutritional value, have brought prosperity, increased our health and life expectancy, and over time defeated poverty and malnutrition".

The coded excerpts, such as the one above, representing this mechanism generally put forward a very positive view of the Italian livestock sector. The sector is argued to play an active role in solving pressing concerns, including depopulation of rural areas; landscape degradation and even malnutrition and poverty. They are also painted as being a responsible industry, who can provide a great guarantee of product safety.

Practice 4: Shape the evidence base on diet and public health-related issues:

With over 70 references found in the 18 articles examined, practice 4 was the second most frequently encountered strategy in the communication of the *carnisostenibili* website. Amongst the 6 mechanisms contained within this category, 4.4 'Emphasise disagreement among scientists and focus on doubt in science' was detected in more than half of the articles examined. The following excerpts represent different facets of this mechanism, as they each work to cast doubt; attack existing published science and finally to highlight disagreement amongst scientists.

" [...] Having wiped out the current farming-livestock world, what scientific certainty (and not algorithms or forecasting projections) does one offer to ensure sufficient availability of plant or vegan food to satisfy the mouths of the Earth's inhabitants in 2050, while ensuring the economy of every human?"

“ [...] To make this comparison, The European Medicines Agency (EMA) relies on a complicated algorithm that relates drug sales figures to the number of animals bred. Numbers not to be taken in absolute terms, warns the EMA itself, but which puts us in third place, behind Cyprus and Poland for the quantity of active ingredient used. Too much, so much so as to imagine some error in the 'formulas' adopted. ”

“ [...] In her presentation, the expert insisted that there is no evidence that red meat is associated with an increased health risk and that protection against nutritional deficiencies has been completely ignored: "This is why scientists, politicians and all those involved in the food system should be extremely cautious about global health estimates that are not strictly based on transparent evidence."

The first excerpt stresses the risks involved in wiping out the livestock sector. They focus on the lack of scientific understanding of the issue to defend the sector from being usurped by a new artificial meat industry. The second excerpt is from an article which criticises a European Medicines Agency report which puts Italy in third place for highest sales of antibiotic veterinary medicinal products. This falls in line with the mechanism described by the framework, in that they are casting doubts on the validity of a scientific report which makes conclusions which cast the Italian livestock sector in a negative light. The final excerpt puts forward the idea that there are in fact some scientific experts who denounce claims that red meat poses health risks, and state that there are important health benefits associated with its consumption. This mechanism, in addition to casting doubt, also works to highlight an idea that there are dissenting voices opposing mainstream science who are being silenced by dominant powers.

Practice 2: Promote deregulation.

Promoting deregulation was not very common on the website as it was only detected in three of the 18 articles. Amongst the two mechanisms contained in this category, 2.1 ‘Highlight the potential burden associated with regulation (losses of jobs, administrative burden)’ was the most recurrent.

“ [...] But if more investments were diverted to alternative vegetable proteins, the damage to the economy and health would not be long in coming. [...] A crisis triggered by a forced growth in plant proteins at the expense of animal proteins would lead to serious repercussions in terms of turnover and employment.”

The underlying message conveyed in this excerpt is that policies in favour of rivals, not meat-based industries, could lead to dramatic consequences for the national economy. There is little specificity offered in terms of the specific ramifications of people moving away from an animal-product based diet. Instead, the economic fallout associated with people turning their backs on the industry would be very serious indeed, with a huge number of jobs lost.

Practice 1: Stress the economic importance of the industry.

As in the case of Practice 2, Practice 1 was also only detected in three articles among those taken into consideration. This practice only contains one mechanism: 1.1 ‘Stress the number of jobs supported, and the money generated for the economy’.

“ [...] From an economic point of view, the Italian livestock industry as a whole - breeding and industrial processing for the cattle, pig and dairy sectors - has a turnover of more than EUR 46 billion”.

“ [...] Animals are irreplaceable for maintaining a circular flow of materials in agriculture, while generating many other benefits, and livestock ownership forms the basis of any rural community and its financial capital”.

The first excerpt here simply puts forward a figure which underlines the money which is generated for the Italian economy by the various livestock sectors. The second underlines the important role played by the industry in providing the main source of income for rural communities.

4.2 The impact of corporate political activity mechanisms on the Italian youth

RQ2 aimed to investigate the extent to which the mechanisms presented in Section 4.1 are effective in shaping the perception of meat among Italian students. The following sections will give an overview of the findings from the quantitative study conducted in this research.

Survey demographics & Diet preferences

The only demographic information collected in the survey was based on gender. Out of a total 303 students who fully completed the survey, 77 were male, 223 were female and 3 selected the ‘other’ option in response. As shown by Figure 4-1, most of the respondents, exactly 278 (91%), identified themselves as omnivorous, as shown by Figure 1. The remaining 25 was divided as follows: 14 (5%) flexitarians, 8 (3%) vegetarians, 3 (1%) pescatarians. No respondents identified themselves as vegans.

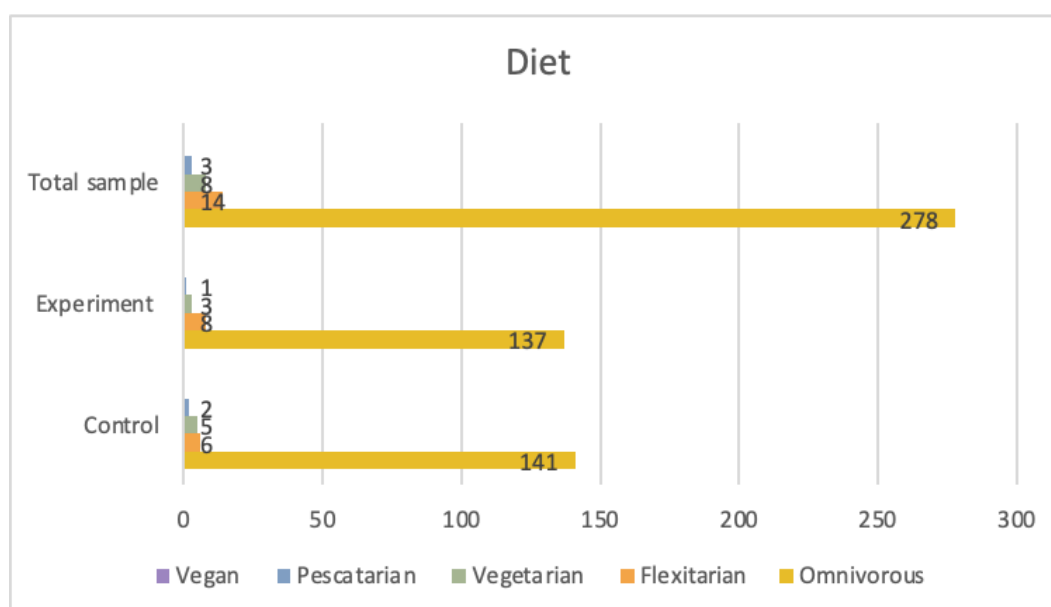


Figure 4-1: Self-reported dietary preferences of the sample

Survey findings

4.2.1 Excerpt 1: Testing Mechanisms 1.1 and 2.1

“The meat sector in Italy generates an economic value in the order of EUR 30 billion per year, compared to about 180 for the entire food sector and 1,500 for the national GDP. Increased costs and bureaucratic burdens, such as those envisaged by the Green New Deal, could result in farm closures in Europe and increased imports.”

The first excerpt respondents were provided with stressed the economic importance of the meat industry and highlighted the potential burdens associated with regulations. The mechanisms being tested for effectiveness within this excerpt were 1.1 and 2.1: “Stress the number of jobs supported and the money generated for the economy” and “Highlight the potential burden associated with regulation”, respectively. To establish a baseline to understand the overall perception of the economic importance of the Italian meat industry, a pre-question was asked before the excerpt was provided. The results of this first section of the survey were that mechanism 1.1 was deployed to a high degree of success, in that it successfully managed to increase the degree to which survey-takers believed that the meat industry was important for Italy’s economy. Mechanism 2.1, however, was found to be largely ineffective, with most respondents not being convinced of the negative impacts of imposing more regulations.

As shown in Figure 4-2, prior to reading the excerpt, 245 students (81%) perceived the sector to contribute 10% or above to the national GDP. Given the fact that the actual contribution is lower than 2%, we can conclude that the sample studied significantly overestimated the economic importance of the meat industry, with most respondents perceiving it to be five times greater than its real value.

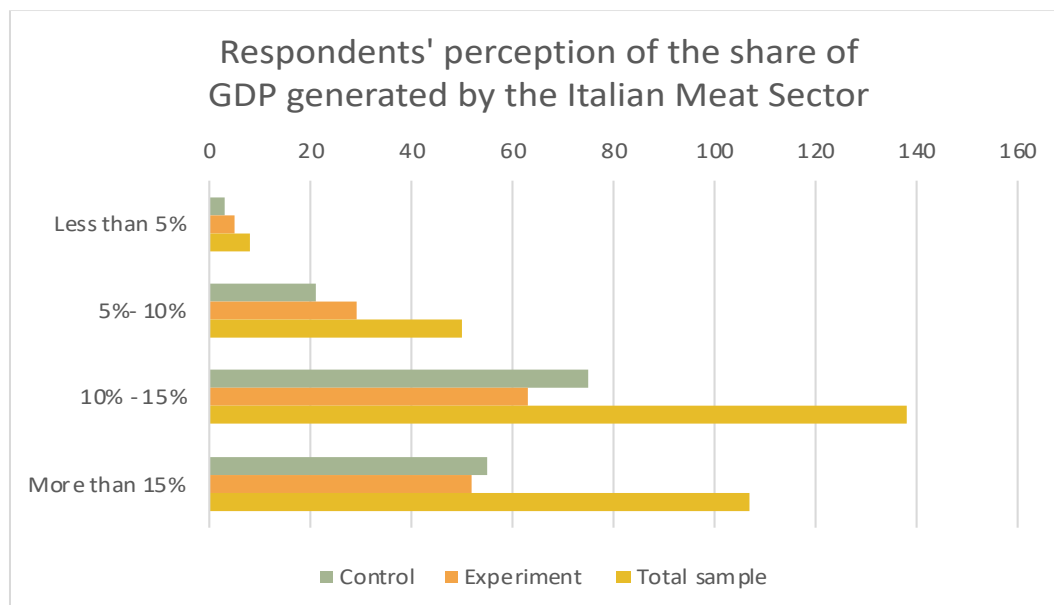


Figure 4-2: Self-reported perceptions on GDP share generated by the meat sector.

Stress the number of jobs supported and the money generated for the economy.

After reading the excerpt, which put forward that the Italian meat industry plays a vital economic role, the respondents were asked whether they are more concerned now, upon reading the expert, about the possible negative economic consequences of imposing regulations on the sector. The results, presented in Figure 4-3, show that the mechanism deployed increased the fear among respondents that more stringent climate policies could result in economic repercussions. As a matter of fact, after being presented an excerpt aimed at stressing the value added by the livestock sector to the national economy, 160 respondents (53%) declared themselves to be now at least ‘to some extent’ more concerned about negative economic repercussions of EU agricultural policies on the Italian economy. 77 students, a quarter of those surveyed, selected that they were “to a large extent” concerned. Only 21 students (7%) were not worried at all.

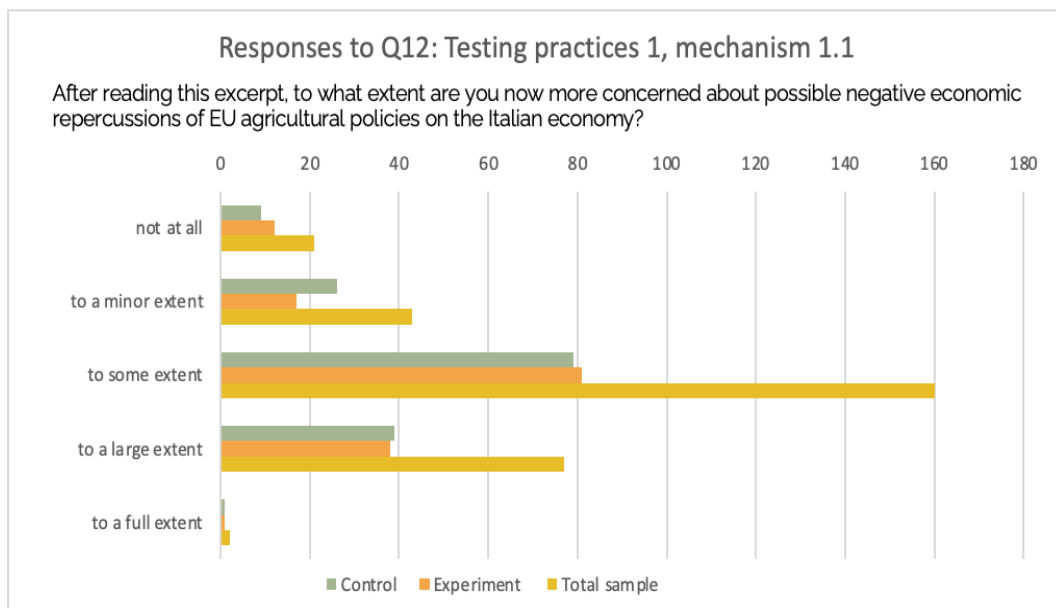


Figure 4-3: Results from Q12 of the survey

Highlight the potential burden associated with regulations.

Question 13 tested the effectiveness of practice 2 and mechanism 2.1. Results to this question showed that this practice, and its associated mechanism, were ineffective, as shown in in Figure 4-4. Upon reading the excerpt, survey-takers did not believe that the government should impose less regulation on the meat sector. Despite the fact that the excerpt mentioned that some Green New Deal climate policies could result in farm closures and increased imports dependency, 127 (42%) of the respondents still believed ‘to some extent’ that the government should enact policies. One third, 99 students, believed it should do so ‘to a large extent’, while 29 (10%) ‘to a full extent’. Only 14 respondents (5%) said they believed that the government should not pursue such goals.

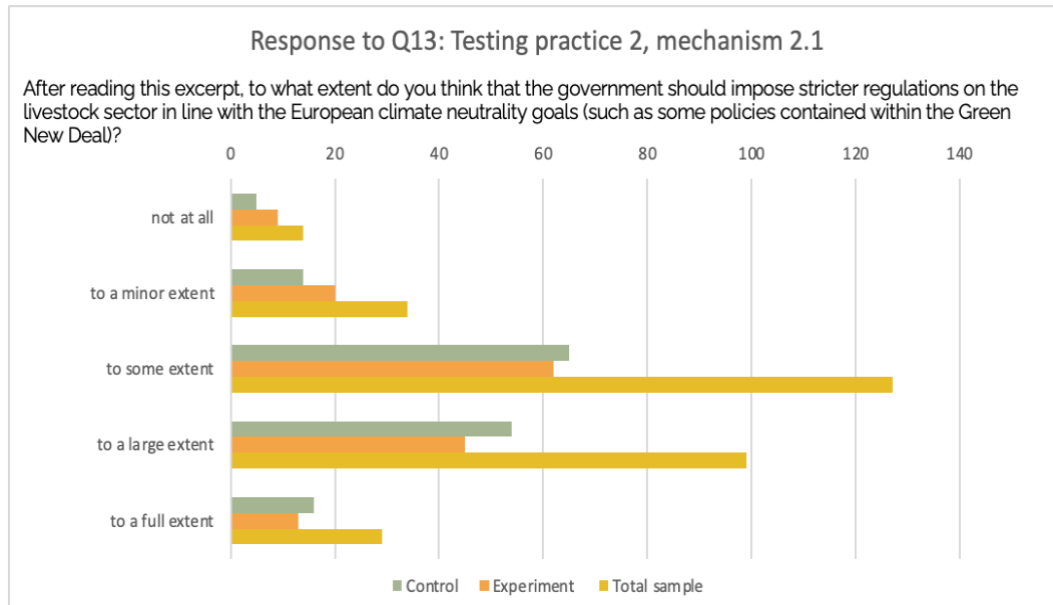


Figure 4-4: Results from Q13 of the survey

4.2.2 Excerpt 2: Testing Mechanisms 3.1 and 3.5

“Farms pollute more than transport! False! Taking into consideration the livestock sector alone, in Italy the total contribution to greenhouse gases is 4.6% (Ispra report). A flight from Rome to Brussels, for example, generates more emissions than the consumption of meat by an Italian for an entire year as part of a balanced diet.”

The second excerpt discusses the idea that the livestock sector receives a disproportionate amount of blame when it comes to its contribution to GHG emissions. The overall framing of the piece utilises two mechanisms from the framework. Firstly, it shifts the blame for climate change from the meat industry to other industries, mechanism 3.1. The other mechanism at play in this passage is 3.5, playing the victim. Here the article furthers the idea that the meat industry is victim to attacks by government and media and is on the receiving-end of unfair attacks.

Prior to being exposed to the referred excerpt, to investigate their perceptions on different sectors’ contribution to greenhouse gas emissions, respondents were asked to rank five sectors (as shown in Figure 4-5) according to their contribution to GHG emissions. The sample attributed the largest share of emissions to the energy sector, especially to its use in the industry, and to the transport sector. The experiment group perceived the agriculture sector to be a major contributor of emissions, ranking it as a 3rd, while the control group ranked it as the least polluting sector.

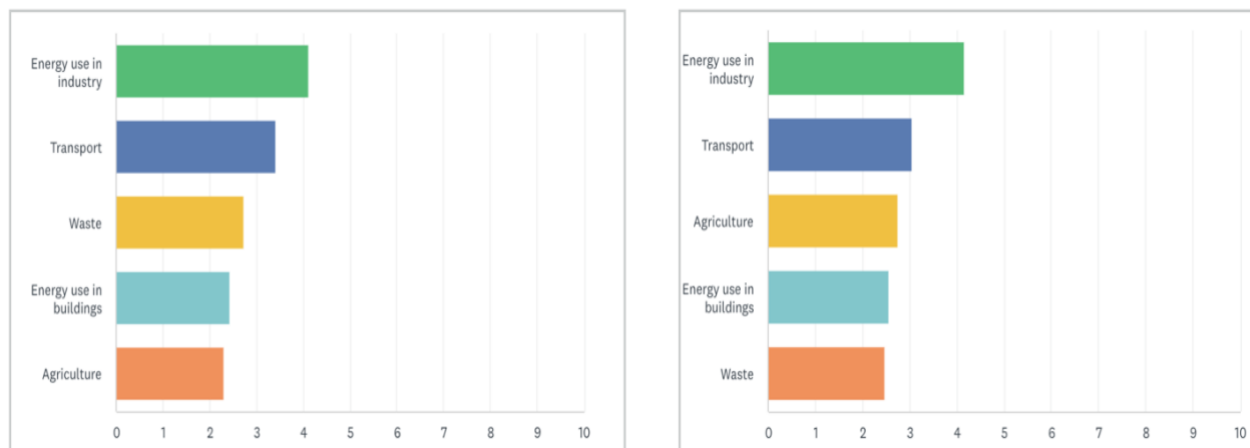


Figure 4-5: Self-reported perceptions of different sectors' contribution to global GHG emissions (left: control group, right: experimental group)

According to Our World in Data analysis 'Global greenhouse gas emissions by sector' for the year 2016 sectors were ranked as the following:

1. Energy Use in industry 24,2%,
2. Energy use in buildings 17,5%
3. Agriculture, Forestry & Land Use 18,4% (livestock manure 5,8%)
4. Transport 16,2%
5. Waste 3,2 %

Comparing this data with the graphs above we can say that while most of the respondents have shown awareness about which sector is the most responsible for emissions, the sample lacks a real understanding of the other sectors' contribution to the total emissions. The respondents also show a marked tendency to overestimate the emissions originated from the transport sector.

Shift the blame for climate change from the meat industry to other industries.

Question 15 tested the effectiveness of practice 3, specifically the mechanism 3.1. The results (shown in figure 4-6) show that the excerpt effectively convinced 141 students (47%) respondents that efforts to reduce emissions should target the transport sector more than the livestock sector. 50 of the respondents (16%) stated that they 'strongly agree' with this view. Only a staggering 11%, 34 students, declared to be in disagreement, or to strongly disagree, with this view.

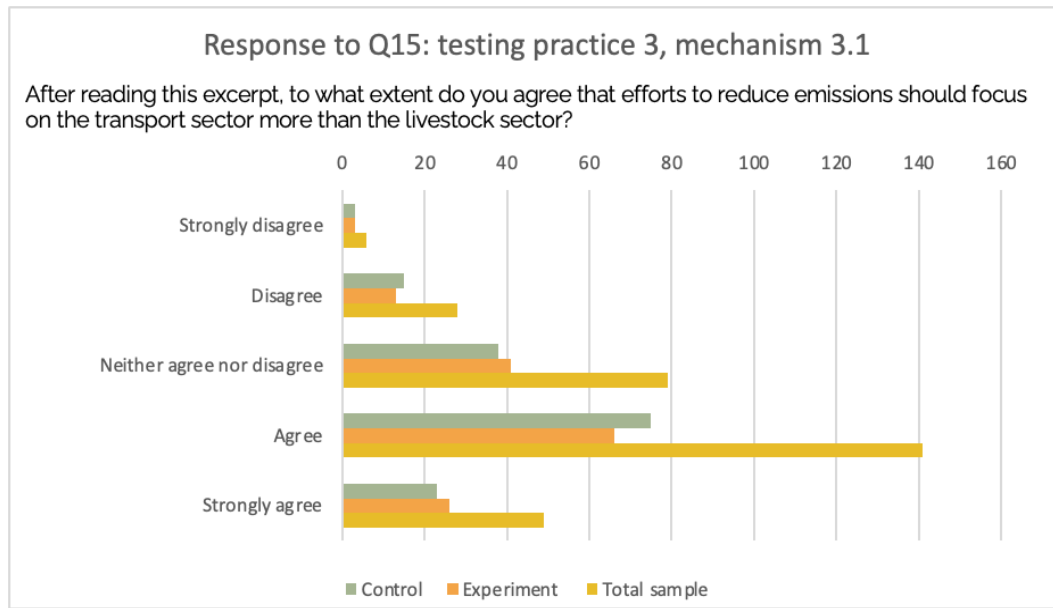


Figure 4-6: Results from Q15 of the survey

Playing the Victim

Question 16 tested the effectiveness of practice 3, specifically the mechanism 3.5. The results show that the mechanism effectively convinced almost half of the respondents, 137 (45%), that the livestock sector, and meat products in general, receive a disproportionate amount of blame for climate change (as shown in Figure 4-7). 25 students (8%), ‘strongly agreed’ with this.

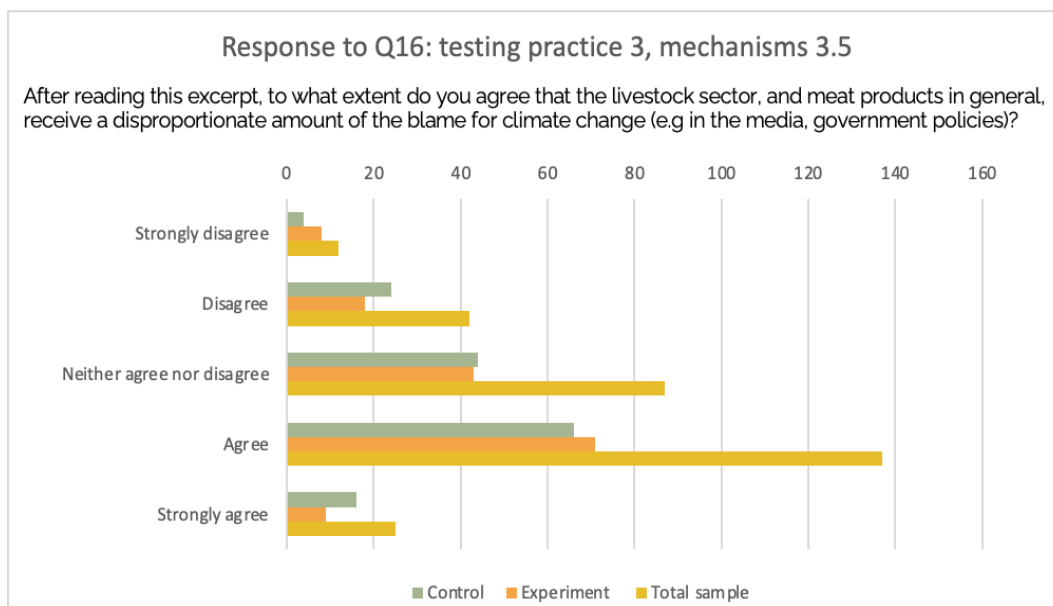


Figure 4-7: Results from Q16 of the survey

4.2.3 Excerpt 3: Testing Mechanism 3.2

“To meet the increased demand for food of animal origin, an additional 12.5 million km² will be needed by 2050, which would be at the expense of existing ecosystems. This would result in a modification of natural habitats and changes in the presence and distribution of wildlife, which would increase the risk of EIDs (emerging infectious diseases). And this is where protected (intensive) livestock farms come in, which, thanks to their greater efficiency, would achieve the same productive result using 31% less land.”

In this excerpt, the writers emphasised the virtues of intensive livestock farming, explaining how they allow less land to be used and offer greater safety compared to other farming methods. The mechanism at play here was determined to be 3.2.

Before being exposed to the referred excerpt, respondents were asked to place their view on intensive livestock farming on a scale ranging from ‘strongly against’ to ‘strongly in favour’ (Figure 4-8).

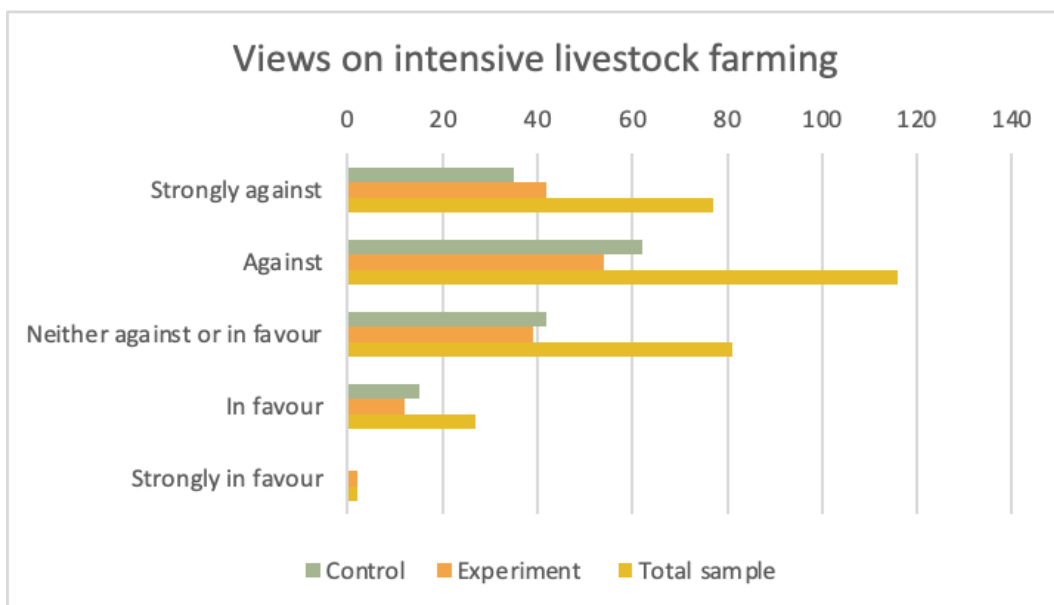


Figure 4-8: Self-reported views on intensive livestock farming

According to the results, most respondents held a negative opinion on intensive livestock farming, with 116 students (38%) declaring to be ‘against’ and 77 (25%) ‘strongly against’.

Emphasise the industry’s actions to address public health/environmental-related issues.

The deployment of mechanism 3.2 managed to improve the opinion of 46 students (15%) on the topic of intensive farming (as shown in Figure 4-9). Those whose opinions stayed the same or became more negative were asked to provide qualitative explanations for this.

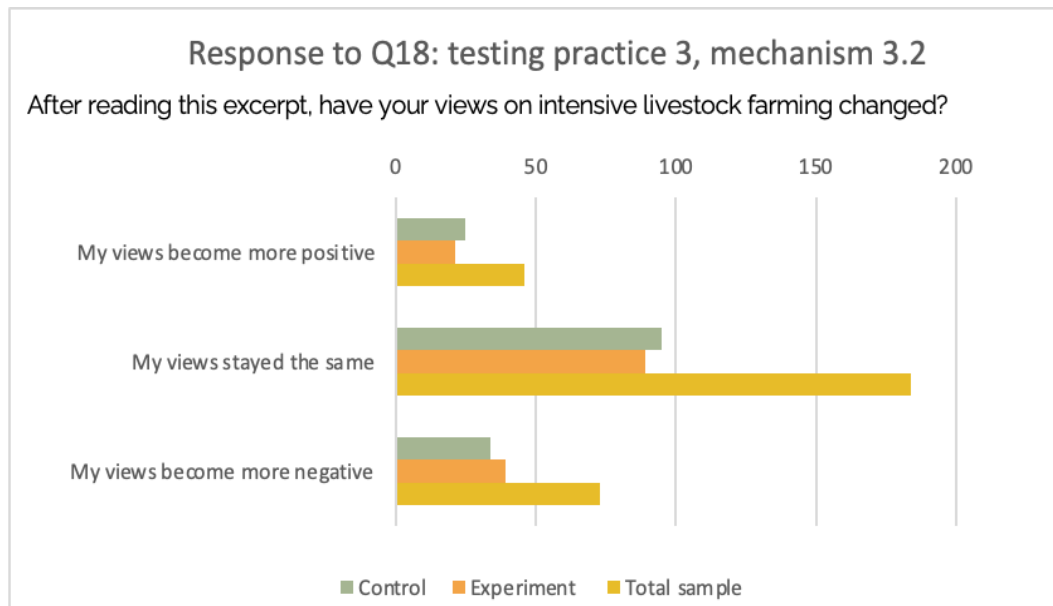


Figure 4-9: Results from Q18 of the survey

The content analysis, represented in Table 4-6, revealed three main reasons for participants not changing/ or having less positive views on intensive livestock farming. The most frequently mentioned one was animal welfare. Environmental concerns also proved to be a significant theme in explaining why opinions about intensive livestock farming were not positive. The last recurring theme, health concerns, was detected in 16 responses. Finally, 24 participants gave different explanations, i.e., explanations that did not include any of the 3 recurring themes listed above. These included, for example, participants who eat meat and are not ready to cut their consumption and people who admit to not be informed enough to have a firm stance on the topic.

Table 4-6: Results from the thematic analysis on answers to Q19

Name	References	Color
<input type="radio"/> Ethical concerns (Animal Welfare)	84	●
<input type="radio"/> Incomplete, incoherent or no explanations given	57	●
<input type="radio"/> Environmental concerns	43	●
<input type="radio"/> Other explanations	24	●
<input type="radio"/> Learned nothing new from the excerpt	18	●
<input type="radio"/> Health concerns	16	●

4.2.4 Excerpt 4: Testing Mechanisms 3.3 and 3.2

"Speaking of antimicrobials, it is worth mentioning what is being done in Italy to combat the growth of antibiotic-resistant bacteria. This is an increasingly worrying health problem that is causing an unacceptable number of deaths. [...] The European livestock farming, and Italian livestock farming in particular, is responding responsibly to the appeals of the health authorities in the fight against antibiotic resistance, reducing the use of antimicrobials every year. At the same time, products of animal origin offer excellent guarantees of safety and wholesomeness. This is thanks to a thorough control work that begins in the stables and continues uninterruptedly along the entire production chain."

The fourth excerpt presented a detailed overview of the efforts the Italian livestock sector has undertaken to combat the phenomenon of antimicrobial resistance (AMR). This excerpt deployed practice 3, mechanism 3.3 and 3.2.

Prior to being exposed to the referred excerpt, in order to investigate their perception on the extent to which AMR affects their country, participants were asked to indicate how many of Europe's 35,000 annual deaths caused by AMR they thought occurred in Italy (Montalti et al., 2022). The correct figure for the amount of AMR deaths in Italy is around 10700 (ibid). As shown in Figure 4-10, 259 students (85%) underestimated the true prevalence of AMR deaths in Italy. Most, around 50%, believed there to be between 1000-5000 deaths per year. Only 44 students (15%) accurately reported an incidence of more than 10,000 deaths per year - the correct figure.

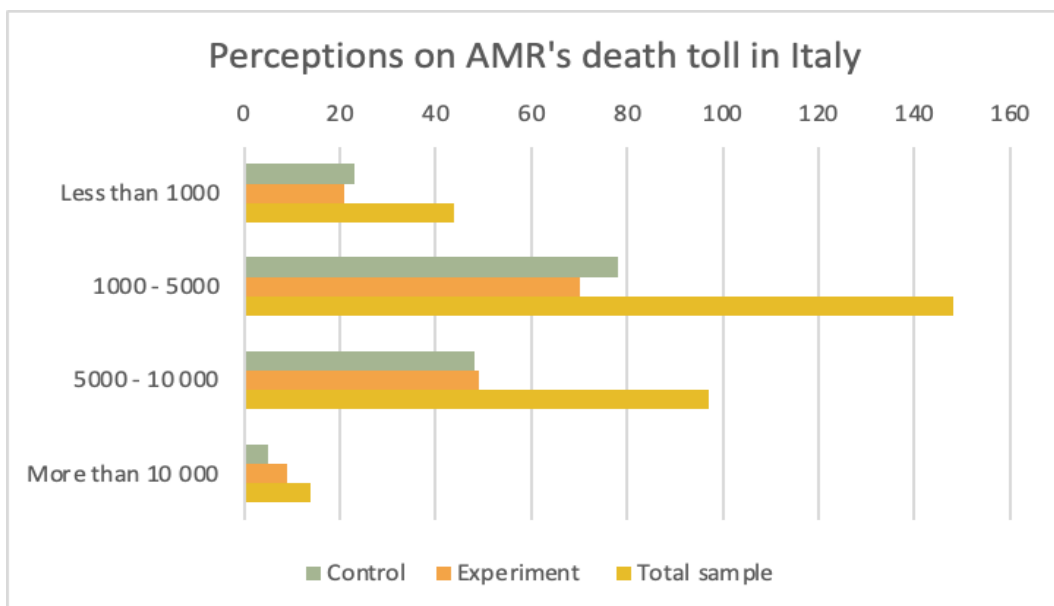


Figure 4-10: Self-reported perceptions on AMR's incidence in Italy

Emphasise the industry's actions to address public health/environmental-related issues.

Question 21 tested the effectiveness of practice 3, specifically mechanism 3.3. Results show that it effectively achieved its objective (results shown in Figure 4-11). 227 participants (75%) expressed varying degrees of belief in the efforts described in the excerpt, suggesting that they were successfully convinced.

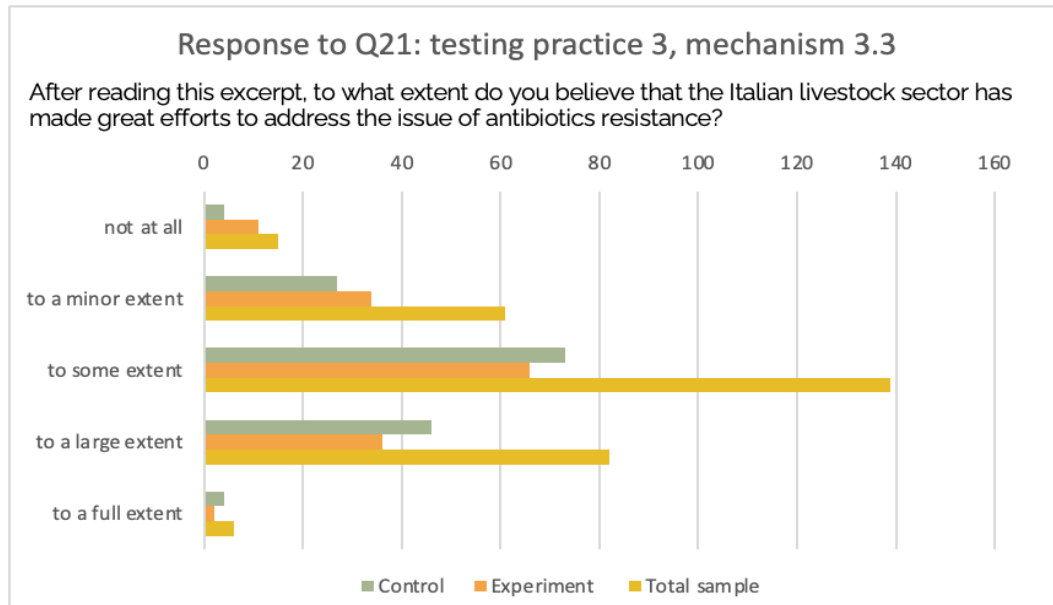


Figure 4-11: Results from Q21 of the survey

The participants in the experimental survey exhibited a lower degree of influence by the given excerpt as compared to the control group. Specifically, a larger proportion of participants in the experimental group expressed doubts about the efforts of the industry, in contrast to the control group.

Re-testing 3.2: Promote the good intentions and stress the good traits of the industry.

Question 22 tested again the efficacy of mechanism 3.2. The results in Figure 4-12 show that 137 students, 45% of the total sample, said that they associate Italian meat products with higher guarantee of safety ‘to some extent’, while 78, more than a quarter, perceived them to be safer ‘to a large extent’.

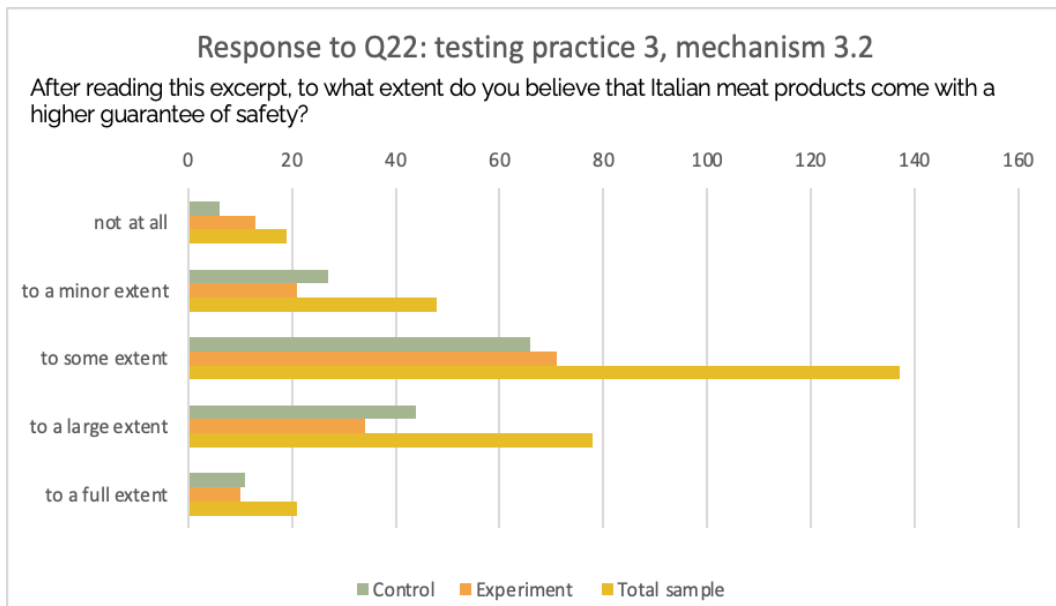


Figure 4-12: Results from Q22 of the survey

4.2.5 Excerpt 5: Testing Mechanism 3.6 and 4.4

"Claims that vegan diets are good for health, such as those by the American College of Cardiology/American Heart Association lack the scientific backing of high-quality studies. In fact, newer and more accurate studies increasingly show the exact opposite. [...] The reality is that following a diet against our nature, which totally eliminates meat and all animal foods, can cause irreversible damage to the body. Strict adherence to a vegan diet is now proven to cause deficiencies of key nutrients, including vitamins B12, B2, D, niacin, iron, iodine, zinc, high-quality protein, omega 3, and calcium whose sources are very reliable they are almost exclusively meat and foods of animal origin. Vitamin B12 deficiency is particularly critical in vegans and has recently been linked not only to neurological and hematological problems, but also to an increased risk of cancer of the breast, cervix, gastrointestinal tract, and liver in those following a vegan diet."

Excerpt five provided the readers with a comprehensive list of the numerous problems that can supposedly arise as a result of adopting a vegan diet. This excerpt deployed mechanisms 3.6 and 4.4. Prior to being exposed to this excerpt, survey respondents were asked about their perceived level of safety of a vegan diet (results shown in Figure 4-13). 125 respondents, 58% of the total sample, already associated a vegan diet with at least some dangers for their health even before being exposed to the excerpt.

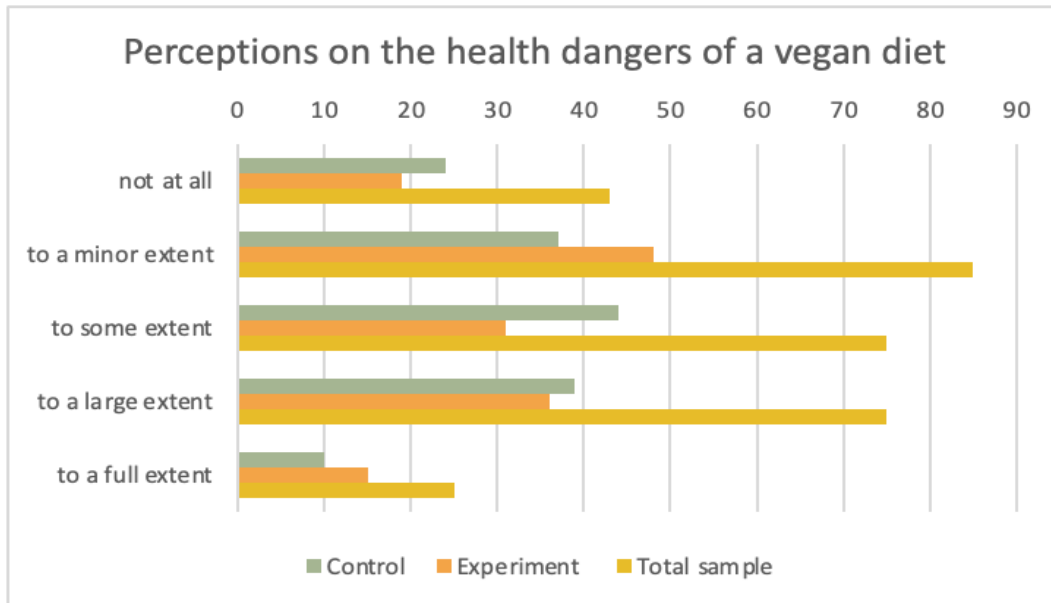


Figure 4-13: Self-reported perceptions on the health dangers of a vegan diet

Emphasise the health/environmental risks involved in moving away from meat consumption.

Question 24 tested the effectiveness of practice 3, mechanism 3.6. As can be seen from the Figure 4-14, emphasising the health risks involved with the uptake of a vegan diet successfully managed to increase the participants' perception regarding the dangers of the aforementioned diet for their health. 105 students (35%) declared to be now 'to some extent' more convinced about the issues connected to a vegan diet, 95 (31%) of them said to be more concerned 'to a large extent' and 40 (13%) 'to a full extent'.

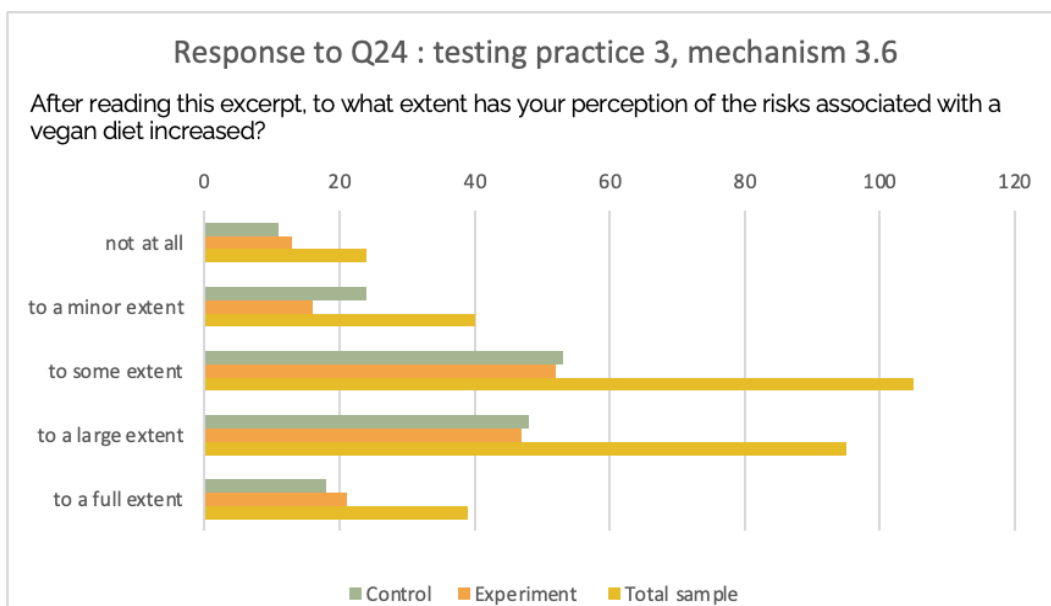


Figure 4-14: Results from Q24 of the survey

Emphasise disagreement among scientists and focus on doubt in science.

With question 25, the survey sought to test the effectiveness of practice 4, mechanism 4.4. Once presented with the excerpt, 117 participants (39%) agreed ‘to some extent’ that claims regarding the benefits of vegan diets lacked the backing of high-quality scientific studies (Figure 4-15). A fifth of the respondents believed that such claims lacked scientific background ‘to a large extent’ and 8% of the sample, 23 students, ‘to a full extent’. Such results show the extent to which casting doubts on scientific can be effective in shaping people’ perceptions.

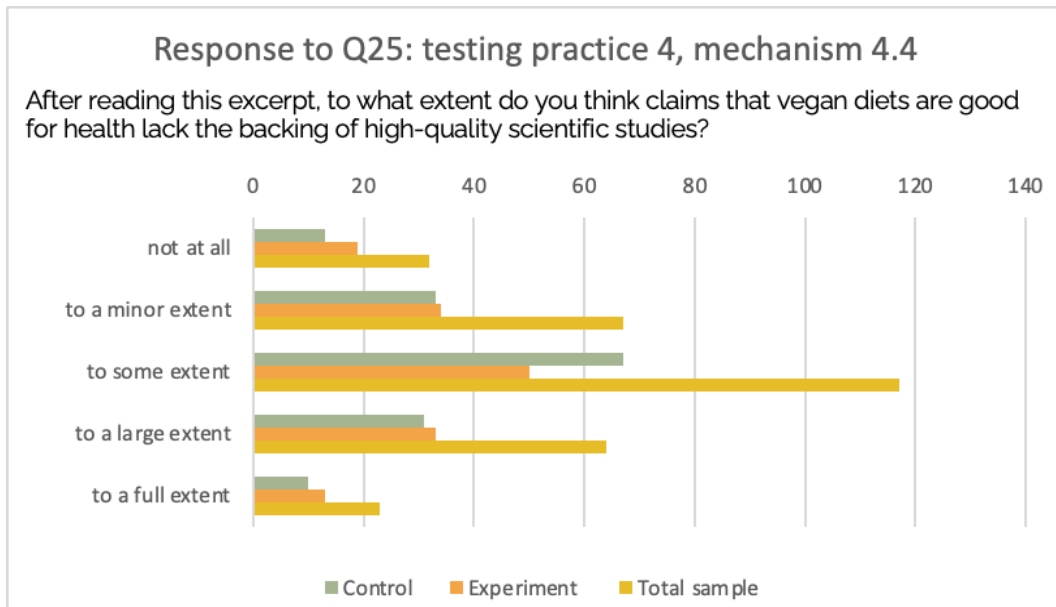


Figure 4-15: Results from Q25 of the survey

Analysing the difference across control and experiment groups, on the one hand more respondents in the experiment one declared to be ‘not at all’ more concerned after reading excerpt 5, the biggest share of those more convinced about vegan diets’ drawbacks ‘to a full extent’ is also made up by respondents belonging to the experiment group.

4.2.6 Self-Identifying Mechanisms

Question 26 asked the participants from both the control and the experimental groups to reflect on the text extracts they had just read and to identify which strategies they thought had been used within them.

Figure 4-16 presents the collected answers:

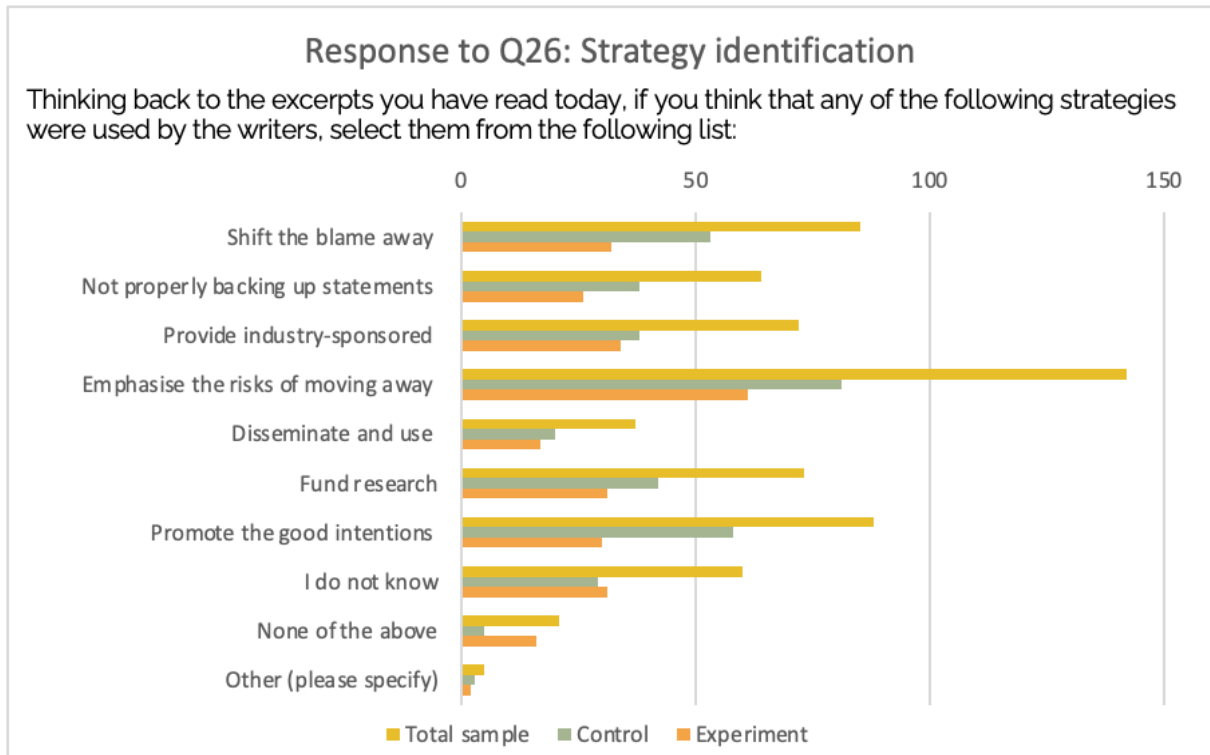


Figure 4-16: Results from Q26 of the survey

The results of the statistical analysis show that for many strategies there was no statistically significant difference in the way the two groups identified the mechanisms. The only mechanisms for which the 'Chi-square' test showed a statistically significant difference between the experimental and the control group, those with a p-value lower than 0.05, were precisely those tested in the survey, namely 3.1, 3.2 and 3.6. Contrary to what could have been expected, however, the statistical significance was negative, meaning a higher accuracy of the control group in identifying deployed mechanisms.

5 Discussion

The aim of this study was twofold. Firstly, it aimed to contribute to existing knowledge on Corporate Political Activity (CPA) in the context of the Italian meat sector. Additionally, this research sought to investigate the effectiveness of CPA mechanisms on young individuals, specifically focusing on their reactions and responses when these mechanisms are at play.

This aim was pursued by analysing the communication strategies used in industry-published media to better understand how the sector contributes to meat consumption's discourse (RQ1) and by carrying out a quantitative study with students to explore how these strategies can alter their perceptions (RQ2).

The following sections present the main findings along the research questions and relate them to existing literature on CPA, highlighting this research's contribution to the state of knowledge and its significance. The chapter will close with reflections over the methodological choices and limitations of this study.

5.1 Overview of the findings

5.1.1 RQ1: How is the Italian meat sector contributing to the discourse on meat consumption in Italy?

To investigate how the Italian meat sector is contributing to discourse on meat consumption in Italy a thorough thematic analysis of 'carnisostenibili' website, funded by three of the major Italian meat trade associations, was carried out. This analysis unveiled that the website places significant emphasis on health and environmental topics, prioritising them over different thematic areas. In fact, issues such as synthetic meat, GHG emissions, the environmental sustainability of the livestock sector and the health risks involved with ultra-processed foods and meat-free diets appeared in most of the analysed articles.

The adaptation of the framework developed by Mialon et al. made it possible to codify these different ideas within the articles and to understand which communication mechanisms the meat industry's communication was relying on.

RQ 1.1: Which CPA mechanisms is the Italian meat sector deploying to do so?

The thematic analyses conducted in this research revealed how, among the four communication practices identified by the framework, the Italian meat sector makes extensive use of practice 3 'Framing the debate on climate and public health issues' and 4 'Shaping evidence on diet and public health issues'. The other two practices, 1 'Stress the economic importance of the industry' and 2 'Promote Deregulation', respectively, were encountered considerably less within the articles taken into consideration.

Among the two practices used, the most deployed was practice number 3, identified in 17 out of the 18 articles selected for thematic analysis. This figure confirms the absolute priority given by the site to health and climate issues and highlights the industry's willingness to make its voice heard on these topics.

In fact, all the mechanisms included in the adapted framework were observed in the articles, with varying frequency. The most recurring were 3.1 'Shift the blame away from the sector'; 3.2 'Promote good intentions and emphasise good characteristics of the industry'; 3.3 'Emphasise industry actions to address public health/environmental issues'; and 3.6 'Emphasise the health and environmental risks of abandoning meat consumption'. Within practice 4, the most detected mechanisms were 4.1 'Cherry pick data that favours the industry' and 4.4 'Emphasise disagreement among scientists and focus on doubt on science'.

The underlying message put forward by these articles depicted the Italian meat sector as an environmentally aware industry with people's health and animal welfare at heart. An industry that has shown a longstanding commitment in achieving high safety standards while reducing its environmental impact, but which keeps being faced with unfounded criticisms and accusations. A fundamental industry for the national economy that is now endangered by overly stringent policy measures and new investments in lab-made food of dubious safety.

5.1.2 RQ2: How do these mechanisms affect the perception of the meat sector by Italian youth?

Establishing a baseline

In order to evaluate the effectiveness of the mechanisms discussed above, the quantitative study conducted with students was designed to explore their perceptions on various topics before they were exposed to the excerpts.

The sample examined within the survey reported a strong tendency to overestimate the economic importance of the meat industry, with only 3% of respondents being able to indicate the sector's real contribution to the national GDP. Similarly, the sample largely overestimated the GHG emissions caused by the transport sector, ranking it as second largest contributor for total emissions, and underestimated those from the agricultural sector. Furthermore, while 63% of the sample declared themselves against, or strongly against, intensive livestock farming, a substantial 27% had no opinion on the matter and 10% expressed support for the practice. The sample also showed a large underestimation of the impact of antibiotic resistance (AMR) in Italy and a clear tendency to associate vegan diets with health risks. In fact, 58% of respondents already perceived a vegan diet to be dangerous for their health at least 'to some extent' even before being exposed to the relevant excerpt.

Exploring effectiveness

The majority of the mechanisms deployed within the excerpts were highly successful in altering the sample's perception in the desired way.

Excerpt one, utilising mechanisms 1.1 and 2.1, successfully increased the concerns of 93% of the participants about possible negative economic repercussions of EU agricultural policies at least 'to some extent'. Notwithstanding, the excerpt did not convince the readers that the Italian government should avoid imposing stricter regulations on the livestock sector in line with the policies contained in the Green New Deal.

Excerpt two, containing mechanisms 3.1 and 3.5, deepened the negative perception that most respondents already had about the transport sector. In fact, after reading the excerpt, only 34 students (11%) disagreed with the fact that emissions' reduction efforts should target the transport sector more than the livestock one. Furthermore, 53% of the sample declared to agree,

or strongly agree, with the view that the livestock sector receives a disproportionate amount of blame in the media.

Excerpt three, deploying mechanism 3.2, managed to make the perceptions of 15% of the respondents about intensive livestock farming more positive. Despite the apparent low success of this mechanism, probably motivated by the fact that the majority of students already held a negative stance regarding this type of farming practice, this mechanism was also used in excerpt number four where it successfully convinced 236 students (78%) that Italian meat products come with a higher guaranteed level of safety. Excerpt four also contained mechanisms 3.3 which successfully convinced, albeit to a different degree, 75% of the sample that the industry undertook great efforts to address the issue of AMR.

Similarly to excerpt two, also excerpt five, containing mechanisms 3.6 and 4.4, successfully acted to further entrench existing negative perceptions of veganism. By insisting on the risks involved in the uptake of a vegan diet, the already impaired view that most students held further deteriorated. In fact 79% of the sample indicated that their perception over the risks increased at least 'to some extent'. Furthermore, by casting doubts on their validity, the excerpt also convinced 67% of the sample that studies supporting the benefits of vegan diets lack the backing of 'high-quality scientific studies'.

RQ 2.1: What effect, if any, would awareness of CPA have on the Italian youth ability to identify CPA mechanisms?

To answer subquestion 2.1 of this research, aimed at exploring what effect would giving some of the students hints about CPA mechanisms have on their ability to identify them once at play.

Informing the experimental group about the existence of CPA before their exposure to the excerpts, making them aware that corporations in the past deployed strategies to protect themselves from public outcry and more stringent regulations, did not make this group more able to identify which mechanisms were contained within the excerpts. In fact, using statistical analysis to compare how the control and experimental groups identified which mechanisms were used within the industry's communication from a list of options (Q26) revealed almost no statistically significant difference in between the two groups' choices. Statistically significant differences were only found relatively to the three options containing mechanisms actually deployed throughout the excerpts, but were all negatives meaning that the control group had a higher accuracy in identifying which mechanisms were actually used.

5.2 Results in the context of existing literature

In this section the results from the study will be compared with existing research in an effort to highlight the contributions the findings of this thesis to scholarship on CPA. As findings from RQ2 cannot be compared to existing literature, only the results of RQ1 will be discussed in the context of the available literature on the topic.

There have been several studies which investigated the techniques used by various industries to affect public discourse on their products with a view to promoting a positive image of the industry and discouraging government regulation.

Miller and Harkins (2010), while investigating the role that food and alcohol industries play in shaping policy and decision-making processes concluded that in order to maintain their 'licence to operate' these companies deploy both 'indirect' and 'direct' strategies. While the first category involves several tools aimed at bending the scientific evidence base, the latter is usually pursued through the creation of business associations, non-governmental organisations and trade unions advocating for the food industry interests. The indirect strategies discussed in this research are similar to the mechanisms found to be deployed in the context of this thesis, as trade associations were found to play a large role in attempting to shape public perceptions through public relations efforts.

Other research on CPA strategies applied the very same framework used in this thesis research. Mialon et al. (2016), for example, applied the framework to analyse the CPA of major food actors in Fiji in relation to non-communicable diseases (NCDs). Despite the extremely different geographical context, findings from this study are partially comparable with the findings from this study. Bringing their systematic approach into play while analysing publicly available information they found no evidence for practices 1, 2 and 4 even though during the interviews that the authors carried out during the study, interviewees perceived all of the above as practices being deployed by the food industry. On the other hand, practice 3 was largely detected also within publicly available information. In particular, companies working in the soft drink industry appeared to try to shift the blame away from them, insisting on the role of physical activity in the context of a healthy diet.

Jaichuen et al. (2018) also applied the same framework to review the publicly available material published by a dozen Thai food companies. Several were proven to promote their good traits and to shift the blame away from them by highlighting the quality and the safety of their own products and their efforts in addressing public-health matters. All these mechanisms pertain to practise 3. Furthermore, the study revealed that these companies, similarly to the Italian livestock sector, often cherry-picked data that favoured them, a mechanism pertaining to practise 4, in order to shape the public discourse.

Also in the Thai context, Cetthakrikul et al. (2021) used the same framework to analyse the CPA of baby food companies. Reviewing publicly available material, the authors found that industry often deployed practice 3 by promoting its good intentions and emphasising the actions already taken by the sector to address public-health related issues. Another interesting parallel can be drawn in between the findings from this thesis research and the study by Cetthakrikul et al. (2021). Thai baby-food companies were found to often delve on the important nutritional role that their products had especially against health problems such as malnourishment, vitamin deficiency or allergies. Similarly, Italian meat industries often stressed the nutritional fundamentals of meat for a healthy diet and against diseases, while emphasising the risks involved with meat-free diets.

In the European context, prior to this research, the framework has only been applied by Mialon & Mialon (2018) in France. The French food industry has been found as an active contributor to the dissemination of information aimed at shaping public opinion and policy making processes in their favour. Similarly, to this thesis' findings, all practices were detected. French food actors, as Italian meat ones, were found to stress the economic importance of the industry, promote deregulation, shift the blame away, shape the evidence science base in their favour and stress out the potential bad outcomes involved with more stringent and 'unjustified constraints'.

5.3 Significance and implications

All of the CPA practices outlined by the framework were identified in the analysed communications output of the ‘carnisostenibili’ website. This is indicative of the fact that the Italian meat industry is engaging in CPA, following in the steps of other sectors. The fact that practices 1 and 2 were not detected as much as 3 and 4 could be explained by several contextual factors. In the case of practice 1, ‘stress the economic importance of the industry’, it may be the case that this was not emphasised by the industry as much given the already prominent status of meat in Italian culture that translates to a heightened perception of the economic importance of the sector. This idea is in line with the findings from the survey carried out in this research, with 97% of respondents overestimating the economic importance of the sector. For practice 2, ‘promoting deregulation’, on the other hand, the limited deployment of this mechanism could be due to the fact that the industry is choosing to deploy more direct tactics to influence public policy such as those presented in 2.2.2 of this thesis.

The fact that overall the mechanisms used by the Italian meat sector were effective in shaping the perception of survey participants has several important implications for ongoing sustainability efforts. After very short passages, students’ opinions on such major and diverse issues related to: climate impact of the meat industry; the health impacts associated with reduced meat consumption and intensive livestock farming were altered, sometimes to a very high degree. This suggests that the deployment of CPA mechanisms by the meat sector may counteract any global or local calls for reduced meat consumption and resolution of other issues in the meat sector such as use of antimicrobials.

Another area of significance related to the findings of this research is that the students already had preconceived perceptions on most of the topics covered on the website. The CPA mechanisms deployed by the sector work to corroborate these preconceptions, which range from underestimating the GHG emissions associated with the agricultural sector to a generally negative view on the health impacts of a vegan diet. This indicates that knowledge gaps on topics related to climate change can be leveraged by the meat industry to further shape perceptions, thus making their CPA mechanisms more effective.

Last but not least, it was found that briefly informing the students of the existence of CPA did not lead to greater rates of identification of CPA mechanisms at play. This underlines an important need to understand which educational tools could be more effective in enhancing young people’s critical thinking skills and consequently reduce the possibility of them being manipulated by media content and lobbying efforts.

5.4 Methodological reflections and limitations

This master thesis, using an existing framework, aimed to make a methodological contribution to existing research by trying to test the effectiveness of practices deployed by the meat industry in the Italian context. This effort should be seen as a first attempt to go beyond the mere identification of CPA practices, placing the focus on the role that these can have on changing people’s mind over what they consume.

The framework deployed to identify the CPA strategies deployed by the Italian meat industry was found to be extremely effective in that it allowed for the systematic identification of several

commonly used tactics for shaping discourse already used by other sectors. The modifications made to the framework for this study were also helpful in making it more suitable for analysing the output of the Italian meat industry, mainly because up until now this framework has mainly been deployed to understand CPA in industries which are known to be harming human health, and not focused on for environmental reasons. As the meat sector is linked with causing negative effects to both human and planetary health, the adaptations to the existing framework proved necessary.

While it can be said that RQ1 found a clear answer, rooted in substantial evidence, showing that the Italian meat sector is indeed deploying several strategies to influence the discourse on meat consumption, an exhaustive answer to RQ2 was more difficult to obtain.

The most significant limitations concerning the methodological approach adopted to answer RQ1 are the limited number of articles analysed, compared to the total amount published by the website, and the fact that thematic analyses have been carried out by a single researcher, and so there was no text of inter-coder reliability.

Conversely, the approach to answering RQ2, due to its exploratory nature, was subject to several limitations. Firstly, the fact that the totality of the sample came from the same city strongly affects the generalizability of this study. Furthermore, the way the quantitative study has been designed did not allow for a statistical measure of the impacts that each mechanism had on the perceptions of the students. Mostly due to time and ability constraints, the use of statistical analysis was limited to explore the differences in the way the control and experimental groups identified mechanisms deployed.

The age of the selected sample, while making it extremely worthy to be investigated, can also be considered as a limitation. Aside from the possible language barrier that some students may have experienced in understanding questions not in their native language, research has already proven that students are more prone to response bias, especially in the form of ‘social desirability response bias’ which can be defined as the desire to conform to perceived social norms and expectations. (Bernardi & Adamaitis, 2007).

The desire to quickly get to the end of the survey, a possible lack of interest in it and the nature of the questions posed are also factors that could have contributed to bias in this research. Existing research has shown that when survey participants can guess the probable goal of a study they can alter their behaviour so to perform in line with what they believe the objectives of such research are (McCambridge et al., 2012). Last but not least, acquiescence bias, known as the tendency of a participant to answer all questions posed affirmatively regardless of their real opinion, could also have played a role, especially since research has found that acquiescence is directly related to people’s education level (Yorke, 2009).

6 Conclusions

Evidence of the ways in which food corporations interact with society begin to unfold and patterns of similar strategies deployed when threatened start to be detected in several parts of the world. Yet, most research has been devoted to exploring the extent to which CPA can act as a barrier in the policy-making context rather than to measure its effectiveness in shaping public opinion. Strategies deployed by the food industry have been proven to prioritise their ‘licence to operate’ over the health of their own consumers, often trying to frame issues at stake in their favour and by the bend of science and the systematic casting of doubt over potential negative consequences related to their products.

This research, apart from contributing to existing knowledge on CPA by adapting the framework developed by Mialon et al., to carry out the first systematic review of the Italian meat industry communication strategies, sought to investigate the effectiveness of CPA mechanisms on young individuals. This double-aim was pursued by two different research questions.

RQ1: How is the Italian meat sector contributing to the discourse on meat consumption in Italy?

1.1 Which CPA mechanisms is the Italian meat sector deploying to do so?

The results of this research has shown that the Italian meat sector is actively engaging in CPA in order to contribute to the discourse on meat consumption. While communicating to its audience through the website ‘carnisostenibili’, founded by three of the major Italian trade associations of the sector, the Italian meat industry was found to primarily rely on two practices already identified by the framework employed: ‘Frame the debate on climate and public health issues’ and ‘Shaping evidence on diet and public health issues’. In terms of mechanisms, the most detected ones within the industry published material have been ‘Promote the good intentions and stress the good traits of the industry’; ‘Emphasise the industry’s actions to address public health/environmental-related issues’; ‘Emphasise the health and environmental risks involved in moving away from meat consumption’; ‘Shift the blame away from the industry’: ‘Cherry-pick data that favour the industry’ and ‘Emphasize disagreement among scientists and focus on doubt in science’.

RQ2 : How do these mechanisms affect the perception of the meat sector by Italian youth?

2.1 What effect, if any, would awareness of CPA have on the Italian youth ability to identify CPA mechanisms?

The findings of the quantitative study conducted to answer this question, sampling 334 Italian high-school students from Modena, have shown that mechanisms were mostly successful in altering the perception of the surveyed. Excerpts taken from the industry website, containing the mechanisms listed above, influenced the students’ perceptions over issues ranging from intensive livestock farming to the risks associated with vegan diets. This study, notwithstanding its several limitations, has also found that briefly informing survey participants about CPA did not enhance their ability in identifying the mechanisms deployed in the excerpts.

6.1 Practical implications and recommendations for non-academic audiences

The findings from this research, beyond being significant for academic researchers interested in the CPA realm, hold important implications for various non-academic stakeholders, including educators, policy-makers and consumer advocates.

This research can provide many insights for those involved in the development of policy related to the environment, agriculture and public health. Firstly, this research clearly shows that the meat industry in Italy is responding to perceived threats in the form of increased regulation and decreased consumption by the general public. Efforts should be made then to find a balance in the development of policy which supports this sector, especially those involved in the sustainable production of meat, while also protecting the environment and public health. More stakeholder engagement in policy making could potentially lead to actors in the meat sector being encouraged to adopt more environmentally friendly practices, rather than lobbying to defend their industry.

The proven vulnerability of the youth highlights a crucial need for better education systems able to enhance the critical thinking skill among young people. By equipping them with the necessary tools in order to analyse and process information coming from corporations with vested interests they will become less susceptible to the influence of industry-driven narratives. Furthermore, educational programs aimed at strengthening the youth knowledge on health and environmental issues could empower students to make more informed dietary choices and reduce their preconceived, often inaccurate, preconceptions.

Non-governmental actors campaigning for reduced meat consumption in Italy can also take heed to the findings of this research. It is clear that CPA is being enacted by the meat sector, and that some of the strategies being used are effective. Therefore those working on campaigns can assist in informing the public of the existence of CPA by the meat sector, as well as educating them on how to identify when it is being carried out.

Finally, consumer advocates should better educate themselves on the practices of CPA, and investigate the actions of the meat industry in order to better defend the rights of consumers.

6.2 Recommendations for future research

This study has contributed to shed light on the use of CPA practices within the context of the Italian meat industry by highlighting the most commonly deployed mechanisms and exploring their effectiveness on a sample of young students. The highly detected deployment of practices specifically aimed at framing and shaping the discourse on meat consumption and the worrying outcome that these held on the perception of the chosen sample stress the need for further research into several domains.

First, more in-depth analysis should be carried out investigating the existence and modalities of CPA within this sector. Given its importance and substantial role in determining both the future health of its customers and the environmental sustainability of the country, better studying the meat industry corporate behaviour is of crucial importance. Acquiring an holistic understanding of scope and boundaries of the practices deployed could foster the uptake of policies ensuring more transparency and accountability.

Secondly, shifting research focus from the mere detection of these practices to a thorough examination of their effectiveness should be an absolute priority. Gaining a better understanding of the role that these can play in successfully shaping people's perceptions and their consumer behaviour, would shed light on the most effective strategies and consequently pave the way for the design of policy instruments that can limit their impacts. Research aims should thus examine the potential of regulatory frameworks, transparency requirements, and industry self-regulation in curbing the influence of CPA.

Thirdly, future studies should investigate which educational tools could be more successful in teaching people how to identify CPA mechanisms once at play. Research should be carried out on how to enhance the public awareness and the critical thinking of different age groups with regard to issues related to meat consumption.

Lastly, there is a need to conduct further studies investigating effective ways for promoting dietary shifts towards more sustainable patterns of consumptions. Research should explore how to encourage healthy diets characterised by lower environmental impacts taking into account the existence, and the power, of CPA. By acquiring a better picture of the interplay between industry messaging, consumers' perceptions and drivers of dietary shifts, researchers can suggest more targeted interventions empowering individuals to make more informed, healthy and sustainable choices despite the presence of CPA.

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Appendix

Appendix A: Excerpt of spreadsheet for preliminary content analysis

Article Title	Year	Category	Theme	# Keywords	Mechanism (if detected)	Important quotes
<u>Cibi plant-based: un fallimento anche per la sostenibilità</u>	2023	Ambiente & Sostenibilità	Plant based food	<i>Carne VS plant-based, sostenibilità, prodotti a base vegetale, impatto ambientale, proteine animali, emissioni di gas serra</i>	4.4 Emphasize disagreement among scientists and focus on doubt in science	citazione di diverse fonti autorevoli e episodi/news senza riportare la fonte
<u>Sempre meno farmaci nelle stalle europee</u>	2023	Sicurezza Alimentare	Animal products are safe and healthy	<i>antibiotici, farmaci veterinari, zootecnia, allevamenti</i>	3.2 Promote the good intentions and stress the good traits of the food industry 3.3 Emphasize the industry's actions to address public health/environmental-related issues	
<u>DG AGRI: "Iniziativa green costose e problematiche"</u>	2023	Economia & Spreco	Farm to fork (green measure) expensive/dangerous for the sector	<i>farm to fork, emissioni di gas serra, investimenti green, PAC, allevamenti, benessere animale,</i>	2.1 Highlight the potential burden associated with regulation (administrative burden) 2.2 Demonize the 'nanny state' 3.2 Promote the good intentions and stress the good traits of the food industry 3.5 Playing the victim	La legislazione propone di ripristinare il 20% degli ecosistemi degradati dell'UE entro il 2030 e tutti gli ecosistemi che necessitano di ripristino entro il 2050, accusando l'agricoltura intensiva come uno dei principali colpevoli della perdita di biodiversità.
<u>L'importanza delle proteine animali nei pazienti oncologici</u>	2023	Salute & Nutrizione	Meat is good for your health	<i>proteine animali, cancro, tumori, dieta vegana, dieta vegetariana, malnutrizione, fabbisogni nutrizionali, muscolime</i>	3.2 Promote the good intentions and stress the good traits of the food industry 3.6 Emphasize the health risks involved in moving away from meat consumption 4.4 Emphasize disagreement among scientists and focus on doubt in science	Le proteine della carne, latte, pesce e uova avrebbero infatti un ruolo di rilievo per il trattamento attivo del cancro, con risultati significativamente migliori nei pazienti in terapia.

Appendix B: Statistical Analysis Case processing summary

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Group * ShiftBlame	303	100.0%	0	0.0%	303	100.0%
Group * NotBacking	303	100.0%	0	0.0%	303	100.0%
Group * ProvideMaterials	303	100.0%	0	0.0%	303	100.0%
Group * EmphasiseRisks	303	100.0%	0	0.0%	303	100.0%
Group NonpeerreviewedEvidence *	303	100.0%	0	0.0%	303	100.0%
Group * FundingResearch	303	100.0%	0	0.0%	303	100.0%
Group PromotingGoodIntentions *	303	100.0%	0	0.0%	303	100.0%

Group * Shift the blame away from the industry to other sectors.

			ShiftBlame		Total
			Mentioned	Not mentioned	
Group	Control	Count	53	101	154
		% within Group	34.4%	65.6%	100.0%
	Experiment	Count	32	117	149
		% within Group	21.5%	78.5%	100.0%

Total	Count	85	218	303
	% within Group	28.1%	71.9%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.282 ^a	1	.012		
Continuity Correction ^b	5.657	1	.017		
Likelihood Ratio	6.335	1	.012		
Fisher's Exact Test				.015	.009
Linear-by-Linear Association	6.261	1	.012		
N of Valid Cases	303				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 41.80.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.144	.012
	Cramer's V	.144	.012
N of Valid Cases		303	

Group * Not properly backing up statements with scientific evidence.

			NotBacking		Total
			Mentioned	Not mentioned	
Group	Control	Count	38	116	154
		% within Group	24.7%	75.3%	100.0%
	Experiment	Count	26	123	149
		% within Group	17.4%	82.6%	100.0%
Total		Count	64	239	303
		% within Group	21.1%	78.9%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.373 ^a	1	.123		
Continuity Correction ^b	1.959	1	.162		
Likelihood Ratio	2.386	1	.122		
Fisher's Exact Test				.159	.081
Linear-by-Linear Association	2.365	1	.124		
N of Valid Cases	303				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 31.47.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.088	.123
	Cramer's V	.088	.123
N of Valid Cases		303	

Group * Provide industry-sponsored education materials.

			ProvideMaterials		Total
			Mentioned	Not mentioned	
Group	Control	Count	38	116	154
		% within Group	24.7%	75.3%	100.0%
	Experiment	Count	34	115	149
		% within Group	22.8%	77.2%	100.0%
Total		Count	72	231	303
		% within Group	23.8%	76.2%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.144 ^a	1	.704		
Continuity Correction ^b	.060	1	.807		
Likelihood Ratio	.144	1	.704		
Fisher's Exact Test				.787	.404

Linear-by-Linear Association	.144	1	.705		
N of Valid Cases	303				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 35.41.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.022	.704
	Cramer's V	.022	.704
N of Valid Cases		303	

Group * Emphasise the health/environmental risks involved in moving away from current consumption trends

			EmphasiseRisks		Total
			Mentioned	Not mentioned	
Group	Control	Count	81	73	154
		% within Group	52.6%	47.4%	100.0%
	Experiment	Count	61	88	149
		% within Group	40.9%	59.1%	100.0%
Total		Count	142	161	303
		% within Group	46.9%	53.1%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.133 ^a	1	.042		
Continuity Correction ^b	3.678	1	.055		
Likelihood Ratio	4.143	1	.042		
Fisher's Exact Test				.050	.027
Linear-by-Linear Association	4.119	1	.042		
N of Valid Cases	303				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 69.83.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.117	.042
	Cramer's V	.117	.042
N of Valid Cases		303	

Group * Disseminate and use non-peer reviewed or unpublished evidence

	NonpeerreviewedEvidence	Total

			Mentioned	Not mentioned	
Group	Control	Count	20	134	154
		% within Group	13.0%	87.0%	100.0%
	Experiment	Count	17	132	149
		% within Group	11.4%	88.6%	100.0%
Total		Count	37	266	303
		% within Group	12.2%	87.8%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.176 ^a	1	.675		
Continuity Correction ^b	.059	1	.807		
Likelihood Ratio	.176	1	.675		
Fisher's Exact Test				.728	.404
Linear-by-Linear Association	.175	1	.675		
N of Valid Cases	303				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.19.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.024	.675
	Cramer's V	.024	.675
N of Valid Cases		303	

Group * Fund research, including through academics, ghost writers, own research institutions and front groups

			FundingResearch		
			Mentioned	Not mentioned	Total
Group	Control	Count	42	112	154
		% within Group	27.3%	72.7%	100.0%
	Experiment	Count	31	118	149
		% within Group	20.8%	79.2%	100.0%
Total		Count	73	230	303
		% within Group	24.1%	75.9%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.732 ^a	1	.188		
Continuity Correction ^b	1.396	1	.237		
Likelihood Ratio	1.738	1	.187		

Fisher's Exact Test				.227	.119
Linear-by-Linear Association	1.726	1	.189		
N of Valid Cases	303				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 35.90.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.076	.188
	Cramer's V	.076	.188
N of Valid Cases		303	

Group * **Promote** the good intentions and stress the good traits of the industry

			Promoting Good Intentions		Total
			Mentioned	Not mentioned	
Group	Control	Count	58	96	154
		% within Group	37.7%	62.3%	100.0%
	Experiment	Count	30	119	149
		% within Group	20.1%	79.9%	100.0%
Total		Count	88	215	303
		% within Group	29.0%	71.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	11.290 ^a	1	<.001		
Continuity Correction ^b	10.456	1	.001		
Likelihood Ratio	11.449	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	11.253	1	<.001		
N of Valid Cases	303				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 43.27.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.193	<.001
	Cramer's V	.193	<.001
N of Valid Cases		303	

Appendix C: Survey questions

Intro to part 1	In this first part of the survey you will be asked some general questions about your eating habits.
Part 1	
Question	Instructions and Answer Options
Gender	Select one of the following options. Male/ Female/Other
Which of the following diets best represents your eating habits?	Select one of the following options. <input type="checkbox"/> Omnivorous <input type="checkbox"/> Flexitarian (I am primarily vegetarian, but occasionally I eat animal products) <input type="checkbox"/> Vegetarian <input type="checkbox"/> Pescatarian <input type="checkbox"/> Vegan
What are your primary reasons for not consuming meat? Please express the extent to which any of these reason are important to you on a scale from 1 (to no extent) to 5 (to a full extent)	<input type="checkbox"/> Health conditions (e.g I suffered from high cholesterol/high pressure) <input type="checkbox"/> Environmental reasons <input type="checkbox"/> Ethical reasons (e.g animal welfare) <input type="checkbox"/> Cultural reasons (e.g religion, etc) <input type="checkbox"/> Personal preference (taste, etc..) <input type="checkbox"/> Other (please specify)
How often do you consume products from the following categories in a typical week?	<input type="checkbox"/> never <input type="checkbox"/> 1-3 days per week <input type="checkbox"/> 4-6 days per week <input type="checkbox"/> Every day <input type="checkbox"/> Meat including beef, pork, poultry, processed meat (ham) and fish <input type="checkbox"/> Vegetables <input type="checkbox"/> Dairy <input type="checkbox"/> Fruits <input type="checkbox"/> Fast food (& processed food)
In the future, would you be willing to incorporate each of the following food items into your diet?	"Answer Yes/No/I don't know" for the following options: <input type="checkbox"/> Plant-based meat alternatives (veggie burgers, veggie nuggets) <input type="checkbox"/> Lab-grown/cultivated meat (from cell culture) <input type="checkbox"/> Insects and insect derivatives <input type="checkbox"/> Algae <input type="checkbox"/> Jellyfish
How often do you consume products from the following categories in a typical week?	<input type="checkbox"/> never <input type="checkbox"/> 1-3 days per week <input type="checkbox"/> 4-6 days per week <input type="checkbox"/> Every day <input type="checkbox"/> Meat including beef, pork, poultry, processed meat (ham) and fish <input type="checkbox"/> Vegetables <input type="checkbox"/> Dairy <input type="checkbox"/> Fruits <input type="checkbox"/> Fast food (& processed food)
What are your primary reasons for consuming meat? Express the extent to which any of these reason are important to you on a scale from 1 (to no extent) to 5 (to a full extent)	<input type="checkbox"/> Meat provides critical nutrients that are not available in other foods (proteins etc..) <input type="checkbox"/> Personal preference (taste, etc..) <input type="checkbox"/> Cultural or familial tradition <input type="checkbox"/> More a matter of habit than any of the above <input type="checkbox"/> Other (please specify)

<p>To what extent would you say that your eating habits are influenced by environmental concerns?</p>	<p>Select a value between 1 and 5.</p> <p>1 = not at all 2 = to a minor extent 3 = to some extent 4 = to a large extent 5 = to a full extent (environmental concerns are the main factor influencing my eating habits)</p> <p><input type="checkbox"/> I do not know</p>
<p>Have you ever tried to reduce your meat consumption? If so, what motivated you to do so?</p>	<p>Select all that apply.</p> <p><input type="checkbox"/> Some people I know are vegetarian/vegan and I was curious to try <input type="checkbox"/> Health reasons (e.g I suffered from high cholesterol/high pressure) <input type="checkbox"/> Environmental reasons <input type="checkbox"/> Ethical reasons (e.g animal welfare) <input type="checkbox"/> I thought about it, but I have never really tried. <input type="checkbox"/> No I have not. Eating meat is necessary to have a healthy diet and it is therefore irreplaceable</p>
<p>In the future, would you be willing to replace at least part of your meat consumption with each of the following food items?</p>	<p>Answer Yes/No/I don't know for the following options:</p> <p><input type="checkbox"/> Plant-based meat alternatives (veggie burgers, veggie nuggets) <input type="checkbox"/> Lab-grown/cultivated meat (from cell culture) <input type="checkbox"/> Insects and insect derivatives <input type="checkbox"/> Vegetarian dishes <input type="checkbox"/> Algae <input type="checkbox"/> Jellyfish</p>
<p>Intro to part 2</p>	<p>In this second part of the survey, you will be presented with five text excerpts extrapolated from the website of a project funded by some of the major Italian trade associations representing the meat sector. The extracts will be presented in Italian, exactly as they are written on the website, in order to minimise potential bias during the translation.</p> <p>While reading the following excerpts bear in mind that other sectors such as the tobacco, sugar and the oil&gas sectors, when linked to negative health and environmental impacts, have in some cases resorted to a set of strategies in order to protect their industry from public outcry and more stringent government policies.</p>

Part 2		
Excerpt	Question	Instructions and Answer Ranges/Options
<p>5) <i>Le affermazioni che reputano le diete vegane adeguate alla salute, come quelle dell'American College of Cardiology/American Heart Association mancano del supporto scientifico di studi di alta qualità. Infatti studi più nuovi e accurati mostrano sempre più l'esatto contrario. [...] "La realtà è che seguire una dieta contro la nostra natura, che elimina totalmente la carne e tutti gli alimenti animali, può provocare danni irreversibili all'organismo. È ormai dimostrato che la stretta aderenza a una dieta vegana causa carenze di nutrienti fondamentali, tra cui vitamine B12, B2, D, niacina, ferro, iodio, zinco, proteine di alta qualità, omega-3 e calcio, le cui fonti davvero affidabili sono quasi esclusivamente carne e alimenti di origine animale. La mancanza di vitamina B12 è particolarmente critica nei vegani ed è stata collegata di recente non solo a problemi neurologici ed ematologici, ma anche ad un aumento del rischio di tumori del seno, della cervice, del tratto gastrointestinale e del fegato in chi segue una dieta vegana.</i></p>	<p>Before reading the excerpt: To what extent do you think that the adoption of a vegan diet, free from meat, dairy, eggs and any other animal-derived products, would be dangerous for your health?</p>	<p>Select a value between 1 and 5:</p> <p>1 = not at all 2 = to a minor extent 3 = to some extent 4 = to a large extent 5 = to a full extent</p>
	<p>After reading this excerpt, to what extent has your perception of the risks associated with a vegan diet increased?</p>	<p>Select a value between 1 and 5:</p> <p>1 = not at all 2 = to a minor extent 3 = to some extent 4 = to a large extent 5 = to a full extent</p>
	<p>After reading this excerpt, to what extent do you think claims that vegan diets are good for health lack the backing of high-quality scientific studies?</p>	<p>Select a value between 1 and 5:</p> <p>1 = not at all 2 = to a minor extent 3 = to some extent 4 = to a large extent 5 = to a full extent</p>

<p>3) "Per soddisfare la maggiore richiesta di cibo di origine animale sarà necessario disporre di ulteriori 12,5 milioni di km² entro il 2050, cosa che andrebbe a scapito degli ecosistemi esistenti. Ne conseguirebbe una modifica degli habitat naturali e mutamenti nella presenza e distribuzione della fauna selvatica, con conseguente aumento del rischio di insorgenza di EID (emerging infectious diseases). E qui entrano in ballo gli allevamenti protetti (intensivi), che grazie alla loro maggiore efficienza consentirebbero di raggiungere lo stesso risultato produttivo utilizzando il 31% in meno di terra.</p>	<p>Before reading the excerpt: On a scale from 1 to 5 where would you place your views on intensive livestock farming?</p>	<p><i>Select a value between 1 and 5.</i></p> <ul style="list-style-type: none"> 1) Fully against 2) Against 3) Neither against or in favour 4) In favour 5) Strongly in favour
	<p>After reading this excerpt, have your views on intensive livestock farming changed?</p>	<p><i>Select one of the following options:</i></p> <ul style="list-style-type: none"> A) My views on intensive livestock farming have become more positive B) My views on intensive livestock farming have stayed the same C) My views on intensive livestock farming have become more negative
	<p>If you answered B or C : Why do you think your views did not change/become more negative?</p>	<p><i>Answer in 1-3 sentences.</i></p>

<p>2) Gli allevamenti inquinano più dei trasporti! Falso!</p> <p><i>Prendendo in esame il solo settore zootecnico, in Italia il contributo totale ai gas serra è del 4,6% (report Ispra). Un viaggio aereo Roma-Bruxelles, ad esempio, genera più emissioni del consumo di carne di un italiano per un intero anno nell'ambito di un regime alimentare equilibrato.</i></p>	<p>Before reading the excerpt: Rank the following sectors based on your perceptions of how much they contribute to green house gas emissions.</p>	<p><i>Rank the following options from 1 (least emitting) to 5 (most emitting):</i></p> <p>Energy use in industry ___ Waste ___ Agriculture ___ Transport ___ Energy use in buildings ___</p>
	<p>After reading this excerpt, to what extent do you agree that efforts to curb emissions should focus on the transport sector more than the livestock sector? (1-5)</p>	<p><i>Select a value between 1 and 5:</i></p> <p>1) Strongly disagree 2) Disagree 3) Neither agree or disagree 4) Agree 5) Strongly agree</p>
	<p>After reading this excerpt, to what extent do you agree that the livestock sector, and meat products in general, receive a disproportionate amount of the blame for climate change (e.g in the media, government policies)? (1-5)</p>	<p><i>Select a value between 1 and 5:</i></p> <p>1) Strongly disagree 2) Disagree 3) Neither agree or disagree 4) Agree 5) Strongly agree</p>
<p>1) Il settore economico delle carni genera in Italia un valore economico dell'ordine dei 30 miliardi di euro all'anno, rispetto ai circa 180 dell'intero settore alimentare ed ai 1.500 del PIL</p>	<p>Before reading the excerpt: What percentage of the total National GDP (Gross Domestic Product) do you is generated by the Italian Meat Sector?</p>	<p>Less than 5 % 5% -10% 10% - 15% More than 15 %</p>

<p>nazionale. Maggiori costi e oneri burocratici, come quelli previsti dal Green New Deal, potrebbero tradursi in chiusure degli allevamenti in Europa e aumentare le importazioni.</p>	<p>After reading this excerpt, to what extent are you now more concerned about possible negative economic repercussions of EU agricultural policies on the Italian economy?</p>	<p>Select a value between 1 and 5.</p> <p>1 = not at all 2 = to a minor extent 3 = to some extent 4 = to a large extent 5 = to a full extent</p>
	<p>After reading this excerpt, to what extent do you think that the government should impose stricter regulations on the livestock sector in line with the European climate neutrality goals (Green New Deal)?</p>	<p>Select a value between 1 and 5:</p> <p>1) Strongly disagree 2) Disagree 3) Neither agree or disagree 4) Agree 5) Strongly agree</p>
<p>4) Parlando di antimicrobici merita un cenno quanto si sta facendo in Italia per contrastare la crescita di batteri antibiotico-resistenti. Un problema sanitario che si fa sempre più preoccupante e che è causa di un inaccettabile numero di decessi. [...] Ancora una volta la zootecnia europea e quella italiana in particolare, risponde responsabilmente agli appelli delle autorità sanitarie nella lotta all'antibiotico resistenza, riducendo ogni anno di più l'impiego di antimicrobici. Al contempo i prodotti di origine animale offrono ottime garanzie di sicurezza e salubrità. Merito di un capillare lavoro di controllo che inizia nelle stalle e prosegue senza interruzioni lungo tutta la filiera produttiva.</p>	<p>Before reading the excerpt: The widespread use of antibiotics in intensive livestock farming is contributing to the phenomenon of antibiotic resistance which, according to the European Centre for Disease Control, causes more than 35,000 deaths each year across Europe. How many of these deaths do you think take place in Italy?</p>	<p>Less than 1k 1 k - 5 k 5 k - 10 k More than 10k</p>
	<p>After reading this excerpt, to what extent do you believe that the Italian livestock sector has made great efforts to address the issue of antibiotics resistance?</p>	<p>Select a value between 1 and 5.</p> <p>1 = not at all 2 = to a minor extent 3 = to some extent 4 = to a large extent 5 = to a full extent</p>

	<p>After reading this excerpt, to what extent do you believe that Italian meat products come with a higher guarantee of safety?</p>	<p>Select a value between 1 and 5.</p> <p>1 = not at all 2 = to a minor extent 3 = to some extent 4 = to a large extent 5 = to a full extent</p>
Intro to part 3	<p>In the last part of the survey you will be asked to reflect on the contents of the excerpts from the previous section.</p>	
	<p>Experimental question --></p>	<p>Thinking back to the excerpts you have read today, if you think that any of the following strategies were used by the writers, select them from the following list:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Shift the blame away from the industry to other sectors. <input type="checkbox"/> Not properly backing up statements with scientific evidence <input type="checkbox"/> Provide industry-sponsored education materials <input type="checkbox"/> Emphasize the health/environmental risks involved in moving away from current consumption trends <input type="checkbox"/> Disseminate and use non-peer reviewed or unpublished evidence <input type="checkbox"/> Fund research, including through academics, ghost writers, own research institutions and front groups

	<input type="checkbox"/> Promote the good intentions and stress the good traits of the industry
	<input type="checkbox"/> None of the above
	<input type="checkbox"/> I do not know