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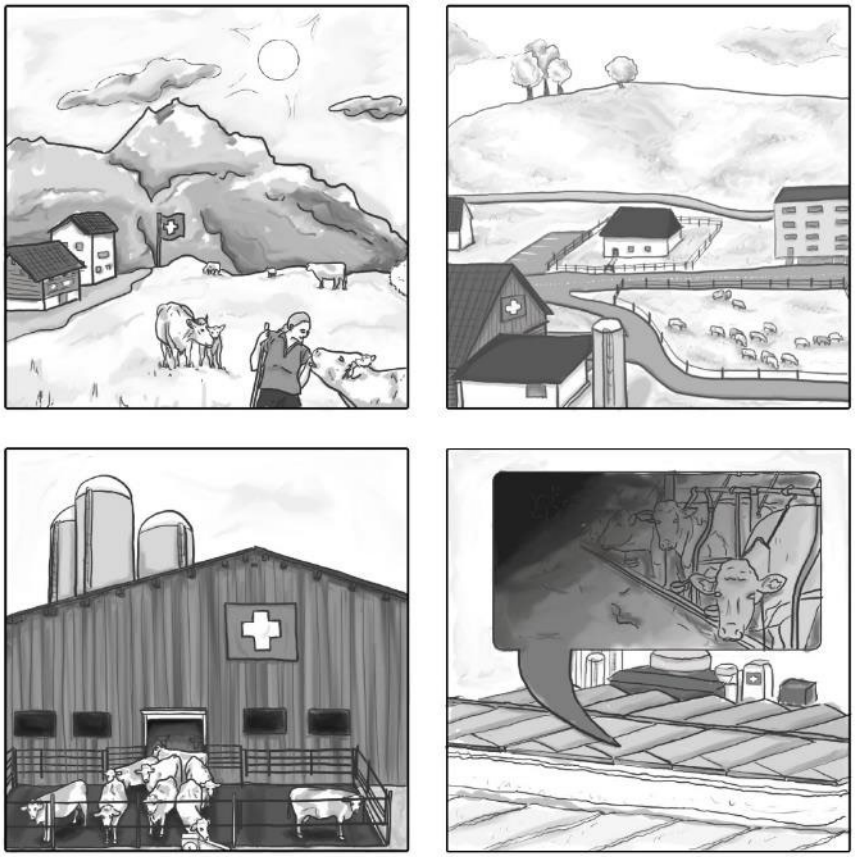
The Perception and Influence of Advertisements of selected animal agricultural products on Consumers in Switzerland



Master's thesis

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Abstract

Advertisements appear in many areas of everyday life, and their goal is to influence the consumer's decision to buy and thus gain either new consumers or heighten the sales and, therefore, the consumption of the advertised good. Advertising puts products in a glowing light, which can even lead to Greenwashing and influence strategies, but little research exists on the topic of "Greenwashing" in agriculture and food advertising. In Switzerland, growing voices call advertisements for Swiss animal agriculture products euphemistic and misleading, but how consumers perceive and understand these advertisements remains unclear. A case of an ad from Proviande (an organisation of the Swiss meat industry) deemed as misleading was rejected by the Swiss fairness commission, which monitors fairness in advertising, based on the assumption that the average consumer knows that the objectionable advertisement is just an example and that other forms of animal husbandry exist in Switzerland. However, this assumption needs to be empirically verified. Thus, this master's thesis explores how advertisements for Swiss animal agriculture products are perceived and understood and what image the Swiss citizens have of Swiss animal agriculture.

Further, it examines if these advertisements influence the perception of Swiss animal agriculture, the purchase intentions to buy Swiss meat and their dependency on people's characteristics, such as diet. To answer these research questions, the author conducted a pre-study with eight qualitative interviews to get a first overview and to create four images of Swiss animal agriculture, used in the following experimental online survey with 435 valid responses. There were three treatments: (1) respondents were shown the showcase advertisement from the case mentioned above, (2) respondents saw a factual advertisement from Lidl (a discounter) and (3) a control group, which saw no advertisement at all. The author could answer the research questions by comparing the answers among the treatments and with statistical evaluations (Kruskal-Wallis and multiple linear regressions) using SPSS and the findings from the interviews. The advertisements did not influence participants' perceptions, possibly because they were somewhat reflective, many non-meat eaters participated, and their self-assessed knowledge about the topic was relatively high. However, treatment 2 influenced the intention to buy meat, likely attributed to a more sceptical view of Lidl as a discounter. The same goes for objective knowledge questions, which were only influenced in one case and again by treatment 2. The advertisements are perceived and understood in different ways, depending on the characteristics of respondents, e.g., vegetarians or vegans have a more pessimistic view. The same goes for the image of Swiss animal agriculture. The features which most influenced participants' answers were diet and proximity to Swiss animal agriculture, which means, e.g., working in the agricultural sector or growing up on a farm: The fewer animal products are consumed and the further away one feels from Swiss animal agriculture, the more negative the answers were compared to participants who eat meat regularly or are closer to Swiss animal agriculture. While these findings give valuable first insights towards understanding the perception and influence of advertisements in Swiss animal agriculture, it must be considered that the online survey sample is not representative of the general Swiss population. Thus, the findings of this thesis cannot be concluded by the author as generally valid and further research is needed, especially to examine the statement of the Swiss Fairness Commission further.

Zusammenfassung

Werbung begegnet uns in vielen Bereichen des täglichen Lebens. Sie zielt darauf ab, die Kaufentscheidung des Verbrauchers positiv zu beeinflussen. In der Werbung werden häufig Greenwashing- und Beeinflussungsstrategien eingesetzt, doch gibt es nur wenige Forschungsarbeiten dazu im Bereich der Agrar- und Lebensmittelwerbung. In der Schweiz mehren sich die Stimmen, welche die Werbung für Schweizer Landwirtschaftsprodukte als euphemistisch und irreführend bezeichnen, doch bleibt unklar, wie die Konsumenten diese Werbung wahrnehmen und verstehen. Ein Fall einer als irreführend eingestuften Werbung von Proviande wurde von der Schweizer Lauterkeitskommission mit der Begründung abgelehnt, dass der Durchschnittskonsument wisse, dass die beanstandete Werbung nur ein Beispiel sei und es in der Schweiz auch andere Formen der Tierhaltung gebe. Diese Annahme muss jedoch empirisch überprüft werden. In dieser Masterarbeit wird deshalb untersucht, wie Werbung für tierische Landwirtschaftsprodukte wahrgenommen und verstanden wird und welches Bild Schweizer:innen von der tierischen Landwirtschaft in der Schweiz haben.

Weiter wird untersucht, ob diese Werbung die Wahrnehmung der Schweizer Landwirtschaft, als auch die Kaufabsichten für Schweizer Fleisch beeinflusst und ob die Charakteristiken der Personen diese beeinflussen. Dazu führte die Autorin eine Vorstudie mit acht qualitativen Interviews durch, um einen ersten Überblick zu erhalten und vier Bilder der tierischen Landwirtschaft der Schweiz zu erstellen, die in der folgenden experimentellen Online-Umfrage mit 435 gültigen Antworten verwendet wurden. Es gab drei Treatments: (1) den Befragten wurde die Showcase Werbung aus dem oben genannten Fall gezeigt, (2) die Befragten sahen eine sachliche Werbung von Lidl (einem Discounter) und (3) eine Kontrollgruppe, die überhaupt keine Werbung sah. Durch den Vergleich der Antworten zwischen den Treatments mit statistischen Auswertungen (Kruskal-Wallis und multiple lineare Regressionen) unter Verwendung von SPSS und den Ergebnissen aus den Interviews konnte herausgefunden werden, dass die Werbung keinen Einfluss auf die Wahrnehmungen der Teilnehmenden hatte. Möglicherweise verursacht durch ihre Reflektiertheit, viele Nicht-Fleischesser und ein hohes selbst eingeschätztes Wissen über das Thema. Allerdings beeinflusste Treatment 2 die Absicht, Fleisch zu kaufen, was wahrscheinlich auf eine skeptischere Haltung gegenüber Lidl als Discounter zurückzuführen ist. Das Gleiche gilt für die objektiven Wissensfragen, die in einer Teilfrage ebenfalls von Treatment 2 beeinflusst wurden. Die Werbung wird je nach Charakteristiken der Befragten unterschiedlich wahrgenommen und verstanden. Das Gleiche gilt für das Bild der tierischen Landwirtschaft. Die Charakteristiken, welche die Antworten der Befragten am meisten beeinflussten, waren die Ernährung und die Nähe zur Schweizer Landwirtschaft: Je weniger tierische Produkte und je weiter entfernt von der Schweizer Landwirtschaft, desto negativer fielen die Antworten aus im Vergleich zu Teilnehmenden, die regelmäßig Fleisch essen oder näher an der Schweizer Landwirtschaft sind. Während diese Ergebnisse wertvolle erste Einblicke zum Verständnis der Wahrnehmung und des Einflusses von Werbung in der Schweizer Landwirtschaft geben, muss berücksichtigt werden, dass die Stichprobe der Online-Umfrage nicht repräsentativ für die allgemeine Schweizer Bevölkerung ist. Daher können die Ergebnisse dieser Arbeit nicht als allgemeingültig angesehen werden und es bedarf weiterer Forschung, insbesondere um die Aussage der Schweizer Lauterkeitskommission weiter zu überprüfen.

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Adriana Garibay

Wädenswil, 29.06.2023

List of abbreviations

BAFU / FOEN	Bundesamt für Umwelt / Federal Office for the Environment
BCa method	bias-corrected and accelerated method
BLV / FSVO	Bundesamt für Lebensmittelsicherheit und Veterinärwesen / Federal Food Safety and Veterinary Office
BLW / FOAG	Bundesamt für Landwirtschaft / Federal Office for Agriculture
BTS certification	particularly animal-friendly stabling (besonders tierfreundliche Stallhaltung)
CFC	chlorofluorocarbons
df	degrees of freedom
DGE	German Nutrition Society
MLR	Multiple linear regression
mv	Mixed variable
PKM	Persuasion knowledge model
sd	Standard deviation
T1 / treatment 1	Treatment 1 (showcase advertisement "Schweizer Fleisch")
T2 / treatment 2	Treatment 2 (factual advertisement "Lidl")
T3 / treatment 3	Treatment 3 (control group)
WWF	World Wide Fund for Nature
ZHAW	Zurich University of Applied Sciences

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1 Introduction

Different parties repeatedly criticise advertising campaigns for agricultural animal products in Switzerland for being euphemistic and misleading or for Greenwashing. One of these cases builds the basis of this master's thesis: In December 2021, Vision Landwirtschaft (a Swiss Think Tank, which advocates for sustainable agriculture (Vision Landwirtschaft, 2023)) filed a complaint with the Swiss Fairness Commission against four commercial communications by Proviande (the industry organisation of the Swiss meat industry (Proviande, 2023)) (Jenny & Hablützel, 2021). The decision of the Swiss Fairness Commission only partially upholds Vision Landwirtschaft on two points out of four. The most crucial point that the showcase farm shown in the advertisement does not reflect reality was rejected (Vision Landwirtschaft, 2022). According to the Swiss Fairness Commission, average consumers can place the statements of the advertisement in their respective context, here knowing that there are different forms of animal husbandry in Switzerland and the showcase advertisement is only an example (Schweizerische Lauterkeitskommission, 2022a). However, the statement that the advertisement will not deceive consumers is not empirically proven by the Swiss Fairness Commission.

Advertisements appear in many areas of everyday life, and research has shown that their goal is to influence the consumer's decision to buy (Hudák et al., 2017) and thus gain either new consumers or heighten the sales and the consumption of the advertised goods (Blisard, 1999). Research suggests advertisements want to seduce or deceive recipients (Coulter et al., 2001). However, how recipients understand advertisements is multi-layered and complex: An advertisement runs through several stages until it arrives at the receiver, and all these stages influence, how the advertisement is received (Kumar & Chandra, 2017). The consumers' circumstances, e.g., social or cultural milieu or knowledge (Hall, 1974), influence how the advertisement is understood.

As making decisions uses many resources, countless daily decisions humans make use mental shortcuts, aka heuristics (The Decision Lab, 2023a). Marketing uses these to its advantage by triggering these cognitive biases to manipulate the consumer (Bunčić et al., 2021) for example, the Halo effect, which causes, that a positive impression of a product in one area, can influence the feelings in another area positively (The Decision Lab, 2023b). This effect is also used in the example of the Swiss Fairness Commission stated above, and this is also where Green Marketing and Greenwashing come into play. While Green Marketing is not inherently harmful, as it simply includes an implication or statement about environmental benefits (Szabo & Webster, 2021), it can also contain Greenwashing, which means ambiguous or misleading messages regarding a company's environmental procedures, policies or practices (Y.-S. Chen & Chang, 2013). Companies can commit the seven sins of Greenwashing (de Freitas Netto et al., 2020; TerraChoice, 2007) and Greenwashing can affect several levels of a company, either the firm-level, the product/service level (de Freitas Netto et al., 2020), the strategic-level or the dark-level (Torelli et al., 2020), in which it either uses different kinds of claims to deceive the consumer (de Freitas Netto et al., 2020) or uses very subtle strategies called Executional Greenwashing, where e.g. nature-evoking images are used to influence the consumers (Parguel et al., 2015). While consumers that detect Greenwashing have a negative reaction (Plec & Pettenger, 2012), the task of identifying influence strategies and Greenwashing is difficult for the average consumer, as several studies have shown, e.g., it depends on how much topic knowledge (about the product or service), persuasion

knowledge (how to cope with persuasion) and agent knowledge (based on the expectations of the company's image and competencies) a receiver has (Mohr & Kühl, 2021). The perception or reaction to Greenwashing and other influencing strategies is thus dependent on many different factors.

While for food advertising, researchers also explored the influencing effects and showed that the consumption could be heightened (Blisard, 1999; Piggott et al., 1996), these are mostly older studies, and in general, a study suggests that there is not much research that touches on the aspect of Greenwashing in food advertising (Montero-Navarro et al., 2021). In Switzerland, there is also not much research either, and even though there exist two studies by Greenpeace (Azaoui et al., 2022; Delliston, 2021) that examined and detected the influence strategies used in animal product advertising, especially meat advertisements for Switzerland and other European countries, these studies do not examine the direct effect on the consumers. Thus, the statement of the Swiss Fairness Commission is not based on empirical studies, and it remains unclear how the advertisements are understood and perceived by consumers and if they are influenced by them. Further, there is not much research about the image the Swiss population has of Swiss animal agriculture and if this image is influenced by advertisements for Swiss animal agriculture products.

This master's thesis aims to study how consumers perceive and understand advertisements for Swiss animal agriculture products. It also aims to determine the image of Swiss animal agriculture among the Swiss population and whether these advertisements affect their intention to purchase a product. By answering the following research questions, based on the literature research and the case of the Swiss Fairness Commission, and testing the hypotheses derived from them, this thesis can practically examine the unverified assumption in the decisions of the Swiss Fairness Commission.

- How are advertisements for Swiss animal agricultural products perceived and understood by consumers?
- What image do respondents have about Swiss animal agriculture?
- Do the selected meat advertisements influence consumers' perceptions of Swiss animal agriculture and purchase intentions of meat?
- To what extent do select personal characteristics have an influence on the perception?
    - *H1: Consumers' perceptions differ within the treatment groups: They are positively influenced by viewing the showcase advertisement in treatment 1.*
    - *H2: Consumers' intentions to buy meat differ between the treatment groups: They are positively influenced by viewing the showcase advertisement in treatment 1.*
    - *H3: The consumer's answer to the objective knowledge questions is influenced positively by viewing the showcase advertisement from treatment 1: They answer that more farms feed solely on-farm feed, fewer farms import feed, and farmers use less arable land to produce animal feed.*
    - *H4: Existing prior knowledge about Swiss animal agriculture reduces the positive influence of the showcase advertisement in treatment 1.*
    - *H5: Age does not influence the perception of the advertisements in treatments 1 and 2.*
    - *H6: People who eat a vegan or vegetarian diet view the advertisements shown more critically than people who eat an omnivorous diet.*

The author builds the theoretical fundament of this work in the following chapter about the state of research: It investigates how advertisements are perceived and the use of influencing strategies and Greenwashing in advertisements in general while also entering this topic in the aspect of food advertising and the situation in Switzerland. The next chapter about the methods builds the fundament for the further procedure of the master's thesis, the procedure for the interviews, the creation of the images and the online survey. Then follows the chapter on the results, ensued by a discussion and a conclusion at the end.

2 Literature overview and situation in Switzerland

This chapter will explore how advertisement affects consumers' perceptions and purchasing decisions. Further, an analysis of some mechanics that could enhance the impact of advertising and a look at Green Marketing, including Greenwashing and some examples of how advertisements influences can be countered, is provided. A delve into Food advertising and an overview of the situation in Switzerland complete the chapter.

2.1 Advertisement an overview

In today's world, advertisements, which is understood here as any form of communication that promotes a product or service to an audience (Duden, 2023), is nearly unavoidable: For example, advertisers plaster streets with poster advertisements and public transport with screen advertisements. Stores have advertisements for their newest products, people wear clothing with a brand logo, and opening a computer or mobile device opens the way to many other advertisements, like social media advertisements, advertisements during videos and more. These examples make it clear that advertisements are all around us. But what is the goal of advertisements and thus advertising?

Until the 1970s, advertising and marketing communication aimed to inform consumers and help them make choices. From the 1970s onwards, advertising shifted away from only providing product-related facts in order to address consumers directly, for example, by making emotional connections to the promoted brand (Bunčić et al., 2021). Advertising is the most used tool for marketing. Marketing aims to inform consumers about a product for sale and to persuade them to buy it; in other words, to influence the consumer's decision to buy (Hudák et al., 2017). This to either gain new consumers or heighten the consumption of the advertised good, so to say, advertising targets existing and potential consumers (Blisard, 1999). Research has proven that advertising promotes the consumption of substantially all the products it advertises. (Abelin et al., 2014).

While advertising can have positive aspects for consumers, it also has manipulative aspects: Advertisements can seduce or deceive their recipients (Coulter et al., 2001). In this work the focus is mainly laid on these manipulative aspects.

2.1.1 Perception and influence of advertisements

As stated above, research has proven that advertising does increase sales for the products it promotes (Abelin et al., 2014). To understand how marketing and advertisements influence people and thus increase sales, three points about how consumers perceive advertisements are provided:

First, the reasons to consume advertisements lie, according to Crosier (1983), in a total of seven different kinds of satisfaction: (1) product information, (2) entertainment, (3) implied warranty, (4) value addition, (5) post-purchase reassurance, (6) vicarious experience and (7) involvement (Crosier, 1983).

Second, advertising and messages have a preferred meaning in which the sender of the message or advertisement wants them to be understood. However, the case is that only sometimes the preferred meaning will be transmitted to recipients: Thus, advertising and messages will be understood

differently by different people since they come from different social, cultural, and political milieus (Aitken et al., 2008).

Third, over time, various concepts on how mass communication (and therefore advertisements) are understood were developed by various researchers: For example, there are four ideal positions (or codes) from which the audience can decode mass communication: (1) the dominant code (messages were understood as intended), (2) the professional code (meaning is limited and recognised only by an informed or expert audience), (3) the negotiated code (receivers understand most of the message but not necessarily the preferred meaning) and (4) the oppositional code (the message is understood but decoded to the contrary). Thus, depending on the recipient's background (for example, informed or uninformed or also depending on their political or cultural milieu), a message can be understood differently (Hall, 1974). To make an example with an advertisement from Switzerland: In 2018, an advertisement from Proviande was partially declared unfair by the Swiss Fairness Commission, as the information provided in the advertisement was not wholly correct (Tier im Fokus (TIF), 2018). It remains unclear how consumers understood this advertisement. Did some have the necessary knowledge to correctly understand the information of the advertisement – aka the professional code?

Figure 1 shows a simplified model of a correspondence process. As written above, a communication or advertisement goes through several stages until it arrives at the receiver. Not mentioned before is that it is also essential who the sender is because it will influence the reception of the receiver (Kumar & Chandra, 2017). Advertisements with a lower perceived risk[1] will increase purchase probability or intention since the perceived risk is related to purchase probability (Y.-S. Chen & Chang, 2013). Thus, choosing a trustworthy sender will benefit the advertisement or message. The next step, encoding, entails symbolizing or wording out the message so the sender can transmit it to the receiver through a so-called channel. A channel can, for example, be a television commercial (Kumar & Chandra, 2017). A channel is, therefore, the form or media of the advertisement.

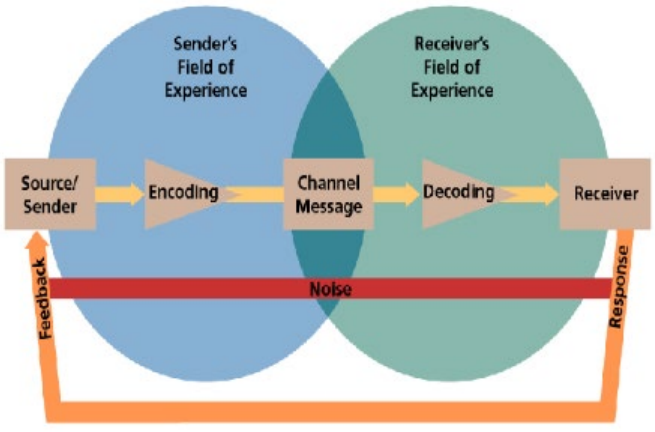

Figure 1: Communication Process after Kumar & Chandra (Kumar & Chandra, 2017).

[1] Perceived risk is based on consumers' assessment of the possible consequences that may happen because of wrong decisions and which can affect their decision to buy (Y. Chen & Chang, 2012).

As seen above, not only does the background and knowledge of the recipient play a role in the understanding or reception of an advertisement, but other factors play into it as well: A variety of media are used for advertising, for example, TV or internet advertisements. Each medium's characteristics will influence its performance. Thus, the interaction of consumers with advertisements is very complex, and many aspects play into it, while it is also a very active and dynamic process (Aitken et al., 2008).

Understanding that the reception of advertisements is already complex and influenced by the consumers' characteristics leads to the next aspect to comprehend: The way advertising tries to influence consumers' decisions. To approach this, it is first necessary to understand how people make decisions:

Every day humans must make a multitude of decisions. Mental shortcuts, so-called heuristics, are taken to avoid getting overwhelmed and exhausting the mental energy needed to make decisions. They allow humans to make quick decisions based on generalizations and use fewer mental resource (The Decision Lab, 2023a). Usually, heuristics lead to correct decisions, but there are cases where they lead to misjudgement and errors. Marketing specialists also use them in marketing communication: Messages are constructed to trigger cognitive errors, so-called cognitive biases (Bunčić et al., 2021). Several cognitive biases are used actively by marketing. Some examples are:

- The Anchoring bias: It tries to foresee the future value of an occurrence, and if there is a reference value, it will influence the value predicted (Peña & Gómez-Mejía, 2020). Thus, the value is predicted, without having all information, except the given information, a so-called anchor. The bias triggers, in particular, if, for example, consumers are unfamiliar with the presented topic: Then the probability that an anchor is accepted as reference information gets higher than with a topic consumers are familiar with. An example in advertisements could be the prices of goods (Bunčić et al., 2021).
- Framing: The consumer's decision-making is affected by formulating the same problem differently. When something is framed positively by advertisements, it gets preferred over other buyable options (Bunčić et al., 2021). In other words: Framing chooses aspects of reality and emphasizes them more than others, which in turn influences the thinking and action process of the audience (Entman, 1993).
- The Availability heuristic: A phenomenon is more represented than another, so its significance gets overestimated(Bunčić et al., 2021).
- The Halo effect: Positive impressions of people or products in one area positively influence feelings in another area (The Decision Lab, 2023a)

There are many more, but to list them all would not have been purposeful. The author will shortly touch upon a few later in this thesis, see chapter 3.2.1.

As an example, a study about smoking comes to mind, which has shown, that advertising can influence not only the decision to buy but also ideas and attitudes towards a product: In an experiment with adolescents, researchers have shown that a brief confrontation with tobacco advertising positively influences their ideas and attitudes towards smoking and that this strengthens their intention to smoke later on (Pechmann & Knight, 2002). Furthermore, several studies have shown, that broad prohibitions

and banning advertisements, promotion and sponsoring of tobacco lead to a reduced consumption, (Abelin et al., 2014). However, it must be mentioned that there are studies that put the whole matter into perspective and that a ban on tobacco advertising can therefore be assumed to have some effect, but this will not result in a vast reduction in consumption (Poletti, 2022).

Another example would be a study where Bunčić et al. (2021) examined the influence of Anchoring and message Framing on consumers: They could show that depending on how the advertisement message was framed and displayed, the willingness to pay would go up or down. This finding confirms that using biases can influence the decisions consumers make. Sometimes, it can also give consumers the wrong image and idea about a product.

It can be thus concluded that advertising can influence the ideas and actions of consumers.

2.1.2 Green Marketing and Greenwashing

This is where Green Marketing and Greenwashing come into play. But what are Green Marketing and Greenwashing, and how did these concepts come into being?

With the rise of consumers' concerns regarding the environment, the importance of environmentally friendly and conscious products rose as well. Companies thus use Green Marketing for five reasons: (1) to utilize green opportunities (more consumers want to buy environmentally friendly), (2) to increase their corporate image, (3) to raise the value of their product, (4) to enhance their competitive advantages and (5) to conform with environmental trends (Y. Chen & Chang, 2012). Green Marketing includes all advertising with an implication or statement about environmental benefits (Szabo & Webster, 2021). In contrast, Greenwashing means ambiguous or misleading messages regarding a company's environmental procedures, policies or practices (Y.-S. Chen & Chang, 2013). As Greenwashing is multifaceted, there is no exact definition. However, de Freitas Netto et al. (2020) summarized the main approaches to define Greenwashing in their systematic review as follows (de Freitas Netto et al., 2020):

- Greenwashing as selective disclosure: This includes two main behaviours: The company retains negative information about the environmental performance and publicises positive information.
- Greenwashing as decoupling: There is a discrepancy between so-called symbolic actions and tangible actions.
- Signalling and corporate legitimacy theory: This theory concerns the three types of corporate legitimacy. If the green goals a company has set itself can't be reached, the decoupling behaviours can reduce the three types of corporate legitimacy:
    - Cognitive legitimacy: Amount of people involved can be reduced.
    - Moral legitimacy: Positive evaluation of the environment can be reduced.
    - Pragmatic legitimacy: The perceived benefit of stakeholders can be reduced.

Whereas the above list shows the different approaches to define Greenwashing, it must be further understood that the deceptive act of Greenwashing can apply to two levels of a company. These are the firm-level (misleading regarding environmental practices) or the product- and service-level

(misleading regarding the environmental benefits). They can be classified into either "Claim" or "Executional Greenwashing" (de Freitas Netto et al., 2020), see Figure 2.

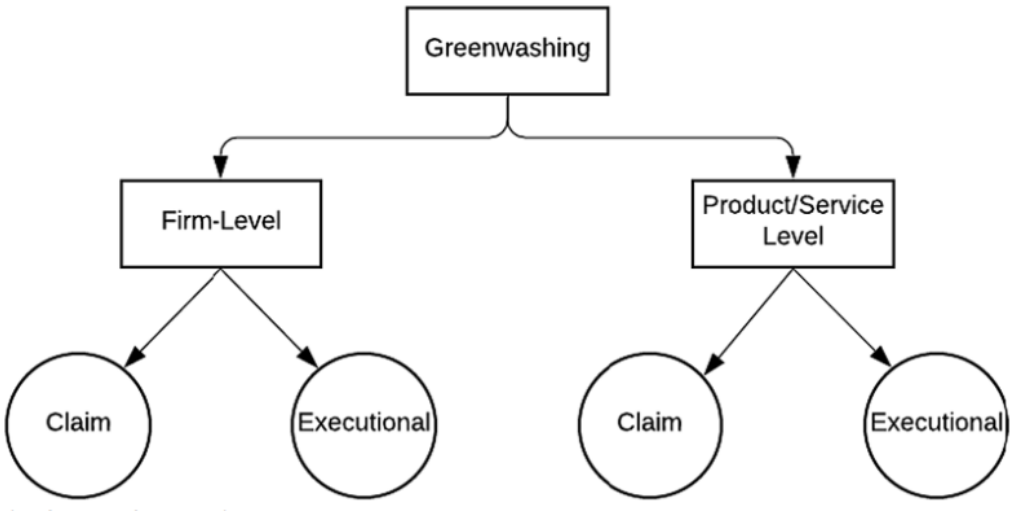

Figure 2: Levels and classifications of Greenwashing (de Freitas Netto et al., 2020)

Torelli et al. (2020) go even further and suggest two more levels of Greenwashing complementary to the ones depicted above: Strategic-level Greenwashing, which means misleading environmental communication regarding the strategies of a company and dark-level Greenwashing, which contains misleading environmental communication towards hidden illegal activities, for example, corruption.

According to a study cited in Parguel et al. (2015), a distinction is made between three categories when talking about greenwashed advertisements. These categories are (1) advertisements using false claims, (2) advertisements that omit information which is deemed essential or needed to evaluate the environmental friendliness of a product and (3) advertisements that use terms that are either unclear or imprecise, what can be understood as a form of lying. Omission or lack of clarity can also be considered lying (Parguel et al., 2015). An example could be an advertisement stating that they produce their product CO^2 neutrally, while only a part of the production process is CO^2 neutral. In 2022 in Switzerland, there was a case of a cheese brand promoting their cheese as climate neutral, while only the production process in-house was climate neutral, not the production of the milk itself (cows and all emissions belonging to the process of natural cheese production). Experts called out this advertising for Greenwashing (Hollenstein, 2022).

Such claims of greenwashed advertisements can be divided into two typologies, either claim type or claim deceptiveness (de Freitas Netto et al., 2020); see Table 1.

Claim	
Claim type	Claim deceptiveness
- Product orientation (ecological attribute of a product) - Process orientation (ecological performance of a production process or disposal method) - Image orientation (enhance the eco-friendly image) - Environmental Fact (statements by a third party that appears factual and independent) - Combination (two or more claim types)	- Vague / ambiguous (lack of clearness) - Omission (information for validation is missing) - False / Outright lie (untrue or inexact) - Combination (two or more of the above attempts to deceive) - Acceptable (without deception)

Table 1: Typologies of greenwashed claims (de Freitas Netto et al. (2020); summarised by the author).

Not to say that companies promote no ecologically friendly alternatives that are not Greenwashing, as some companies legitimately use Green Marketing to promote and protect the environment. However, even more so, companies use greenwashed environmental Frames to promote unsustainable and environmentally unfriendly products or processes in their advertisements (Plec & Pettenger, 2012). According to TerraChoice (2007), there are seven Sins of Greenwashing (TerraChoice, 2007)[2] that can be committed by companies:

1. The Sin of the Hidden Trade-Off: It claims a product is environmentally friendly based on one environmentally friendly attribute, for example, one ingredient of a bathroom cleaner.
2. The Sin of No Proof: If there is no proof for the claim, for example, household lamps not providing evidence about their promoted energy efficiency.
3. The Sin of Vagueness: Advertisements with claims that are unclearly defined or very broad so that the consumer will likely misunderstand them. An example would be insecticides that are titled chemical-free.
4. The Sin of Worshipping False Labels: A product that deceives buyers into believing it has undergone a proper green certification process by using false suggestions or certification-like imagery, for example, paper towel packaging featuring an image resembling a certification with the claim that it fights global warming (de Freitas Netto et al., 2020).
5. The Sin of Irrelevance: Information that is deemed irrelevant and, even though it may be truthful, does not help consumers to make suitable choices like chlorofluorocarbons (CFCs) are banned for a long time, but the product, e.g., disinfectant, still has the claim CFC-free.
6. The Sin of Fibbing: Advertisements with false claims. An example could be a shampoo that claims to be "certified organic", but there is no certification like that.
7. The Sin of Lesser of Two Evils: If a product is green within its product category but has environmental impacts, nevertheless, for example, green herbicides.

While Greenwashing can be obvious, e.g., when a false claim is detected, there are far more subtle strategies. Cognitive biases, like the ones mentioned in chapter 2.1.1, can also be used to influence the view of a product, brand, or company, for example, to make it appear more eco-friendly: In a study

[2] Note: All seven Sins, except for Sin number 4, were retrieved from the source referenced (TerraChoice (2007)), where only six Sins of Greenwashing are noted. A later publication included seven, but the original source material could not be assessed. Therefore, the source of Sin number 4 is de Freitas Netto et al. (2020)

from 2012, ExxonMobil, an oil and gas company, uses framing to emphasize their innovative and environmental friendliness, e.g. by using algae as a symbol of limitless energy resource while using a trustworthy character (a scientist) to send the message to consumers (Plec & Pettenger, 2012). If an audience has insufficient knowledge about the topic or is not searching for a solution, the effect of framing becomes particularly powerful (Entman, 2003). The author of this thesis suggests that in the example above, ExxonMobil is not only using Framing but a scientist as a spokesperson, making a trustworthy and competent appearance, which could be seen as a form of using the Halo effect. Another subtle Greenwashing strategy, Executional Greenwashing, can be found in a study by Parguel et al. (2015). This strategy uses nature-evoking elements, like images and sounds, e.g., natural landscapes or the sound of birds. In their study, Parguel et al. detected that these nature-evoking images could initiate a more positive view of the advertised brand's ecological image and lead to a more positive attitude regarding the brand. They also illustrate that the effect varied depending on consumers' topic knowledge, whereas non-experts were affected more by Executional greenwashing than expert consumers (Parguel et al., 2015).

When Greenwashing deceives consumers, the purpose of buying environmentally friendly products gets obstructed, as buying "green" products would no longer serve the goal of taking care of the environment if there are products bought as green that are actually harmful to the environment (Naderer & Opree, 2021). However, what happens if consumers detect Greenwashing? Research suggests consumers are prone to backlash against Greenwashing (Plec & Pettenger, 2012). Naderer & Opree (2021) suspect that the trust consumers have in green claims will be decreased, and they will be confused if products are sustainable, which could lead to an overall decrease in green consumption. This suggestion is supported, as the increase in Green Marketing and, thus, the increase of Greenwashing in the latest years has led to decaying trust, as it is difficult for consumers to decide whether a green claim is valid (de Freitas Netto et al., 2020). Another example is a study about airline advertisements, where the perceived Greenwashing decreased the brand evaluation, making it more negative and causing flight shame in participants, which could lead to less aeroplane travel by affected consumers (Neureiter & Matthes, 2022).

Further, the so-called green perceived risk (consumers' assumed negative environmental consequences when buying a particular product) will harm consumers' intention to buy green products and their trust towards a company (Y. Chen & Chang, 2012). This concept of green trust is described as the trust consumers have towards the advertised good or brand resulting from its assumed trustworthiness and ecological performance (Y.-S. Chen & Chang, 2013). In contrast, the so-called green perceived value will have a positive effect. Green perceived value is based on consumers' environmental needs, expectations of sustainability and overall judgment of the benefits of a product or service (Y. Chen & Chang, 2012). This indicates that Greenwashing harms green purchasing behaviour, trust and the green brand image of a company: Chen et al. could prove this in a study conducted in 2020, where the results showed that Greenwashing reduced the consumers' intention to buy green products, while also affecting the (green) image consumers have of the company and the loyalty towards that company (Y.-S. Chen et al., 2020), while in 2013 they demonstrated, that Greenwashing negatively influences the concept of Green trust (Y.-S. Chen & Chang, 2013).

Greenwashing, thus, can have negative effects on companies in several aspects and should be avoided, possibly strengthening trust in green products and brands.

2.1.3 Countering advertisement influences and Greenwashing

While misleading advertising practices are criticized for quite some time (Naderer et al., 2017), as stated by Plec & Pettenger (2012), companies use Greenwashing to promote their products, which leaves it up to the consumer to react accordingly. However, to detect Greenwashing or influences of advertisements, consumers must first realize that what they are encountering is a form of Greenwashing or advertisement that is trying to persuade them. Jörg Matthes, Professor of Advertising Research at the University of Vienna, says in an interview that people underestimate the influence of advertising on their decisions. As a rule, people assume that they are influenced very little by advertising messages and that if they are, it is rather the others influenced by advertisements (Dünser, 2015).

The concept of perceived Greenwashing consists of someone's lack of trust towards the green claims in an advertisement, for example, because they use misleading practices, are vague or omit important information (Y.-S. Chen & Chang, 2013). But for average consumers to identify influence strategies and Greenwashing proves to be a difficult task, as the following studies show:

A study testing educational interventions to combat Greenwashing showed that consumers could not distinguish between acceptable and misleading environmental claims (Fernandes et al., 2020).

The study of Parguel et al. (2015) mentioned in chapter 2.1.2 resulted in the insight that to negate the effect of Executional Greenwashing environmental performance information alone was not sufficient, especially for non-expert consumers with no knowledge about the topic, as they still showed a good brand perception towards the brand. While expert consumers with knowledge about the topic had a reduced brand image, the effect of the used Executional Greenwashing persisted.

The so-called Persuasion Knowledge Model (PKM) (Friestad & Wright, 1994), which is used and referenced in a newer study (Mohr & Kühl, 2021), assumes, that when persuasion is attempted through advertising, consumers try to resist by using the following three types of knowledge: (1) Persuasion knowledge, which deals with knowledge about how to cope with persuasion attempts, (2) topic knowledge, consisting of knowledge about the product or the service experience and (3) agent knowledge, knowledge that is formed based on the expectations of the company's image and competencies (see Figure 3). Mohr & Kühl (2021) explain that the PKM includes both parties, the agent, and the target, whereas agents (marketers) use the three knowledge types to create advertisements which should influence consumers, while consumers try to resist the persuasion attempts with the three different types of knowledge. Thus, consumers' assessment of persuasion depends on how developed the specific knowledges are.

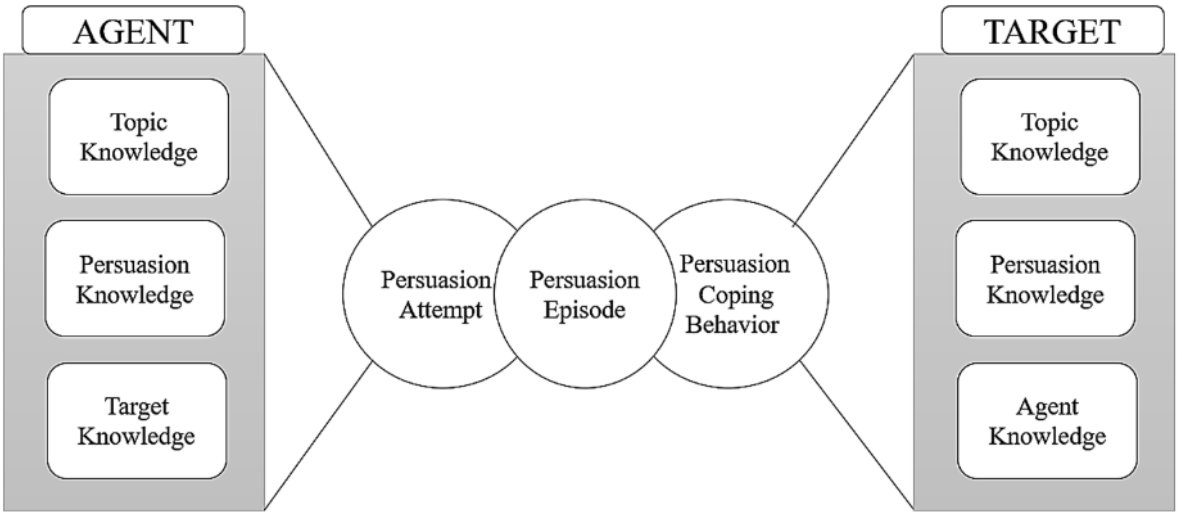

Figure 3: The Persuasion Knowledge Model according to Friestad and Wright (as depicted by Mohr & Kühl (2021)).

Another factor that plays a role in perceiving Greenwashing is how involved consumers are in the environment: Depending on the level of involvement, they react differently to persuasive tactics. One aspect of involvement includes how environmentally concerned consumers are (Naderer et al., 2017). The higher the concern, the more sceptical they will be towards green claims in products or in advertisements (do Paço & Reis, 2012). Do Paço & Reis tested several constructs (environmental concern, conservation behaviour and buying behaviour) to determine which was most crucial to scepticism towards green advertising. However, only environmental concern was determined to be of influence for scepticism.

Thus, the author of this thesis concludes that, as with the perception of advertisements, the perception or reaction to Greenwashing and other persuasive tactics differs significantly among different consumers and is dependent on many different factors.

Can consumers be supported in their decision-making in favour of environmentally friendly products? To achieve this, the nowadays big problem of misinformation in advertising and literacy regarding influence strategies would have to be tackled. This is not the scope of the present thesis, but there are several studies which indicate approaches in this regard, e.g., to undermine the effect of Executional Greenwashing, a label depicted as a traffic light brought positive results. The study showed that for non-expert and expert consumers, the effect of the Executional Greenwashing was no longer present, and the brand image was no longer affected positively: This leads to the conclusion that appropriate forms to convey environmental performance information must be used to counter the effects of Executional Greenwashing (Parguel et al., 2015). A few other examples can be found in the appendix (starting page 118).

The example above and the further examples in the appendix suggest that consumers can resist advertising if they have the necessary means and skills.

2.1.4 Food advertising

Food advertising has the same goal as other advertising: To increase sales of a type or brand of food. Not only can it persuade consumers and influence the number of particular foods purchased, but it thus also affects what consumers eat (Blisard, 1999). In an earlier chapter (2.1.1), the author established, that humans make many decisions with mental shortcuts. Food buying falls into this category, as it is mostly habitual (Mohr & Kühl, 2021): They summarize that advertisers want to especially influence consumers regarding the buying process and perceptions of products that are bought habitually, with food being an example of habitually bought products. They try to influence consumers' preference toward the advertised product and brand trust by using emotional elements (Mohr & Kühl, 2021).

There are a few older studies from America and Australia that investigate if food advertising has a positive effect on the consumption of goods, such as animal products:

One study from the US shows increased sales: Generic advertising, which means advertising that, for example, producers created in a joint effort to promote the consumption of the good they are producing, did boost the sales of cheese and fluid milk sales, but also of meat like beef (Blisard, 1999). Blisard (1999) concludes that not all generic advertising can increase the consumption of a certain food product, as generic advertising campaigns can offset each other, since a higher consumption of, e.g., chicken could lead to a decrease in other meat consumption, but that generic advertising can indeed influence the demand for products. Another study from the US has shown that branded beef and poultry advertising has increased overall demand for meats as a group but that the advertisements caused some replacement of certain meat products with others (Brester & Schroeder, 1995). This finding is in line with the results of Blisard (1999). While in a study in Australia, joint advertising for beef and lamb only had positive effects on the demand for beef but not for lamb and a negative effect on chicken demand, no statistically significant effect was detected for pork. As the other studies show, there can be cross-commodity effects, changing demand in a product category (meat) to certain sub-products (Piggott et al., 1996).

However, not only advertising influences the demand for meat. A US study could outline that there are several informational factors influencing the demand for meat: For example, meat demand is also driven by economic determinants, like the prices of meat and the income of consumers and depending on the changes in one or the other the demand and sales can go up or down. Another factor is health; while there was more information from medical journals that showed positive effects of meat consumption (like iron and protein) increased the demand for beef and chicken, the opposite happened when journals included negative health and dietary aspects of meat consumption. Information about food safety, dependent if negative or positive, influences the demand and the lifestyle of consumers, e.g., increased consumption of food away from food increases the demand for certain meat, like pork and chicken, while decreasing beef demand. Thus, an overall shift in the demographics of consumers or their lifestyles can also impact sales and demand for meat (Tonsor et al., 2010): This lets one conclude that there is a complex net of different factors influencing the demand or sales of a product.

When it comes to Greenwashing in food advertising, it can be said in general, that in the fields of agriculture, the food industry and food trade, research on Greenwashing has a relatively low presence

and is mainly dealing with Greenwashing in terms of sustainability in agriculture, in the food sector with the perceptions of the consumers and in food retail with released information of companies (Montero-Navarro et al., 2021).

In chapter 2.1.3 the PKM model was explained. The study by Mohr & Kühl (2021), which references the model, has used it to explore persuasion knowledge in food advertising. Investigating how students reacted to the persuasion attempt of a food advertisement and which persuasion knowledge determinants were the most influential. They found out that, for example, participants that thought the persuasion tactic was appropriate and effective were less likely to avoid the persuasion attempt. However, participants' beliefs about their tactics and goals to resist the persuasion influenced the avoidance of the persuasion attempt positively. They include a recommendation that informing consumers about marketing tactics and their persuasion intentions could create more awareness of persuasion, which might positively influence some consumers in the sense that they can perceive advertisements more consciously and thus also react in a more differentiated way (Mohr & Kühl, 2021).

Advertising can influence especially young consumers, as they have no means to counter attempts of the influence of advertising (Delliston, 2021). A study on fast food advertising on TV has explained that increased children's exposure to fast-food advertising will increase their chance of being overweight. They do not state that this is the reason for the increasing obesity trend. However, they conclude that their results can estimate the effects of banning fast-food advertisements on childhood obesity: Banning fast-food advertising would reduce the number of overweight children by 18 % and adolescents by 14 % (Chou et al., 2008).

A study by Greenpeace examined meat marketing in France, Poland, Spain, Denmark, Germany, and Switzerland by investigating 51 different meat brands and their advertisements in the respective countries. They identified seven myths that meat advertising tells consumers to drive meat consumption (Delliston, 2021): (1) The green myth, that meat is ok to eat, if it is green, which would mean sustainable and ethically farmed (signalized through green packaging, nature landscapes, happy animals, to name a few examples), (2) the "meat is good for you" myth, by emphasizing meat as a protein source and linking it to a healthy diet, (3) the masculinity myth, which is a cultural myth, where meat eating is still associated with manliness, (4) the good woman myth, where woman are depicted preparing or serving food to their loved ones, while not often eating it themselves (5) the national identity myth, by depicting the flags of countries in their advertisements and presenting meat as a cultural heritage (6) the human togetherness myth, where meat is shown as food, that brings people together, may it be for parties or holidays, and lastly (7) the freedom myth, which shows meat consumption as freedom and expression of individuality. For more details on what each myth can contain, please see the referenced study by Delliston (2021).

Closing the study above, Delliston (2021) stretches the importance of restricting meat advertising to reduce the consumption of meat, which is not only harmful to nature but can also affect people's health negatively.

To conclude this chapter, a reference is made again to the above-mentioned scarcity of research. This gap in research on Greenwashing in the agricultural and food sectors is essential to tackle, as it concerns an important area of society (Montero-Navarro et al., 2021).

2.2 Situation in Switzerland

How is the topic of (misleading) advertisement relevant in Switzerland? In the previous chapters, this thesis's author already listed a few examples regarding Switzerland. The following chapters will discuss the current situation while first looking at a few facts about Swiss animal agriculture and meat consumption to understand the importance of looking at Swiss meat advertising. Then advertising in Swiss agriculture is explored, and the chapter closes with what is known about the Swiss population's image of Swiss animal agriculture.

2.2.1 Facts Swiss Agriculture and consumption of animal products

In Switzerland, agriculture plays a crucial role in greenhouse gas emissions, which corresponds to a share of approximately 13 % of Switzerland's total emissions (Felder, 2019). From this 13 %, around 46 % of emissions are attributed to livestock farming to produce animal products, as seen in Figure 4.

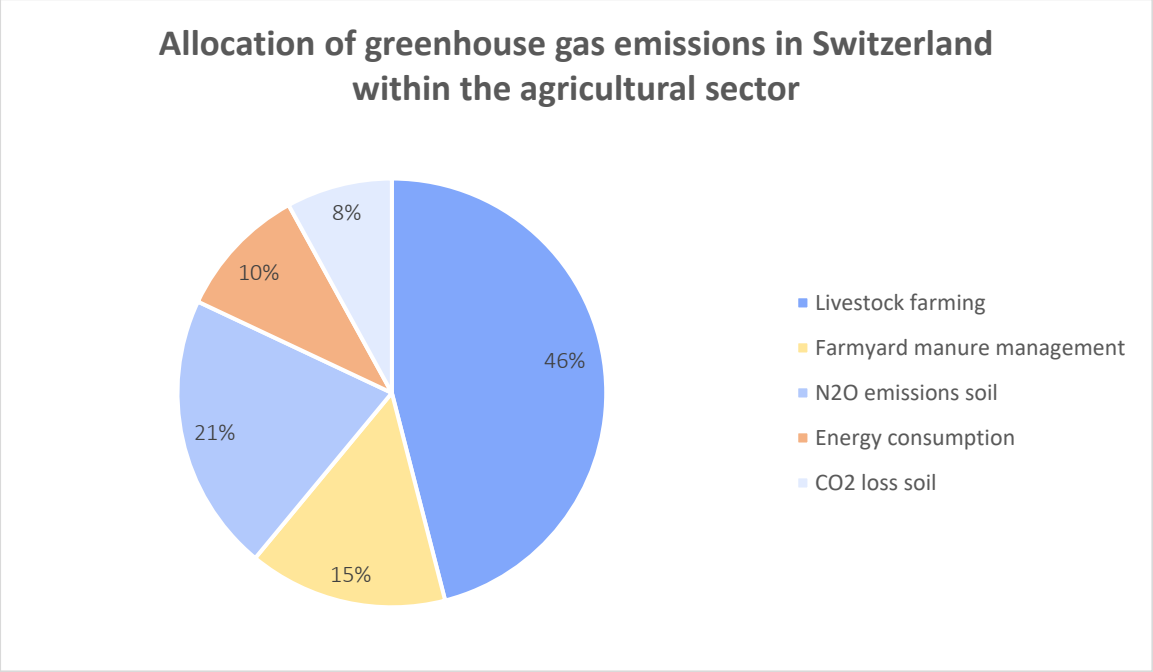

Figure 4: Allocation of greenhouse gas emissions in Switzerland within the agricultural sector (from Klimaneutrale Landwirtschaft Graubünden (Klimaneutrale Landwirtschaft Graubünden, n.d.) after BAFU, 2019, translated by the author).

Arable land in Switzerland is not only used to produce human food. Around 43 % of arable land is used for feed production for animals. However, the 43 % are not enough to sustain the number of livestock that inhabits Switzerland. Approximately more than half of the needed arable land to sustain Swiss livestock lies in other countries (Baur & Krayer, 2021).

While in 2020, over 460'000 tons of animal feed in grains was imported to Switzerland, only 245'000 tons were imported to be eaten by humans (Azaoui et al., 2022). The large amount of livestock increases the environmental damage and biodiversity loss resulting in agricultural practices that are not as sustainable as could be possible (Wirz, 2015).

The numbers above indicate that animal production significantly contributes to Swiss agriculture's environmental impacts. While the federal government set environmental targets for agriculture in 2008 to reach more sustainable agriculture (UFAM, 2016), they subsidise at the same time animal production: 20 % of the cost of food is borne by taxpayers, with 82 % of these tax contributions going to animal production (Schläpfer, 2020). Furthermore, as of 2021, over 5 million Swiss francs flow from the federal government into meat advertising (Keller, 2021). In an interview, Markus Jenny, an agroecologist, explains that even though there is a constitutional mandate for Swiss agriculture, the politic for agriculture is not up to standard regarding ecology or economy (Wirz, 2015).

These numbers build the foundation to understand that Swiss animal agriculture is not sustainable the way it is today. To further understand the problem, a look at the current situation in Switzerland in terms of the consumption of animal agricultural products is needed.

In 2020 people in Switzerland consumed 50.91 kg of meat (Leuenberger, 2021a), 21.7 kg of cheese, 23.5 kg of fresh cheese, 51kg of drinking milk and 188.90 kg of eggs (incl. egg products) (Leuenberger, 2021b) per capita. This consumption is above current recommendations; the German Nutrition Society (DGE) suggests eating only 300 - 600 g of meat per week (DGE (Deutsche Gesellschaft für Ernährung e.V.), n.d.), which corresponds to about 15.6 - 31.2 kg per year, much less than the average Swiss currently consumes. Overconsumption of red meat can also affect consumers' health negatively, as it has been, for example, linked to cardiovascular diseases (Salter, 2013). In addition, as seen by the numbers stated at the beginning of this chapter, livestock farming requires a lot of land and resources, which means that it has a strong negative impact on the environment (Bretscher et al., 2018).

2.2.2 Advertising and Swiss Agriculture in Switzerland

As in other countries, advertisements are omnipresent in Switzerland, and advertising is a big market, as numbers show: In 2022, net advertising revenues (total of 4.304 billion) have increased by more than 6 %, while advertising and promotional items made the highest revenue (20.2 %), followed by direct advertising (18.4 %) and third, television advertisement (15.4 %) (DirectPoint, 2023).

The FSVO (the Federal Food Safety and Veterinary Office - BLV) advocates that food advertisements for unhealthy food (sweet, fatty, salty or too high in energy) for children should be reduced, as advertisements influence their consumption (BLV, 2018). While this shows that the topic of influencing food advertising has reached Switzerland, further examples indicate that advertising of animal agricultural products, especially meat advertisements, is a hotly discussed topic in Switzerland:

The in chapter 2.2.1 outlined contradiction between the federal government's goals regarding agriculture and the subsidisation of animal product advertising was also raised in the Swiss parliament by Jans Beat, a Swiss politician, where he raised, for example, the questions about why the Swiss government promotes advertising for Swiss meat and how this is compatible with the environmental goals (Das Schweizer Parlament, 2015). Baumann Kilian, another Swiss politician, also submitted two queries to the Swiss Parliament in 2020: In the first, he asked for a statement regarding a recommendation according to which foods that are in contradiction to Article 104a of the Federal Constitution should not be subsidised, but instead, alternatives that are more in favour of locally adapted and resource-efficient food production. Subsidizing meat advertisements is contractionary

(Das Schweizer Parlament, 2020a). The second query is an answer to the Swiss parliament's statement that they recognise the conflict between the promotion of Swiss meat and environmental and nutritional goals (Das Schweizer Parlament, 2020b).

In addition, in 2021 the Federal Office for Agriculture (FOAG / BLN) has considered banning cheap meat advertising, as it fosters unsustainable food consumption (Favero, 2021). Also, the NGO Greenpeace takes it a step further. They proposed in 2022 to ban advertising and marketing subsidies for animal products altogether (Pereiro, 2022). The discussions above indicate the issue's complexity, as many parties with different interests and goals are involved. In the debate to restrict meat advertising, the Swiss Meat Association Proviande sees this as an invasion of the freedom of consumers to decide for themselves and on the other side Swissveg (organisation for vegetarian and vegan nutrition) would welcome a restriction on advertising (Favero, 2021).

Swiss advertising messages for Swiss meat are misleading and euphemistic. As a result, they also shape the perceptions of the Swiss population (Baur & Krayer, 2021). To illustrate this statement with examples, down below follow advertising communications that various organisations criticised for being euphemistic and misleading or for Greenwashing: For example, the case of an advertisement by Tilsiter, already mentioned in chapter 2.1.2, to produce climate-neutral cheese, which was criticised by the ZHAW and the NGO World Wide Fund for Nature (WWF) (Hollenstein, 2022), or the example of a Proviande advertisement with Swiss chickens that are BTS-certified (particularly animal-friendly stabling) which includes a statement, that the poultry always has access to a winter garden during the day. This statement masks the information that access to the winter garden is voluntary until the poultry is 21 days old (Tier im Fokus (TIF), 2018).

The most important example and the reason for this thesis, is the case of the Proviande advertisement and Vision Landwirtschaft. In December 2021, Vision Landwirtschaft filed a complaint with the Swiss Fairness Commission against four commercial communications by Proviande (Jenny & Hablützel, 2021). The decision of the Swiss Fairness Commission only partially upholds Vision Landwirtschafts complaints on two points and the most crucial point, that the showcase farm shown in the advertisement does not reflect reality and shows a misleading image, was rejected (Vision Landwirtschaft, 2022). According to the Swiss Fairness Commission, the average can place the statements in their respective context, which means Swiss consumers understand and know, that the farm they see does not correspond to all animal husbandry and that they know that there are other forms of animal husbandry in Switzerland (Schweizerische Lauterkeitskommission, 2022b). However, the statement of the Fairness Commission, recurring in various decisions, that "the average addressees are able to classify the context of the advertising statements correctly " is not empirically proven (Sigg, 2022).

The study of Greenpeace mentioned in chapter 2.1.4 has also investigated Proviande: Many of the advertisements of Proviande use series that show farms where farmers raise animals in a personal relationship, which advertisement depicts as caring and often sustainable. Other advertisements of Proviande use “Swissness” to market Swiss meat, to give consumers the feeling of supporting Swiss farmers and Switzerland by buying Swiss meat (Delliston, 2021).

In May 2022, Greenpeace Switzerland published another study on animal product advertising, specifically for Swiss food products derived from animals. They analysed the advertisements from a multi/trans-disciplinary point, identifying recurring themes and communication strategies (Azaoui et al., 2022). Two recurring themes, which Delliston (2021) mentioned in Greenpeace's previous study, are, for example, the Swiss identity, showing that consuming Swiss meat is to support Switzerland and celebrate its history and culture and stereotypes, like the representation of man and woman (Azaoui et al., 2022; Delliston, 2021). Other communication strategies entail: (1) series strategy, advertisements spots are produced like a series with repeated elements, e.g., characters, (2) proximity strategy, by using intimacy, for example, between the animal and the personal, (3) spatio-temporal gap strategy, which does not show certain aspects, e.g., the calf is on the meadow and next shown is a piece of meat on a plate, but not what happens in-between, (4) confusion of worlds, which entails anthropomorphized animals, e.g. the cow as a child to pamper, (5) focus displacement strategy, where the consumption of the product becomes a cultural or social activity, (6) humour strategy, to make a topic less heavy and to divert attention, (7) decoy strategy, by emphasizing the easiness that comes with the consumption and preparation and last (8) the sex appeal strategy, by, e.g., using phallic symbols (sausage) or montages that use parallel shots between meat and women (Azaoui et al., 2022).

In both studies mentioned above, Greenpeace explored symbols and strategies in animal agriculture advertisements but did not practically test these with consumers, if and how these strategies influence them. Thus, there are no studies from Switzerland on the effect of advertisements of animal agriculture products on consumers.

As mentioned by Montero-Navarro et al. (2021), research on Greenwashing in the food industry is low (Montero-Navarro et al., 2021), and although older studies for other countries show the effect of meat advertising on consumers, see chapter 2.1.4, none of them examine the effect on Swiss consumers.

This master's thesis thus attempts to examine the effect of greenwashed advertisements on consumers using exemplary advertisements and decision contexts to contribute to this research gap.

2.2.3 Image of Swiss Agriculture

There is not a lot of research in Switzerland about what kind of image Swiss citizens have of Swiss agriculture, especially Swiss animal agriculture. In an interview with the agroecologist Markus Jenny, he says that the image the Swiss population has of Swiss agriculture is too positive. This image is encouraged by the advertising messages (Wirz, 2015). This statement is also supported by P. Baur & Krayr (2021), which stated that Swiss advertising for meat is euphemistic and misleading.

The Swiss farmers' newspaper writes that according to a study from the FOAG, that most consumers try to buy Swiss agricultural products, and the most frequently named reasons were to support Swiss farmers, high quality of the products and a combination of ecology, environmental protection, organic and sustainability (Schuller, 2021), which speaks for consumers' positive image of Swiss animal agriculture.

Markus Jenny also explains that since agriculture is a very complex topic and with the images of the advertisements, not to forget campaigns promoting a false image of Swiss animal agriculture, the

beautiful image is kept alive. At the same time, many have little knowledge about agriculture in Switzerland (Wirz, 2015).

Thus, research should further explore consumers' image of Swiss animal agriculture. The following chapter on methodology shows how the author attempted this for this thesis.

3 Materials and methods

This chapter outlines the steps taken to answer the research questions listed down-below. Drawing from the literature research and the mentioned case of the Swiss Fairness Commission the following main research questions were determined:

- How are advertisements for Swiss animal agricultural products perceived and understood by consumers?
- What image do respondents have about Swiss animal agriculture?
- Do the selected meat advertisements influence consumers' perceptions of Swiss animal agriculture and purchase intentions of meat?
- To what extent do select personal characteristics have an influence on the perception?

3.1 Qualitative Interviews

The qualitative interviews were a small pre-study for the online survey. After conducting the interviews, a first overview of the questions, how advertising for Swiss animal agricultural products is perceived and understood and what image respondents have about Swiss animal agriculture could be gained. Also, the author could explore whether first differences in the interviewees' perception can be detected, and data could be gathered for the creation of visualizations of the perceptions of consumers. The visualizations aimed to create drawn, graphic implementations for the subsequent survey from which participants could choose which aligns best with their view of Swiss animal agriculture. Furthermore, the interviews were an opportunity to test and revise questions for the online questionnaire.

3.1.1 Method

To understand what kind of visualizations exist with the Swiss population about Swiss animal agriculture, the author of this thesis conducted eight qualitative guided interviews with selected respondents who met specific criteria. The goal was to find suitable respondents covering a broad spectrum of views about Swiss animal agriculture. For this purpose, three relevant criteria were defined and supported with scientific findings, which was not possible for all three criteria, but a supporting statement was given. The three criteria divided the consumers into types, for example, if their diet is a) either omnivorous or b) vegetarian or vegan, see Table 2.

(1) Diet		**(2) Background**		**(3) Food purchasing behaviour (meat)**		
Omnivorous (eats everything)	Vegetarian or vegan (does not eat meat)	Agricultural background	Non-agricultural background	Pays particular attention to the Swiss origin of the food (basic quality)	Good value for money and low prices (discounters)	Organic and fair food

Table 2: Criterias for interviewees

The diet (1) plays a role, as people who do not eat meat have a different view of the meat industry. For example, in a study in Germany in 2020, the top reasons for vegan diets are less animal suffering, for one's health, and to do less harm to the environment (POSpulse, 2020). As vegetarians eat no meat too, often for similar reasons (ethical, health and environmental aspects) (Hargreaves et al., 2021), no distinction between vegans and vegetarians was made.

Background (2) as criteria is relevant because people with an agricultural background know more about Swiss agriculture. Research mentioned in chapters 2.1.2 and 2.1.3 shows that humans with topic knowledge are less prone to have falsified impressions (Parguel et al., 2015). People with agricultural backgrounds were defined to include, for example, someone who grew up on a farm, has an agricultural education, or is active in agriculture. Growing up next to a farm was not included.

The food purchasing behaviour (3) could reveal interesting backgrounds and considerations of the participants. Furthermore, it was interesting to see whether there are differences in the image of Swiss animal agriculture (meat) within these groups. The three groups of purchasing behaviour were determined according to the data of the MACH study, which was analysed by the ZHAW School of Management and Law (Müller et al., 2019): Developments and trends show that 80 % of participants say they buy Swiss food whenever possible. 50 % buy organic food whenever possible and look for fair trade labels. Furthermore, some customers mostly buy from discounters, whereas the low prices and the price-performance ratio are important (Müller et al., 2019).

Based on the three criteria, the author identified the following personas to interview, if possible:

- Omnivore (eats meat), has an agricultural background
- Omnivore (eats meat), has no agricultural background
- Omnivore (eats meat), pays attention to Swiss origin
- Omnivore (eats meat), pays attention to organic and fair food (animal husbandry conditions)
- Omnivore (eats meat), buys mainly at discount stores, or pays attention to the lowest price
- Vegetarian or vegan

Other criteria may be added to an above-indicated combination if both criteria are not mutually exclusive (e.g., omnivore - vegetarian or vegan). The criteria were added to the e-mail call of the search for participants.

For the interviews an interview guide was developed according to the SPSS principle ("Sammeln" – Gather, "Prüfen" - Examine, "Sortieren" - Sort, Subsummieren – "Subsummarize") by Cornelia Helfferich (Helfferich, 2019): First, questions were collected, and second, examined for openness while removing purely factual questions. Some of the questions were reformulated to become usable. Second, the questions were divided into four thematic blocks with subgroups if necessary (e.g., if a distinction between questions asked to omnivores and vegetarians or vegans had to be made):

- Block 1: Perceptions of Swiss animal agriculture
- Block 2.1: Meat consumption
- Block 2.2: No meat consumption
- Block 3: Purchasing behaviour
- Block 4: Advertising

The interview guide was structured loosely based on Helfferich (Helfferich, 2019) and consisted of information about the interview (e.g., date and time), sections about the interview situation, a warmup indication, and information to be given to the interview partner. These were primarily meant for the interviewer as a memory guide to avoid accidentally omitting important information (e.g., obtaining

permission to record or anonymity). Subsequently, the interview questions follow, where the author could also take notes. At the end of the interview guide follows a section for impressions from the interview, which was filled out directly after each interview, to note down anything else deemed relevant (e.g., topics that did not come up before) that emerged during the interview.

The author revised the interview guide's first draft with the supervisors' feedback. In addition, the guide was adapted after each interview if issues arose (e.g., difficulties with question wording or sequence). For example, one of the discarded questions was integrated after the first interview in a rephrased way, as it turned out to be relevant to the topic. The interview guide can be found in the appendix (starting page 118).

To find out which emotions and values are associated with Swiss animal agriculture (meat production), a semantic differential with opposing emotions was shown to the interviewees. On a scale of 1-5, they could determine where they saw Switzerland's animal agriculture. The values, on the other hand, were first a list from which the first interviewee could choose which values aligned with Swiss animal agriculture for them. During the interview and subsequent reflections, the author decided to reduce the list of values and present them as a semantic differential with opposing values, which made it easier for respondents to position themselves. The emotions and values were evaluated after each interview and adjusted if necessary. In this way, the final version of the two semantic differentials was iteratively created. Both semantic differentials can be found in the appendix (starting page 118).

Participants were asked to explain what they relate the feeling or value to, to uncover different understandings. Such "several-meaning" pairs were excluded or changed in the online interviews if the different understanding was considered problematic.

3.1.2 Participants

It was decided that, if possible, two people should be interviewed from each criterion. At the same time, omnivores should be represented the most, as in Switzerland, vegetarians and vegans only make up around 6 % of the population, according to a study by WEMF (WEMF, 2022).

The ZHAW research survey mailing list was used to send a message to ZHAW students and employees to acquire participants. The message was sent on the 14th of February 2023. In total, 26 interested individuals said they would like to participate, and many people volunteered who follow a vegan diet. The author selected eight participants according to the established criteria. Due to anonymity reasons, participants are numbered and given random aliases that match their gender. These names were created online using a name generator[3]. The interviewees match the following criteria in Table 3:

[3] Name-generator: https://www.name-generator.org.uk/

Person	Diet		Background		Swiss origin meat	Organic and fair meat	Discounter / low price meat
	Omnivore	Vegetarian / Vegan	Agricultural Background	No Agricultural Background			
Person 1 – Joel	X		X Grandparents: Dairy cow farm		X		X (since university)
Person 2 – Ivan	X (meat from parents' farm)		X Parents: Meat farm		X	X	
Person 3 – Tanya	X			X	X	X	
Person 4 – Jasper	X			X		X	
Person 5 – Miriam	X		X			X	X
Person 6 – Jörg	X				X	X	X
Person 7 – Domenico		X		X			
Person 5 – Julie		X	X (in training to become a farmer)				

Table 3: Classification of interviewees according to criteria.

Seven of eight interviews took place online, one on the campus in Wädenswil in a meeting room, as preferred by participants. The interview was conducted in German or Swiss German, depending on the participants' preferences. All interviews were recorded either by using the built-in Teams recording function or the recording function of the author's cell phone.

3.1.3 Analysis

Since the interviews were recorded, the recordings could be re-listened to afterwards, thereby complementing the notes taken during the interviews. It was decided not to transcript the interviews, since the content of what was said was the most relevant, an exact word-for-word transcription was not necessary.

The evaluation was carried out via a content-analytical approach and therefore thematic clustering of content was used. To achieve this, a summary coding procedure, as described by Miles et al. (Miles et al., 2014), was used to divide the content of the interviews meaningfully and to compare them within the codes and their subdivisions. Steps and considerations were taken in coding according to Bryman (Bryman, 2012).

After the first read-through of the notes and re-listening to the interviews, a so-called codebook was created in which the summary codes and sub-codes were recorded and made distinguishable with the

help of colour (mark, font colour) and typeface, as no other program than Word and Excel were used for coding. The code book was iteratively revised and expanded for each interview. Ultimately, codes were deleted from the code book that only denoted a passage of text.

Descriptive coding was chosen as the coding method because it allows the author to summarise text passages in terms of content with one term (Miles et al., 2014). For the clarity of the codebook, the codes are sub-coded and headed with summary thematic codes. The summary codes were created thematically based on the blocks of questions and sub-questions within the blocks. Following the coding, the author created an Excel file with the codes and sub-codes in the columns and the criteria of participants in the rows to summarize the obtained content. The criteria "what participants look for when buying meat" was omitted, as during the interviews, it became apparent that there were many overlaps of the criteria. A precise classification was thus made difficult. This overlap happened, even though some participants mentioned only one criterion when they signed up for the interviews. The coded interviews were reviewed once more, and the information of the coded passages was filled in a condensed form in the Excel file to get an overview of what interviewees said under each code and sub-code.

The code book consists of the summary codes depicted in the codebook in Table 4. The summary code Emotions was added, as a few negative emotions could not be assigned thematically to the other codes. Some contents can fit several categories of subcodes, but it was decided to assign them to the one code that was thought to fit best.

Meat consumption	Associations/first images/impression	Knowledge	Mode of production	Meat and society	Advertising	Emotions
Own meat consumption	Advertising images	Knowledge	Animal husbandry	Meat as luxury good	Advertisement	negative
Purchasing behaviour	Natural	Knowledge acquisition	Sustainability	Promote small farms	Influence	
Quality	Diverse		In comparision to abroad	Historical / cultural	Attitude towards advertising	
Swiss meat	Positive			Social activities		
Price	Negative					

Table 4: Codebook for the qualitative interviews.

3.1.4 Creation of visualizations

Four images of Swiss animal agriculture were synthesised based on the interview results. These start with the ideal image and go through two levels to the negative image. The author drew four images because the interview results could best be divided into this number. For this, the interviews, and the codes most associated with visuals and images, namely associations/first images/impressions, production method, advertisement, and emotions, were screened a second time with the image creation task in mind. A second table was created in which the subdivision into the four pictures, each with four sub-subjects, was made. The sub-subjects consisted of associations, animal husbandry, sustainability and additional. An iterative approach was taken to divide the information into the respective category, for each revisioning if the classification was adequate after more information was filled in.

In some cases, the author moved information to another image category. In a third step, additional information was added that resulted from the image search described below, for example, the form of feeding (e.g., only pasture, silo). The focus was laid on cattle for reasons of limitation and better comprehensibility of the pictures. Also, this was the association that was most often mentioned first in the interviews, and the showcase advertisement also consists of a farm with cattle.

The author created visualizations in Adobe Photoshop for Windows 2023 in combination with a Wacom Cintiq 13HD (a graphic tablet with integrated touchscreen and pen). To get inspiration and further material, the web was searched for images with Google images for the respective category. Various search terms were used to find images deemed to represent the image category.

Important note: No claim is made for the authenticity of the images. They are not meant to reflect reality accurately but to represent people's images of Swiss animal agriculture.

The visualizations that resulted from the qualitative interviews were used in the online survey to retrieve consumers' perceptions: Consumers could select the image that most closely corresponds to their perceptions of Swiss animal agriculture. This procedure was chosen to avoid detailed textual descriptions since images can capture a multitude of information.

3.2 Online Survey

The author conducted an experimental online survey with three different treatments to assess (1) what image respondents have of Swiss animal agriculture, (2) how the selected advertising campaigns are perceived and understood, (3) if the selected advertising campaigns influence consumer's perceptions of Swiss animal agriculture and purchase intentions of meat and (4) if selected personal characteristics influence said perception. The participants (n = 435) were randomly assigned to one of the following three treatments:

- Treatment 1 (showcase advertisement "Schweizer Fleisch") (T1 / treatment 1): The first group got to see a showcase advertisement from Schweizer Fleisch (Proviande). See Figure 5 for some screenshots of the ad.

Figure 5: Screenshots from the showcase advertisement for treatment 1 by Schweizer Fleisch (Proviande) (Schweizer Fleisch, 2019a).

- Treatment 2 (factual advertisement "Lidl") (T2 / treatment 2): The second group got to see an advertisement from Lidl. See Figure 6 for some screenshots of the ad.

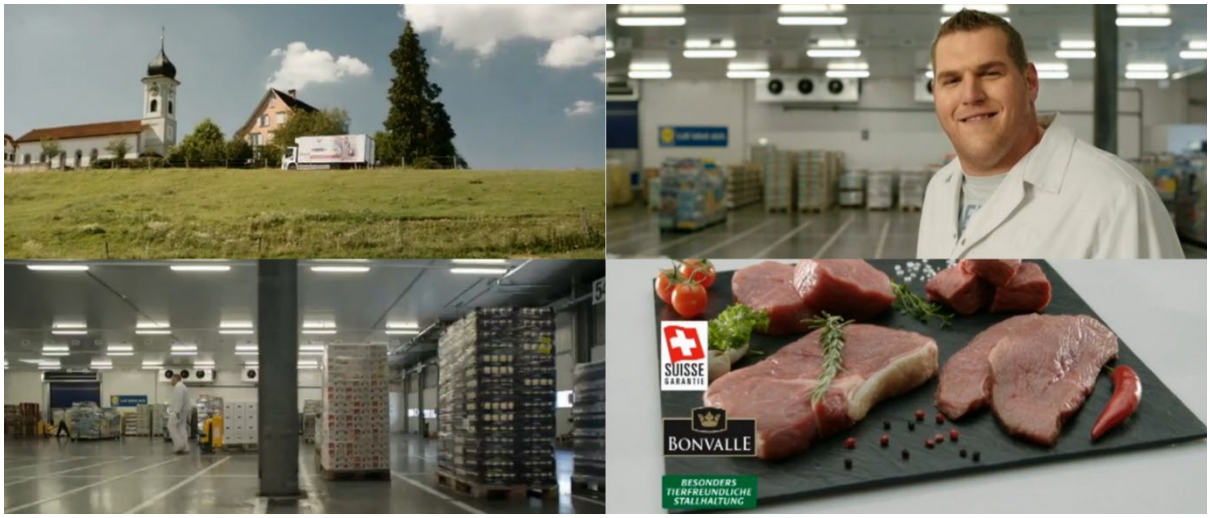

Figure 6: Screenshots from the factual advertisement for treatment 2 by Lidl Schweiz (Lidl Schweiz, n.d.).

- Treatment 3 (control group) (T3 / treatment 3): The third group didn't see any advertisement (control group).

By dividing them into the three groups, the author could determine whether there is a difference within the groups in terms of perceptions and reactions when they see either a different advertisement or no advertisement beforehand. This setup was decided upon after several studies were screened with an experimental setup which wanted to investigate similar situations, or the topic was about assessing the effects of Greenwashing. The studies were crucial to the study design of this thesis as they used experimental groups, which received different treatments, e.g., information with a warning against Greenwashing and without (Bingaman et al., 2022), to explore the different reactions between the different groups. The authors of the studies are Bingaman et al. (2022), Pechmann & Knight (2002), Bunčić et al. (2021), Parguel et al. (2015), Neureiter & Matthes (2022), Torelli et al. (2020) and Naderer & Opree (2021). The complete table with more information about the respective studies can be found in the appendix (starting page 118).

3.2.1 Advertisement selection

As said Swiss advertising messages for Swiss meat are misleading and euphemistic and thus shape the perceptions of the Swiss population (Baur & Krayer, 2021). To examine this, Swiss meat advertisements were screened and selected. Since the advertisement from the case of the Swiss Fairness Commission was a video advertisement, it was decided to narrow the selection to video advertisements.

3.2.1.1 Criteria for advertisement selection

For the survey, advertisements with specific criteria were gathered to select an adequate advertisement to determine whether misleading and euphemistic advertising messages influence consumers' perceptions. The main criteria are that influence strategies or Greenwashing are used.

Influence strategies include, for example, heuristics because these condense cognitive processes in decision-making, which often leads to correct decisions, but also to errors, so-called cognitive

distortions. Marketers construct messages in such a way that they trigger cognitive distortions and thus influence consumers in their decision to favour marketing (Bunčić et al., 2021). For a selection of possible cognitive distortions, a list from The Decision Lab (The Decision Lab, 2023a) was used, and descriptions were partly supplemented with additional sources. If possible, the author made a link to the situation in Switzerland, either through literature or the interviews conducted before:

- Representativeness heuristic: People compare things with an example that is representative of them (Stephenson, 2021). According to the interviews conducted in this work, for Swiss agriculture, this would, for example, be grazing cows on pastures in a beautiful (grass-mountain) landscape.
- Affect heuristic: To make decisions, people rely more often on their feelings than on factual information (The Decision Lab, 2023a). Advertising messages for Swiss meat use positive emotions, for example, these positive emotions identified in the Greenpeace study by Delliston (2021): Meat is good for you, human togetherness or also freedom (Delliston, 2021).
- Attributes Substitution Heuristics: For easier decision-making, more straightforward questions are asked instead of technical ones (Stephenson, 2021). When it comes to Swiss meat, the "branding" of Swiss meat could be a simple question-decision: Is it Swiss meat? In the interviews, it became apparent that the respondents who paid attention to Swiss meat when buying had a better conscience (animal welfare), while the question of quality was also in focus.
- Halo effect: Positive impressions of people or products in one area positively influence feelings in another area (The Decision Lab, 2023a). According to the interviews, Swiss meat advertising conveys a positive impression of animal husbandry or quality.
- Framing effect: Information is deliberately omitted, or only a specific aspect is shown. A different conclusion is drawn depending on how the same information is represented (Bunčić et al., 2021). It was also mentioned in the interviews by participants that the Swiss meat advertisements only show the most positive examples and are thus misleading.

Alternatively, the advertisement uses one of the several forms of Greenwashing mentioned in chapter 2.1.2, like Executional Greenwashing or vague claims. For the context of Switzerland, an example of Executional Greenwashing could be to use beautiful meadowy landscapes with mountains in the background. Another criterion is the spatio-temporal gap strategy: parts of the production process of the meat industry are deliberately not shown, e.g. change from field to plate, or the attention is drawn to something else (Azaoui et al., 2022).

Marketers also use other signs and symbols in advertisements (e.g., archetypes, for more examples, see the semiotic index in the Greenpeace study Dissected on page 65 (Delliston, 2021)). However, the advertising selection was narrowed down to the above criteria, as those are most relevant to the case of the Swiss Fairness Commission.

3.2.1.2 Collected advertisements

Through the study of Azaoui et al. the knowledge was gained that there is a Swiss national platform for television advertisements called Admeira (Azaoui et al., 2022). This platform was screened for meat

advertisements, while Youtube was used for a complementary search. The following search terms were used (in German):

- Admeira: Meat, beef, chicken, poulet, chicken, pork
- YouTube: Swiss meat advertising, Swiss chicken advertising, Swiss beef advertising, Swiss pig advertising

For the selection, a table was created where advertisements, that were considered eligible, were listed. Down below is Table 5 with the two selected advertisements. The full list of potential advertisements can be found in a table in the appendix (starting page 118).

Advertisement	From whom	Why	Distortion/ Influence strategies	Format	Link
Schweizer Fleisch „Gschwind"	Proviande	Showcase farm: - Animals on pasture from spring to autumn - Only farm fodder - Quantity of animals adapted to farm and land - Terms: Nature	Greenwashing (feed) Representativeness heurstic Halo Effect Framing Effect	TV commercial	https://www.youtube.com/watch?v=mXfExN7qpHM
Lidl „Image Rindfleisch"	LIdl	It is communicated that it is known where the Lidl meat comes from - Origin - BTS (Besonders tierfreundliche Stallhaltung) "Particularly animal-friendly husbandry» - At reasonable prices - Terms: Origin, Animal-friendly	Representativeness Heuristik Attribute Substitution Heuristik (animal friendly/price)	TV commercial	https://admeira.ch/tv-werbung#Fleisch|6|D|0||||||||404592|D

Table 5: Selected advertisements for the experimental setting of the study.

After further consideration and in consultation with Dr Felix Schläpfer, it was decided that the advertisement from Schweizer Fleisch "Gschwind» would be used as a showcase advertisement, as it was the one that was disputed before the Swiss Fairness Commission, which allows a direct comparison of the results to the statements of the Swiss Fairness Commission. As the counter advertisement, the Lidl advertising "Image Rindlfeisch" was chosen, as it states facts (e.g., BTS certification, aka particularly animal-friendly stabling), which generally apply to Lidl, and which does not show a showcase farm. Even though it could be argued that the Lidl advertisement also uses some influence strategies.

3.2.2 Questionnaire structure and content

The following research questions were to be answered with the online survey:

- How are advertisements for Swiss animal agricultural products perceived and understood by consumers? For this first question, the two selected advertisements become relevant.
- What image do respondents have about Swiss animal agriculture?
- Do the selected meat advertisements influence consumers' perceptions of Swiss animal agriculture and purchase intentions of meat?
- To what extent do select personal characteristics have an influence on the perception?

To answer the last two research questions and based on the findings of the interviews and research conducted beforehand, hypotheses were formulated. Their development is described in the next subchapter.

3.2.2.1 Hypotheses

With the above stated research questions, the literature research and the results from the conducted interviews, the following hypotheses are proposed:

As described in chapter 2.1, perceptions of consumers can be influenced positively by viewing advertisements that try to influence the viewer. As two different advertisements, one showcase, the other with factual information, will be shown to participants, while the first one is thought to influence the viewer positively, the following hypothesis is proposed:

H1: Consumers' perceptions differ within the treatment groups: They are positively influenced by viewing the showcase advertisement in treatment 1.

For reasons interviewees buy Swiss meat, they stated regionality, strict production rules and regulations and better quality. This gives the impression that Swiss meat is trusted more. In combination with the showcase advertisement in treatment 1 and the findings about Green Purchase Intentions (Y. Chen & Chang, 2012) the subsequent hypothesis is suggested:

H2: Consumers' intentions to buy meat differ between the treatment groups: They are positively influenced by viewing the showcase advertisement in treatment 1.

The showcase advertisement states information about the feeding and husbandry of the animals: the animals are from spring to autumn on the pasture and they only get the feed that grows on the farm (Schweizer Fleisch, 2019b). It is assumed that this information influences the participants, and they answer more positively to the specific knowledge questions. Therefore, the following hypothesis is formulated:

H3: The consumers' answers to the objective knowledge questions are influenced positively by viewing the showcase advertisement from treatment 1: They answer that more farms feed solely on-farm feed, fewer farms import feed, and farmers use less arable land to produce animal feed.

Chapter 2.1.1 pointed out, that the perception of humans depends on a variety of factors, like social milieus (Aitken et al., 2008). But which factors are the most crucial? This led to the last research question: Do selected personal characteristics have an influence on the perception as well?

As already mentioned, Parguel et al. (2015) showed that topic knowledge plays a role and that participants with more knowledge are less prone to be influenced by Executional Greenwashing, which leads to the following hypothesis:

H4: Existing prior knowledge about Swiss animal agriculture reduces the positive influence of the showcase advertisement in treatment 1.

Mohr & Kühl (2021) referenced scholars suggesting that better persuasion knowledge possibly exists among older consumers, who have more experience and make more purchase decisions. However,

they also state that at a certain age, this ability will decrease again; This suggests that up until a certain age, older people are more resistant to persuasion. On the other hand, younger people are more likely to be better informed about the topics of environmental concern (do Paço & Reis, 2012)) and thus might be better informed about Swiss animal agriculture or more reflected about their meat consumption.

With both findings in mind, it is unclear whether age will play a role in the perception of the advertisements. Thus, it was decided to assume, that age does not play a role, as both effects could balance each other out:

H5: Age does not influence the perception of the advertisements in treatment 1 and 2.

The interviews showed that people who eat a vegetarian or vegan view Swiss agriculture more negatively than those who eat meat. Hence it is assumed that the influence of the showcase advertising from treatment 1 is reduced among vegetarians and vegans and that they generally have a more negative image compared to omnivores, leading to hypothesis 6:

H6: People who eat a vegan or vegetarian diet view the advertisements shown more critically than people who eat an omnivorous diet.

3.2.2.2 Measures

Respondents first had to answer standardized demographic questions (e.g., age, diet, education), which most were also used as independent variables in the multiple linear regression models. Diet was split into seven items, ranging from "I eat meat regularly" (the item with the highest meat consumption) down to "I eat a diet without animal products (vegan)". These finer distinctions made it possible to determine differences more precisely. The items for flexitarian and flexi-vegans were added after suggestions from the pre-test of the survey. At the end of the questionnaire, two more questions were posed to participants about their characteristics; How close they are to the agricultural sector, measured by a 5-point Likert-scale (1= very close, 5 = not close at all) and if they live in the city, agglomeration, or the country.

In treatment 1 and treatment 2, respondents were presented with the respective advertisement ad and asked to turn on their sound. As a control question, if they listened to the video, they were presented with a statement from the video. They had to answer yes or no, depending on whether they assumed it was in the video.

Next followed the section aimed at exploring perceptions about Swiss animal agriculture. First, participants were asked for associations, and then subsequently, the semantic differentials for emotions and values were presented. As mentioned, these were evaluated during the interviews and adapted several times to make them measurable and clear. Some minor adaptations followed the pre-test of the survey, e.g., one emotion was excluded, and the number of values was reduced. In the end, the author measured emotions using six semantic differential items, including positive emotions and their counterparts. Participants could select on a five-point scale where their emotions towards Swiss agriculture were situated. By summing up the answers and calculating the average, a value was created which, if closer to 1, showed a more positive emotional attitude towards agriculture and, if closer to 5,

a more negative attitude. The same procedure was used for the semantic differential items for values, except there were seven items, including opposing values often associated with Swiss agriculture. There is no source to substantiate the selected values, as most are hearsay. However, in Switzerland, there are many myths surrounding agriculture. For example, the myth that Swiss farmers protect the environment and produce in an animal-friendly way resulting in the high prices of agricultural goods (Baur & Rentsch, 2008), which can indicate some values. The created visualizations followed, survey participants were asked to choose one of the four presented images, which fit their imagination of Swiss animal agriculture best.

The subsequent questions were only specifically asked participants from treatment 1 and treatment 2, as treatment 3 did not include any advertisement. Participants were asked what they remember from the advertisement and if they think it reflects an accurate image of Swiss animal agriculture (three answer options: yes, no and don't know).

To answer hypothesis 2, the purchase intention was measured by adapting the Green Purchase Intention items from Chen and Chang (2012) to the needs of the survey differing per treatment. This measure made it possible to ask whether the intention to buy meat increased positively after the showcase advertisement. The items were displayed randomized to the participants. In total, three items were used, and they dealt with features of Swiss meat often stated as purchase reason (e.g., Swiss quality) in the interviews, plus the environmentally friendly aspect from Chen and Chang (2012). Respondents had to decide where they stand on a five-point scale ranging from 1 = "Do not agree at all" to 5 = "Completely agree". They were also given the option to answer, that they could not judge it. This question was only proposed to participants that eat meat. Out of the three items, a mixed variable was created by summing up the answers and calculating the average; a value closer to 1 indicated lower purchase intentions, and the higher the number, the higher the purchase intention of the respondent.

To assess the perceived Greenwashing of participants towards the seen advertisements (treatment 1 and 2) or meat advertising in general (treatment 3) Chen and Chang's (2013) Greenwash items were adapted to the needs of the survey and complemented by two items directly related to the product beef and its production. The same five-point scale as with the measure purchase intention was used. Likewise, a mixed variable was created out of the seven items, whereas a value closer to 1 indicated higher perceived Greenwashing, a value closer to 5 lower perceived Greenwashing.

Loosely based on the Green Trust measurement by Chen and Chang (2013), two items were used to measure participants' trust in either the two organizations of the advertisements in treatment 1 and 2 or Swiss meat advertisements in general, again with the five-point scale.

Two questions were used to measure the knowledge of the respondents. In the first step, the consumers' prior knowledge was queried by asking them how they assessed their knowledge about the production of Swiss meat on a five-point scale, spanning from 1 = "I am not familiar with the topic" to 5 = "I have already dealt with the topic in depth". Second, they were asked how they assessed their knowledge in certain aspects of meat (origin, environmental aspects, and animal welfare) on a five-point scale, from 1 = "I do not deal with it very much", 5 = "I deal with it very much". A mixed variable, "Knowledge", was created using the mean calculated from both questions' answers to classify their

knowledge. The closer to 1, the less participants knew, and they were deemed non-experts. The closer to 5, the more they knew and were considered experts, like the study of Parguel et al. (2015), to assess if their knowledge moderates the advertisement's effects.

The Swiss Fairness Commission stated that the example shown in treatment 1 does not imply that it wants to be representative and that the average consumer is likely aware that there are different forms of animal husbandry (Schweizerische Lauterkeitskommission, 2022a). After consultation with Dr Felix Schläpfer, the author related the knowledge questions to this statement. Thus, the subsequent three questions were asked: (1) How high do you estimate the percentage of farms in Switzerland that feed their animals exclusively with their feed? For cattle fattening? For dairy cattle? For pigs? For chickens? (2) How high do you estimate the share of animal feed imported into Switzerland? For cattle? For pigs? For chickens? (3) How high do you estimate the proportion of arable land in Switzerland used to produce animal feed? A percentual scale in increments of 20 was used (e.g., < 20%, 21 – 40%), where participants had to estimate each, which made it possible to examine if treatment 1 influenced the answers to these questions positively (in the sense of the advertisement).

For the formulation of the questions, the author tried to comply with the ten commandments of question formulation (Porst, 2000) as far as possible.

The direct topic was not mentioned to prevent respondents from being influenced solely by the knowledge of what is to be explored in the online survey. Instead, it was only mentioned that it is about participants' imaginations about Swiss animal agriculture. At the end of the survey, the missing details were revealed.

An overview over the mixed variables can be found in chapter 3.2.8.1 in Table 7.

3.2.3 Experimental Setting

To assess the different effects of the advertisements, participants saw either the showcase advertisement in treatment 1, the factual advertisement in treatment 2 or no advertisement as a control group in treatment 3. With this setting, differences in participant's answers per treatment could become visible. Figure 7 shows a theoretical model of the research questions and hypothesis.

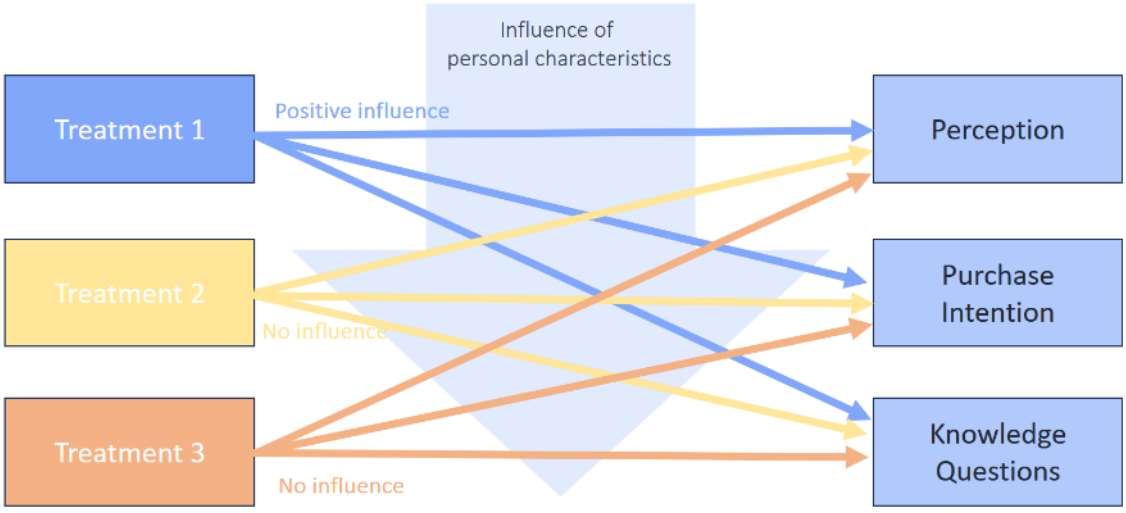

Figure 7: Theoretical model for this thesis.

The author built the survey in Unipark. A trigger was created with Unipark to assign subjects to one of the three treatment groups as randomly as possible. The trigger directly assigns subjects to a variable from 1 to 3 on the first page. These variables correspond to the respective treatment; 1 gets to see the showcase advertisement, 2 the factual advertisement, and 3 is the control group, which does not see any advertisement. The option was chosen for the number per variable to be as even as possible. Therefore, it is not a true randomization, which was tolerated to obtain groups of the same size as far as possible, which entails better comparability.

Specific questions or sections had filters, depending on the treatment or diet as a personal characteristic. If a question was only meant for people who eat meat, people with diets without meat did not receive that question. The complete survey can be found in the appendix (page 118).

3.2.4 Pre-test of the survey

The document version of the survey was revised several times by taking into consideration feedback from several parties. For example, also employees of the Kalaidos University of Applied Sciences discussed the survey. Afterwards, the author transferred the survey to Unipark.

The pre-test data was first generated with Unipark to test the triggers and filters. The test was conducted with 18 generations, and the statistics were deemed correct (triggers evenly allocated, filter pages seen by an appropriate number of "generates"). Subsequently, a pre-test was conducted with employees from the research group sustainability communication and environmental education and people from the author's circle. The personal circle was chosen because the questionnaire could thus be tested with people that do not know about the topic or thesis. In total, 12 pre-tests were carried out, and adjustments were made accordingly.

3.2.5 Acquisition of test subjects

Participants were acquired with the ZHAW research survey distribution list (which sends the survey to students and employees of the ZHAW), personal circle (family, friends and their parents and colleagues – they were also asked to spread it further). The survey was also shared on social media: Whatsapp-

Stories, LinkedIn, where it was also reposted eight times and posted once independently and Instagram-Stories. The survey was also posted on SurveyCircle to attract other participants. By spreading the survey on different channels, it was hoped to acquire a diverse and large-enough sample. The goal was set to at least 150 participants, as it would allow a sample of around 50 respondents per treatment.

3.2.6 Conducting the survey

The link to the survey was emailed on the 24th of April 2023 to the research survey distribution list and subsequently shared via the other distribution channels.

Responses for the survey were accepted until the 15th of May 2023, and a reminder was sent to the research survey distribution list and on Whatsapp and Instagram ten days after initiation. During the survey runtime, responses were tracked several times to screen the sample, using Unipark's EFS Reporting + to get a fast sample overview. It was noticed that more vegetarians and vegans than the Swiss percentage filled out the questionnaire. Thus, it was tried to steer the sample accordingly with the reminder, where it was noted that especially participants meeting specific criteria were still wanted.

3.2.7 Export and data cleanup

The author extracted the data from Unipark in SPSS file format (.sav). All data were exported, including responses from participants that did not make it to the last questionnaire page. A change was made to the codebook in Unipark by renaming all variable names for better recognition before exporting to streamline the workflow.

Data clean-up was carried out in SPSS incrementally. A copy was saved under a different name for each step where data was sorted out. The following steps were conducted:

- Completeness Responses: The data was checked for incomplete responses: Using the column "last page", it was possible to check whether participants had completed the questionnaire. In the Unipark questionnaire editor, each questionnaire is given a unique page number. In this case, when a questionnaire reaches both page numbers 6618507 and 6611589, it is considered complete, even if the respondent drops out on the second-to-last page because all questions have been answered by that point, ensuring that the data collected is complete. Any data that did not meet the page number requirements mentioned above was discarded due to its incompleteness. Before deleting the data, it was ensured that the number of deleted rows matched the number of dropouts listed in the statistics in Unipark.
- Suitability answers: The control questions for listening to the advertisements showed a few incorrect answers. Because the rest of the respective participants' answers were considered suitable, it was decided to keep them in the dataset.
- Target group: As participants should be 16 or older, the data were screened for younger participants. None younger than 16 participated.
- Response time: To check for participants who answered the questionnaire too quickly, a new column with minute duration was added to the data set. The answer duration varied considerably from 2.6 minutes to 1344 minutes. Longer answer times were not considered problematic, as participants could pause the questionnaire and resume later. Nevertheless, the most extreme durations were checked manually: everything under 5 minutes and over 20

minutes, 63 answers in total. One answer was excluded from the study as it was unclear whether the participant provided a serious response.

- Response tendencies: The dataset was screened for central tendency answers (centrality-effect) and tendencies to extremes.
    - Centrality-effect: The threshold was set to 30 answers in the middle, meaning over 80% of responses are central. The highest number of answers with centrality-effect was 22, so all data was kept.
    - Negative or positive trends were disregarded after consideration, as the positive ones may show the effect of advertising. The negative ones, especially if the participants' diet is vegan/vegetarian, are plausible, and both were needed to answer the research questions.
- Consistency check: The free answer questions were screened manually, and one dataset was deleted, as the answers were not considered suitable (e.g., random typing on keyboard as answer).

In the end, a sample of n = 435 participants was left from a total 604. An overview of the data clean-up can be found in Table 6.

Data Clean up: Dataset imaginations agriculture		
	Number	**Loss**
Total	604	0
Complete	437	167
Filter question (…listened…)	437	0
Target group (16+)	437	0
Answer time	437	1
Answer tendencies	436	0
Free answers	436	1
End Total	**435**	

Table 6: Data clean-up online survey.

3.2.8 Method of analysis

The data was statistically analysed in SPSS Version 28.0.1.1 (15) for Windows. The procedure was always the same: First descriptive analyses were conducted by performing frequency tables, descriptive statistics tables, and explorative data analysis. Afterwards, cross tables were executed with the respective independent and dependent variables to get an overview of the relevant combinations to answer the research question and hypothesis. Then, if necessary, the data was tested with statistical tests, and if needed, a post-hoc analysis was performed. Subsequently, the results of the data were visualised in Excel for Microsoft or SPSS. The threshold value for p is 0.05 to confirm or reject a hypothesis.

3.2.8.1 Preparation of variables

Before the analysis, the author ensured that the scale direction of the variables was the same, especially for creating mixed variables. If this was not the case, their values were reversed. In doing so, it was guaranteed that mixed variables values were not distorted by a variable pointing in the opposite direction.

Mixed variables were created from several items to get a comparable aggregate value for a construct. If there was an item for "Cannot judge", it was excluded for the mixed variable as missing (not applicable). If respondents did not answer one item, they were still considered acceptable. However, if more than one item was unanswered, the participant was excluded for creating a mixed variable. Some mixed variables were mathematically rounded to 0.5 increments for visualisations or cross tables for improved readability. Table 7 shows an overview over the creation of the mixed variables.

Mixed variable	Scale	Measures	Consists of	2nd mixed variable (rounded)
Emotions (mv)	Scale from 1 = positive to 5 = negative	Overall feeling toward Swiss animal agriculture	5 items: - Positive – Negative - Thankful – Unthankful - Critical – Uncritical (reversed) - Hopeful – Worried - Proud – Ashamed	Yes, mathematically rounded to 0.5 increments (e.g., 1, 1.5, …) for visualizations
Values (mv)	Scale from 1 = positive values to 5 = negative values	Overall direction of values associated to Swiss animal agriculture	7 items: - Close to nature – Industrial - Innovative – Conservative - Credible – Uncredible - Sustainable - Non-sustainable - Considerate - Inconsiderate - Healthy - Unhealthy - Responsible - Irresponsible	Yes, mathematically rounded to 0.5 increments for visualizations
Purchase intention (mv)	Scale from 1 = definitely not buy to 5 = definitely buy	Intention to buy the meat from the shown advertisement (treatment 1 and 2) or meat from Switzerland in general (treatment 3)	3 items: - Buy because animal friendly - Buy because Swiss quality - Buy because environmentally friendly	Yes, mathematically rounded to 0.5 increments for visualizations
Perceived Greenwashing (mv)	Scale from 1 = high perceived Greenwashing to 5 = low perceived Greenwashing	Perceived Greenwashing towards the shown advertisement (treatment 1 and 2) or towards Swiss meat advertising in general (treatment 3)	7 items: - Visual images from advertisement correspond to reality - shows comprehensibly how environmentally friendly the product is - Exaggerates how environmentally friendly the product really is (reversed) - Contains all important information - Contained information is credible - Advertisement shows the product from the store - Shows production of beef in Switzerland as it is	Yes, mathematically rounded to 1n increments for visualizations

Knowledge (mv)	Scale from 1 = no knowledge to 5 = very high knowledge	Assessed knowledge about the topic of Swiss animal agriculture (self-assessed)	Two questions 1st question – 1 item: - How would you rate your knowledge of meat production in Switzerland? 2nd question – 3 items: - Dealing with the aspect of the environment in meat - Dealing with the aspect of origin in meat - Dealing with the aspect of animal welfare in meat	Yes, mathematically rounded to 1n increments for visualizations

Table 7: Creation of mixed variables.

3.2.8.2 Statistical approach

To help determine which statistical tests were to be used, the website "Methodenberatung" of the University of Zurich (Universität Zürich, 2023) and resources from Björn Walther (Walther, 2023), an expert in statistics, were used next to counselling by the authors' supervisors.

The significance level for the statistical tests was set at alpha = 5%. The hypotheses mentioned in chapter 3.2.2.1 were tested for significance with the following statistical tests:

- Kruskal-Wallis
- Multiple Linear Regression

It was decided to calculate Multiple Linear Regressions (MLR), as these can include any influences from other independent variables and simultaneously indicate the direction of the effect. Since the sample is distorted, e.g., rather knowledgeable, and not to miss other possible influences, a more explorative approach was chosen to assess the role of co-variables:

The dependable variables were emotions (mv), values (mv), the objective knowledge questions (on-farm feed, imported feed and cropland) and perceived Greenwashing (mv). The following independent default variables were entered into the MLR models: (1) Treatment, (2) Diet, (3) Gender, (4) Age, (5) Education, (6) Knowledge (mv), (7) Proximity to the agricultural sector and (8) Place of residency. Those were chosen to see their influence on the dependent variable.

All computed MLRs were executed with the method "inclusion", even if the approach is exploratory. However, there are specific theoretical considerations, and these should be tested:

- Treatment (influence of advertisements)
- Diet (influence of different diets, as already seen in the interviews)
- Age (test if there is no influence)
- Education (participants of the interviews showed a reflective stance on the topics and as they all came from the ZHAW research survey distribution list, it is possible, that education can play a role)
- Knowledge (influence of topic knowledge ((Aitken et al., 2008; Mohr & Kühl, 2021; Parguel et al., 2015))

- Proximity to agricultural sector (interviews showed a partly different view on Swiss animal agriculture)
- Gender and place of residency were added, to explore if they play a role.

Test requirements

To test the requirements for the statistical tests, the following steps were taken:

For Kruskal-Wallis:

The first idea was to compute an ANOVA, which needs normal distribution. A general linear model (univariate) was computed in SPSS with the dependent and independent variables to save the non-standardised residuals as a new variable. This new variable was analysed with the explorative data analysis function in SPSS to output a histogram and normal distribution diagram with tests, with which a normal distribution could be determined. The author of the thesis used the Shapiro-Wilk value to determine whether the test indicates a normal distribution. If the p-value was below 0.05, the hypothesis of normal distribution was rejected (Walther, 2022). Since the non-standardised residuals were not normally distributed, it was decided to use the Kruskal-Wallis test as a non-parametric method.

The non-standardised residuals do not have to be normally distributed when using a Kruskal-Wallis test. However, with suggestion of the supervisor, it was examined with a chi-square scatter test to determine if the variances of the independent variables were equally distributed among the three treatments. All independent variables are equally distributed across conditions, as the chi-square test detected no significant differences.

Another note: As the sample is n = 435, the asymptomatic significance is used and not the exact significance to report the results of the Kruskal-Wallis tests.

For Multiple Linear Regression models:

The relationship of all variables involved in the Multiple Linear Regression models was approximately linear, as assessed by visual inspection of the scatterplots of the studentised residuals (y-axis) and newly predicted values (x-axis), as suggested by the page StatistikGuru (Hemmerich, 2023a).

Outliers were examined over the studentised excluded residuals (threshold +/- 3), leverage values (cut off value 0.2 (Huber, 1981)) and cook distances (value higher than 1). It was recommended, that to decide, if outliers should be excluded, several methods should identify the outlier as such (Hemmerich, 2023b). This was also the approach for this thesis: If an outlier was identified as such by two methods, the outlier was in consideration of being deleted. After examination of all outliers, the author decided that only one was eligible to be deleted from the MLR models, as except for emotions, values, and intention to buy, the outlier was identified as such in the other MLR models by the leverage values and cook distances. Thus, that outlier was deleted from all models except the three mentioned in the previous sentence.

Autocorrelation of variables was not tested, as the study design did not include time series data. Thus an autocorrelation of variables is very unlikely. In such cases, one does not have to test for autocorrelation (Hemmerich, 2023c).

Heteroskedasticity was tested visually (Walther, 2019a) by first computing a MLR, but adding a diagram in the output, with Y = *ZRESID and X = ZPRED. The resulting scatter plot could be checked visually. If the scatter plot is box-shaped, there is no heteroskedasticity. This was the case with the MLR models of this thesis; hence no further action was needed.

There was no detected multicollinearity for the independent variables. To test for multicollinearity all independent variables were tested by using a bivariate correlation. The highest value was 0.373 for knowledge and diet, which is under the threshold of 0.8 (Walther, 2019b).

The last requirement to be tested were normally distributed residuals. To do so, by computing a MLR with the respective dependent variable and independent variables was computed, while saving the non-standardised residues and standardised residues. These saved variables were used to create a diagram which included normal distribution with tests by using explorative analysis in SPSS, as shown in Björn Walther's video (Statistik am PC (Björn Walther), 2017). Only for the models' emotions and values the residuals were normally distributed. For the other models the non-parametric method of Bootstrapping was used to get a robust procedure, nonetheless. The BCa method (bias-corrected and accelerated method) was used, as it is widely applied in practice and a recommended increasement of the sample number when applying bootstrapping was done from first 1'000 to 10'000, with a confidence interval of 95%. If the BCa method was not possible to use, SPSS automatically used the percentile method. The requirement of a sufficiently large sample, n >= 50 (Regorz, 2022), is given in this dataset. Thus, the following models were computed with bootstrapping: Perceived Greenwashing, purchase intention and all models regarding the objective knowledge questions of either on farm-feed, imported feed or proportion of arable land for animal feed.

Post-hoc tests

The following post-hoc tests were performed, if necessary:

If a Kruskal-Wallis test was significant a Dunn-Boneferroni-Test was performed as recommended to test which groups do effectively differ from each other.

3.2.8.3 Visualizations

The author created the visualisations of the results in Excel and SPSS. In SPSS, boxplots and scatterplots were created. In Excel, tables, pie, bar, and stacked bar charts were created.

4 Results

The following chapters present the results obtained during the interviews, the created visualizations, and the results from the online survey.

4.1 Qualitative Interviews

The eight interviews helped to get a first overview of the topics and the perception of Swiss animal agriculture and advertising, which helped to create the visualizations for the online survey. The following two chapters show the most interesting findings and the results of the image design.

4.1.1 Interviews

The evaluation does not distinguish who exactly said what but is based more on what background and diet participants have, as the content and distinction between characteristics are deemed more relevant. During the interviews, it was found that for omnivores, the classification into the three criteria for what they look for when buying meat is relatively fluid and overlapping; hence no further specific distinction is made in the evaluation.

4.1.1.1 Meat consumption and purchasing behaviour of participants

Participants were asked about their own meat consumption and purchasing behaviour of meat. Nonmeat eaters were asked to explain why they became vegan and what they think is important for people buying meat.

Own meat consumption:

Meat eaters frequently mentioned that they like to eat meat and do not want to abstain from meat, especially meat of good quality. Taste and delight are also the main reasons they consume meat, regardless of background. Some mentioned that even though they engaged in the topic of meat consumption, they did not want to abstain. There was also the mention of upbringing and culture, like participants grew up with meat, which is custom to them.

A recurring topic was that a few had reduced their meat consumption compared to the past, and the person, which still eats much meat (around 5-6 times a week) reflected that they probably eat more meat than others. This topic coincides with a greater awareness of meat consumption and the trend towards quality-conscious indulgence (Metzgereivergleich, 2020), at least with participants of the interviews. Animal welfare is also essential: One respondent mentioned that she had an "Intensive experience with a cow"; since then, she has not bought much meat anymore.

With an agricultural background, animal welfare seems to be even more critical, as it was mentioned that having control is very important: If they have control over the process, one respondent likes to eat meat. Thus, he eats only meat from his parent's farm, where he works.

Buying meat:

When buying meat one interviewee mentioned the importance of buying locally and that she tries to prevent food waste especially with meat. Participants without agricultural background mentioned buying label meat, at the market (one respondent even went as far, as saying she no longer buys meat

from supermarkets), locally and that they try to watch the origin of the meat. While some mentioned organic labels, one participant said he abstains from buying organic, as the price difference does not justify the taste, but that he buys other label meat from time to time, as they give him a good conscience. Another mentioned, that buying organic meat gives a better conscience. A topic that emerged when talking about their own purchase of meat, was the price, some said they can no longer afford costlier meat since starting university or that they try to buy meat on sale in bigger amounts or try to buy less meat but good quality instead. When asked, why they buy Swiss meat the most mentioned themes where the locality of the product and thus short travel distances, the good quality, strict production regulations and controls, better labels (e.g., organic) the feeling to do something good and that Swiss meat has a better image and is better and healthier than other meat. Vegans were asked, why they think that people buy Swiss meat and similar reasons emerged (short transport ways, conscience), but they also proposed, that it's to support the Swiss economy. The price for meat is either looked at as expensive (but justified) or as still too cheap.

Vegans mentioned that they grew up with meat as well, but decided for ethical, moral, ecological and health reasons to abstain meat. This is in line with the study from Germany 2020 mentioned in chapter 3.1.1 (POSpulse, 2020). Creativity when cooking was emphasized by one participant, in the sense that vegan cooking brings creativity to the plate, new tastes and new meals.

4.1.1.2 Image of interviewees about Swiss animal agriculture

The image of interviewees about Swiss animal agriculture is covered in more detail in chapter 4.2.2, but here are a few interesting findings up front. It was mentioned by some interviewees, that the first thing that comes to mind, when they think about Swiss animal agriculture are the advertising images: (1) Everything is great, small farm with some cows on a beautiful meadow, symbolising an ideal world, (2) Social togetherness, people having a good time, being together happily, a feeling of living, friendship, and summer. This confirms the findings of Azaoui et al. (2022), which were mentioned in chapter 2.2.2. Other associations contained the diversity of farms (small ones, big ones), mountain grazing, cows that are more outside than in other countries and small farming. But also, negative associations were mentioned by omnivores: One example being cows in barns with their tails tied or that Swiss animal agriculture hides the ugly sides. Vegans on the other hand had only one positive association, which is that Switzerland has better animal welfare. Negative associations were quite graphic: Blood, bolt guns, fattening livestock (overfeeding), slaughterhouse, for example.

To get a better idea of participants view of Swiss animal agriculture, they were also asked how they see the production regarding animal welfare, sustainability and in comparison to production abroad.

Animal welfare:

With agricultural background it was mentioned that the grazing cows show that Swiss agriculture is smaller and not as industrial as other agricultures, but that there are many big farms nowadays, which sell to COOP or Migros (big retailers in Switzerland). These two parts were noted by participants without agricultural background as well: on one side there are the small farmers and for example mother cow husbandry or labels (e.g., Demeter), on the other side there are big farms, where profit is the most important and everything is more industrial. Hence a very mixed picture. One interviewee nailed this

sentiment quite well: "There are like three classes, one animal never sees the sun, one is a bit better and the third is ok but could be even better."

Vegans on the other hand thought of animal welfare as bad in Switzerland, as animals do not have enough space and money is deemed too important.

Sustainability:

While respondents with agricultural background mentioned, that the sustainability is deemed progressive and that animal welfare has been improved, interviewees without agricultural background either had no opinion ("don't know"), a rather negative view, as a lot of meat gets thrown away and that it is a lot about profit or that they think, that the animal husbandry is sustainable and that there is a high home production of meat and few imports in Switzerland. Interestingly nothing about the environmental aspects regarding sustainability in Swiss animal agriculture were mentioned.

People with a plant-based diet on the other hand thought of sustainability in Swiss animal agriculture as a weak point, even though organic animal husbandry is more sustainable, it still emits greenhouse gases, and that sustainability would need to be a much bigger topic in Swiss animal agriculture. It might be better compared to abroad, but still.

Compared to abroad:

Compared to other countries, Swiss animal agriculture is in a good light for the most part for both meat-eaters (with agricultural background and without), for example it has smaller farms, has more control, a better image, better labels and is healthier. One person with agricultural background mentioned, that Swiss animal agriculture is less economic than abroad, because of its landscape and structures, even though the prices are high. But is also qualitatively better.

Vegans mentioned the better laws regarding animal welfare but concluded that Switzerland has more resources and would have a bigger responsibility to be even better.

4.1.1.3 Meat and Society

Interviewees were asked what social and cultural activities they associate with the consumption of meat.

Historical and cultural:

"Meat is value-based" mentioned one interviewee with agricultural background. In general respondents associated meat eating with major events, e.g., traditional events like Christmas, Easter, folk festivals like the Swiss wrestling festival ("Schwingerfest") or the 1st of August. Vegans mentioned also traditional holidays and occasions, but added a cultural view, that red meat is healthy and needed for a good life and that historically and culturally there is an alienation from agriculture since childhood (no connection to agriculture, do not see where the meat comes from).

Social activities:

A person with agricultural background said that there is no social pressure to eat meat, but another without agricultural background said that it is expected, especially to barbeque with others in summer.

To barbecue was the social activity mentioned the most. Other social activities mentioned included activities connected to alcohol, like open airs, soccer games or other sport games or even just going to a shopping mall, as there are often sausage stands outside. Vegans mentioned the same.

Next to cultural and social activities some other points were mentioned, like that meat is a luxury good and should become it again, thus should become more expensive. This point was mentioned by both groups of omnivores. Another topic that was briefly touched upon was how to transform Swiss animal agriculture, both groups mentioned that it has to be thought about, how to best support in financial terms, especially to support more sustainable forms, like smaller farms.

4.1.1.4 Perception and understanding of participants of advertising for Swiss animal agriculture

When asking participants about advertising for Swiss animal agriculture, three main topics emerged:

(1) Remembered Advertisements:

Most participants could not recall an exact advertisement when asked spontaneously, but they mostly remembered, from whom the advertisements were. They mentioned IP Suisse, COOP, Migros, Proviande (Schweizer Fleisch) and Bell. What was remembered visually, was for example a cow that catches a stick (IP Suisse), a dragon that barbecues chicken by blowing fire and the woman saying to the child that that is how chicken is made (Bell), advertising for Cervelat (a Swiss sausage) and an advertisement where it is talked about how pigs have free range (Migros).

(2) Manipulation:

If participants were asked, how they perceived the advertisements, they mentioned frequently the topic of manipulation. The advertisements were deemed misleading, suggesting an image that everything is great and playing with psychology. This was seen that way by both omnivores and vegans. Vegans had a bit more detailed opinions on the manipulation, they further mentioned that the advertisement tries to highlight the cheap price and wants to tempt, so people buy more meat, highlights Swiss values (for Swissness) and to depict a good life with no bad conscience if you buy Swiss meat.

(3) Attitude towards the advertisements:

The attitude towards the advertisements is mixed, while participants with agricultural background think that the advertisements are too extreme and the advertised price too low, participants without agricultural background have either a negative attitude (advertising should not manipulate, is too aggressive), ignore the advertisements or have a positive attitude (they are deemed well made and one person likes the advertisements, he says they meet the market of people who like to eat meat). The advertisements also give the impression of good quality meat and an idyllic image. Vegans propose to prohibit the advertisements, as they are harmful for the environment and the animals.

4.1.1.5 Knowledge:

It must be shortly touched upon the knowledge aspect of participants about Swiss animal agriculture and advertising.

Especially participants without agricultural background stated, that they do not really know exactly how meat is produced and how the reality of it looks like, since the knowledge needed is missing. Some said they know how big farms function. It was also mentioned that they know, that the images from the advertisements do not depict reality. While some said, they wished for more reliable information, there was also one person saying, that even though they do not know much, they do not need to know more.

Vegans on the contrary feel well informed but assume that omnivores are misinformed (information given since childhood, e.g., you need meat) or less informed, as otherwise they would see the ethical dilemma.

When asked where they take their information from, participants with agricultural background mentioned their own knowledge, as they work in the agricultural sector, or study in the field but also newspapers. Interviewees without agricultural background said they gather their information from newspapers and try to search for fact-based information (e.g., articles, internet, television), but some also said they do not actively search for information.

4.1.1.6 Differences in emotions of interviewees associated with Swiss animal agriculture

By comparing the answers of participants for the semantic differential for emotions some differences can be detected.

In Figure 8 the difference between omnivores and vegetarians/vegans becomes apparent. Vegans have more negative emotions, becoming the most visible when looking at positive – negative, angry – content or also concerned – hopeful, where they answered the most negative option.

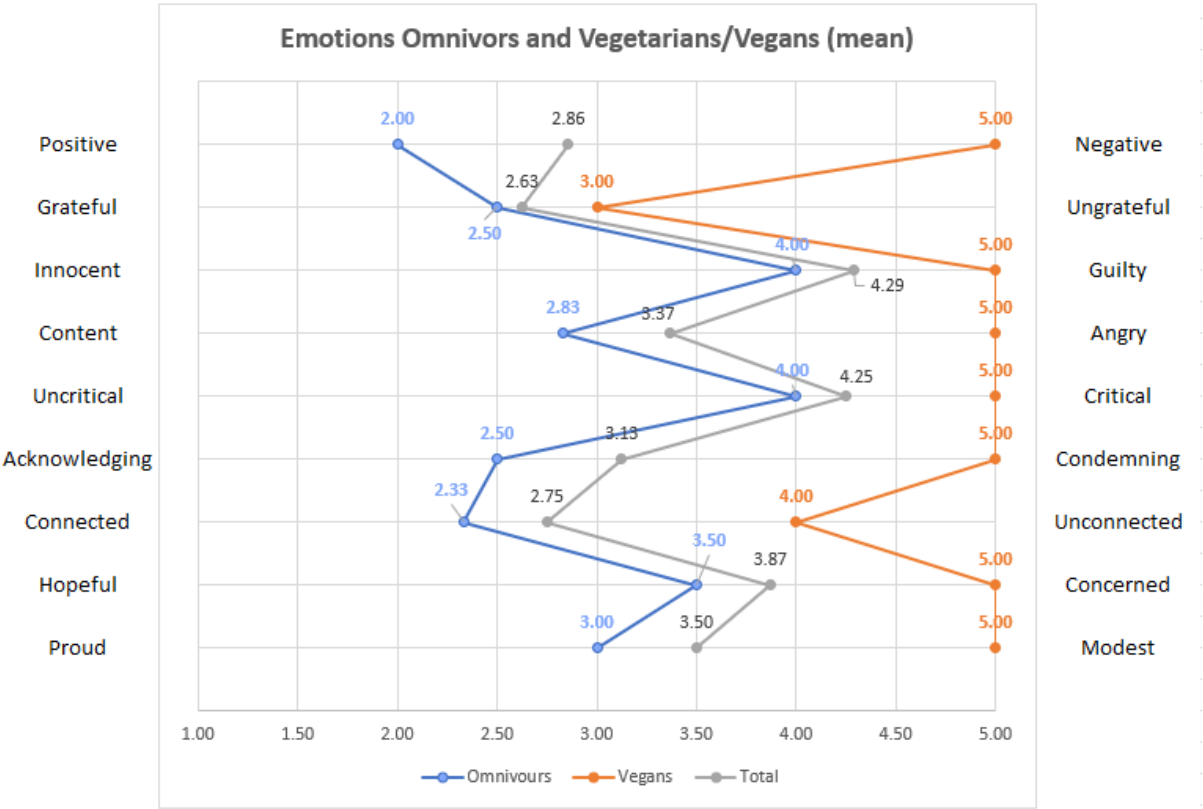

Figure 8: Semantic differential for emotions (mean) towards Swiss animal agriculture of omnivores and vegetarians/vegans.

When looking at Figure 9 it is noticeable, that the picture depending on the agricultural background is more mixed. For example, participants with agricultural background feel more negative than positive, but they also feel more grateful and connected to Swiss animal agriculture, compared to participants without an agricultural background. That would indicate that the topic knowledge (Parguel et al., 2015) does have an influence in certain areas on the perceptions of Swiss animal agriculture.

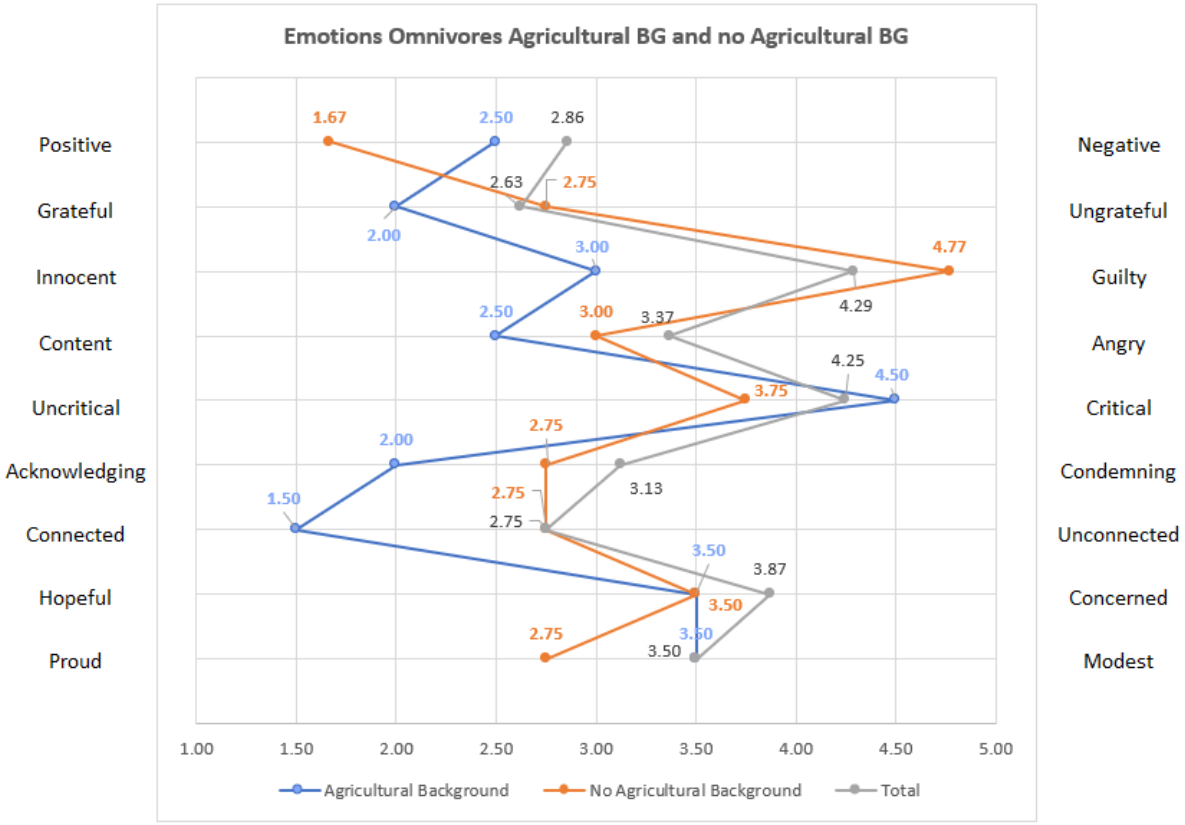

Figure 9: Semantic differential for emotions (mean) towards Swiss animal agriculture of omnivores with either agricultural background or no agricultural background.

4.1.2 Visualizations

The data gathered in the interviews was used to create synthesized visualizations of Swiss animal agriculture that reflect the perceptions of the interviewed participants. While conducting the interviews it became apparent, that interviewees rather have most associations on one end of the spectrum (positive – negative) and less in the middle

The coded and sorted contents of the interviews were used to condensate the gathered information into the respective tables in each sub-chapter down below (see Table 8, Table 9, Table 10 and Table 11), which was used as inspiration to create the visualizations. As mentioned in chapter 3.1.4, a complementary image search helped to complete the images.

4.1.3 Image 1 „Ideal image"

Figure 10: Image 1 "Ideal image" of Swiss animal agriculture.

Figure 10 shows the first image, the most positive one, which thus carries the name "ideal image". The feeling of cows on beautiful meadows (refer to Table 8 to see the used associations and terms), that are happy and well should be conveyed by using a mountainy landscape where cows range free. The sun is shining, there are also calves, which propagate the mother-calf husbandry which stands for a high standard in animal welfare. The Swiss flag (which is included in all images) should symbolize, that this agriculture belongs to Switzerland. By incorporating a woman that caresses a cow, the positive relationship to the animals should be depicted and by not including e.g., silos, it should be clear that these animals only eat grass. A feeling of peace and joie de vivre should be conveyed, "Everything is fine".

Ideal image			
Associations	**Animal husbandry**	**Sustainability**	**Additional**
Cow on the green, beautiful meadow	Small-scale farmers, mother cow husbandry	Local	Eat a lot of meat
Everyone is fine	Animals are doing great, small herds	Support small businesses	High quality
More natural, more back to nature	Farms look good	Pasture forage only	Image Swiss meat: better, healthier than abroad
Idyllic	Stress-free (also farm slaughter and such)	Less CO2 (short distances)	"patriotic"
Mountain grazing	Relationship with the animal	Own production	

Table 8: Categorization of contents from the interviews to create image 1.

4.1.4 Image 2 „Rather positive image"

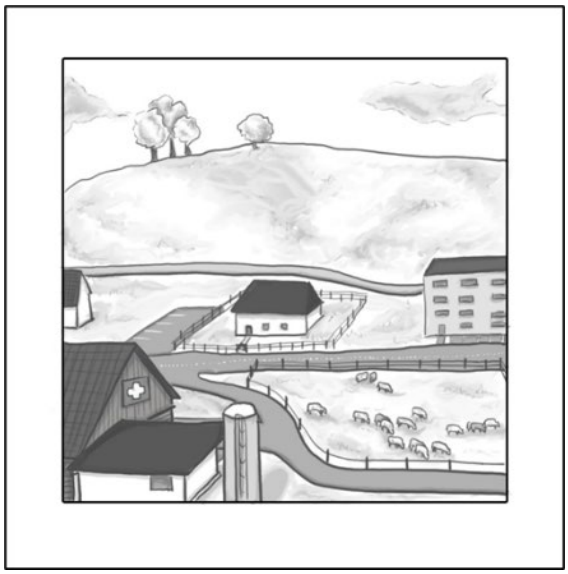

Figure 11: Image 2 "Rather positive image" of Swiss animal agriculture.

Figure 11 is the „second best" option. It is better than the average, thus it carries the title "rather positive image". In image 2, animals are well, and they have the option to graze on grass, as can be seen in the image. The farms are rather small, like farms one can see on the countryside, but maybe already a bit closer to the agglomeration, as can be seen by the houses surrounding the farm. There is still nature to be seen to symbolize a less industrial agriculture. Even though there are some silos, the cows can graze and thus the impression is evoked, that they get more grass feed than bought food. Please see Table 9 for associations and terms used for this image.

Rather positive image			
Associations	**Animal husbandry**	**Sustainability**	**Additional**
Better than average	Strict regulations	More pasture forage than concentrated feed	Im Vergleich zum Ausland besser
Not so industrial	Animals are doing good		Not quite there yet
Smaller farms	Cows can graze, more outdoor access		Smaller cheat pack than e.g., abroad
Idyllic	Stress-free (also farm slaughter and such)	Less CO2 (short distances)	"patriotic"
Mountain grazing	Relationship with the animal	Own production	

Table 9: Categorization of contents from the interviews to create image 2.

4.1.5 Image 3 „Rather negative image"

Figure 12: Image 3 "Rather negative image" of Swiss animal agriculture.

Figure 12 is already a bit more negative and next to the interviews it was heavily inspired by a farm that is close to the authors home, as she felt the descriptions from the interviews fit this example quite well. The title is "rather negative image", as it is an example that is probably below the average and thus more negative. As mentioned at the beginning of chapter 4.1.2, interviewees had more associations with the extremes, than the middle or not so extreme depictions of Swiss animal agriculture. But statements like "not optimal" and "small outlet" gave the author together with the real example enough fodder to create the image. To emphasize, that the farm is less close to nature, no surrounding nature is shown, but only the stable. Cows can no longer graze on meadows but get silo feed, as depicted by the three silos in the background. The outlet is ground without grass, and they have less space in general. But it is still not as bad as the most negative image, thus they can still go outside. Please see Table 10 for associations and terms used for this image.

Rather negative image			
Associations	**Animal husbandry**	**Sustainability**	**Additional**
	Better in comparison to abroad	Difficult with meat industry	Large farms
	Small outlet	More concentrated feed than pasture	
	A bit better		

Table 10: Categorization of contents from the interviews to create image 3.

4.1.6 Image 4 „Negative image"

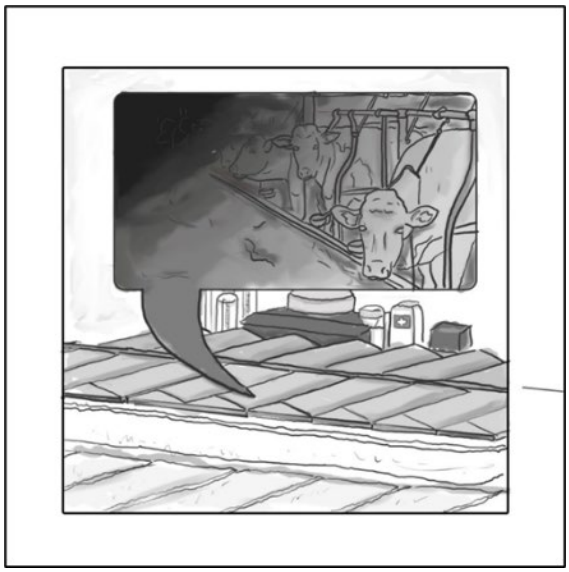

Figure 13: Image 4 "Negative Image" of Swiss animal agriculture.

Figure 13 is the most negative one and hence carries the title "negative image". Cows are locked in confining stables where they are tied by the tail. Factory farming is represented by the large farm and silo plants depicted in the background, kind of like a factory. This is nothing like what the advertisings depict, animals are products and never see the sun. To obtain a plausible representation, the most extreme images were not used, e.g., blood was also mentioned in the associations. Please see Table 11 for associations and terms used for this image.

Negative image			
Associations	**Animal husbandry**	**Sustainability**	**Additional**
Cows in confining stalls where the tail is tied	Large farms	Not at all, it's all about profit	Factory-like, large farms
Industrial	Silo facilities, completely sealed off	No farm feed	Large slaughterhouses
Destroys the environment	No outdoor access, never sees the sun	CO2	Is not like the advertisements
	Antibiotics, medicines		Animal as a thing
	Animal suffering		
	Fattening, overfeeding, stressed animals, full udders		

Table 11: Categorization of contents from the interviews to create image 4.

4.2 Online survey

In this section, the results of the analysis of the data from the online survey are presented and the research questions and hypotheses are answered. First a look at the obtained sample helps to gain an overview of the respondents, then the results from the visual and statistical analysis are presented and the research questions and hypothesis answered.

4.2.1 Obtained Sample

As there are three different treatments, the demography of the n = 435 participants is described in total and for each treatment separately. The number of respondents per treatment is distributed as follows (see also Table 12):

- Treatment 1 (showcase advertisement "Schweizer Fleisch"): 147 respondents
- Treatment 2 (factual advertisement "Lidl"): 138 respondents
- Treatment 3 (control group): 150 respondents

As mentioned in chapter 3.2.8.2, the distribution of the demographics of participants between the treatments is even. None of the chi-square tests performed were significant and each p-value can be found in the last column of the respective tables.

Diet

The diet is a central characteristic in the survey, as it can possibly influence many answers. In total there were 248 participants that eat meat ("regularly" and "from time to time"), while people that considered themselves flexitarians were represented with 69 (see Table 12). 80 respondents are vegetarian ("vegetarian" and "flexi-vegan"), while vegans were represented with 31 participants and pescatarians were the smallest group with 7 participants. In general, it can be said, that the amount of people that do not eat meat or any animal products at all, is higher in the sample than in the total population of Switzerland (5.3 % vegetarians and 0.7 % vegans in 2022 (WEMF, 2022)).

Diet of participants						
	Total		Treatment 1	Treatment 2	Treatment 3	Chi²-Test
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)	p-value and degrees of freedom (df)
I eat meat regularly	137	31,5%	30,6%	30,4%	33,3%	p = 0.969 df = 12
I eat meat from time to time	111	25,5%	25,2%	24,6%	26,7%	
I eat mostly no meat (flexitarian)	69	15,9%	14,3%	15,2%	18,0%	
I eat no meat (vegetarian)	36	8,3%	8,8%	8,7%	7,3%	
I eat no meat, but I eat fish (pescetarian)	7	1,6%	2,0%	1,4%	1,3%	
I eat no meat and mostly no animal products (flexi-vegan)	44	10,1%	12,2%	10,1%	8,0%	
I eat no animal products (vegan)	31	7,1%	6,8%	9,4%	5,3%	
Total amount (n)	435		147	138	150	

Table 12: Diet of participants online survey (n = 435).

Gender

Respondents that identify as female are slightly overrepresented (n = 245) in comparison to participants that identify as male (n = 181). Divers and "would rather not answer" were mentioned 6 and 3 times each in total. This slight overrepresentation can also be found in each treatment (see Table 13).

Gender of participants						
	Total		Treatment 1	Treatment 2	Treatment 3	Chi²-Test
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)	p-value and df
Female	245	56,3%	55,1%	57,2%	56,7%	p = 0.333 df = 6
Male	181	41,6%	40,8%	42,0%	42,0%	
Divers	6	1,4%	2,0%	0,7%	1,3%	
Would rather not answer	3	0,7%	2,0%	0,0%	0,0%	

Table 13: Gender of participants online survey (n = 435).

Age

21- to 30-year-olds were overrepresented with 246 participants, followed by 31- to 40-year-olds (n = 72), see Table 14. The smallest group is 81- to 90-year-olds (n = 2), which is not represented in treatment 3 at all. The second smallest group is 16 to 20 year and 71- to 80-year-olds with a total frequency of 14 each.

Age of participants in groups						
	Total		Treatment 1	Treatment 2	Treatment 3	Chi²-Test
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)	p-value and df
16 - 20 years old	14	3,2%	4,8%	2,2%	2,7%	p = 0.517 df = 14
21 - 30 years old	246	56,6%	57,1%	58,0%	54,7%	
31 - 40 years old	72	16,6%	19,0%	16,7%	14,0%	
41 - 50 years old	45	10,3%	10,2%	6,5%	14,0%	
51 - 60 years old	25	5,7%	4,1%	6,5%	6,7%	
61 - 70 years old	17	3,9%	1,4%	5,8%	4,7%	
71 - 80 years old	14	3,2%	2,7%	3,6%	3,3%	
81 - 90 years old	2	0,5%	0,7%	0,7%	0,0%	

Table 14: Age of participants online survey (n = 435).

Education

Most respondents have finished a higher degree, e.g., a secondary school (n = 187) followed by university graduates (n = 161), as seen in Table 15. A total number of 62 finished a higher technical or vocational education, while only 21 finished an apprenticeship.

Education level of participants						
	Total		Treatment 1	Treatment 2	Treatment 3	Chi²-Test
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)	p-value and df
Elementary school	2	0,5%	0,0%	0,7%	0,7%	p = 0.954 df = 10
Highschool	2	0,5%	0,7%	0,0%	0,7%	
Apprenticeship	21	4,8%	5,4%	4,3%	4,7%	
Matura school, vocational baccalaureate, diploma/technical secondary school	187	43,0%	43,5%	40,6%	44,7%	
Higher technical and vocational education	62	14,3%	12,9%	17,4%	12,7%	
University / ETH, university of applied sciences	161	37,0%	37,4%	37,0%	36,7%	

Table 15: Education level of participants online survey (n = 435).

Main occupation

The main occupation of most participants is studying at a university (n = 210), while 108 work part-time and only 55 work full time (see Table 16). The least participants are looking for a job (n = 2), still in apprenticeship (n = 2) or still in school (n = 1). It was possible for respondents to add an own answer under the category other. Most of participants which chose other are students that work on the side (n = 23).

Main occupation of participants						
	Total		Treatment 1	Treatment 2	Treatment 3	Chi²-Test
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)	p-value and df
Still in school	1	0,2%	0,0%	0,7%	0,0%	p = 0.214 df = 16
Still in apprenticeship	2	0,5%	0,7%	0,7%	0,0%	
Still in university	210	48,3%	50,3%	50,7%	44,0%	
Work full time	55	12,6%	10,9%	11,6%	15,3%	
Work part-time	108	24,8%	29,9%	18,1%	26,0%	
Unpaid/Voluntary work	4	0,9%	1,4%	0,0%	1,3%	
Retired	23	5,3%	4,1%	6,5%	5,3%	
Looking for a job	2	0,5%	0,0%	0,7%	0,7%	
Other	30	6,9%	2,7%	10,9%	7,3%	

Table 16: Main occupation of participants online survey (n = 435).

Proximity to agricultural sector

Many participants are not close at all or rather not close to the agricultural sector (over 50 %) and very few are very close to the sector, for details see Figure 14. The distribution within the treatments is again evenly, see Table 17.

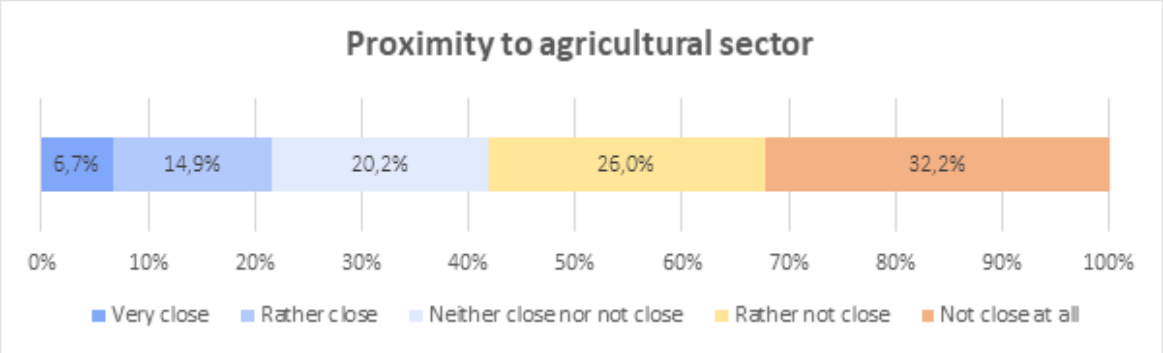

Figure 14: Proximity to agricultural sector online survey (n= 435).

Proximity to agricultural sector						
	Total		Treatment 1	Treatment 2	Treatment 3	Chi²-Test
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)	p-value and df
Very close	29	6,7%	6,8%	4,3%	8,7%	p = 0.444 df = 8
Rather close	65	14,9%	12,2%	18,1%	14,7%	
Neither close nor not close	88	20,2%	23,8%	22,5%	14,7%	
Rather not close	113	26,0%	25,2%	24,6%	28,0%	
Not close at all	140	32,2%	32,0%	30,4%	34,0%	

Table 17: Proximity to agricultural sector of participants online survey (n = 435).

Place of residency

Participant's place of residency is about one third each, 151 live in the city, 146 in the countryside and 138 in the agglomeration (Table 18). In treatment 1 a few more respondents live in the countryside and in treatment 2 and 3 more in the city, but the difference is not significant.

Place of residency						
	Total		Treatment 1	Treatment 2	Treatment 3	Chi²-Test
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)	p-value and df
In the city	151	34,7%	32,0%	37,0%	35,3%	p = 0.534 df = 4
In the countryside	146	33,6%	38,8%	29,0%	32,7%	
In the agglomeration	138	31,7%	29,3%	34,1%	32,0%	

Table 18: Place of residency participant online survey (n = 435).

Knowledge of participants about the topic of Swiss animal agriculture

The general assessed knowledge of participants for meat production in Switzerland is rather high, with over 45 % assessing their knowledge as in depth or familiar with the topic in contrast to around 25 % who assess their knowledge as hardly present or not present (Figure 15).

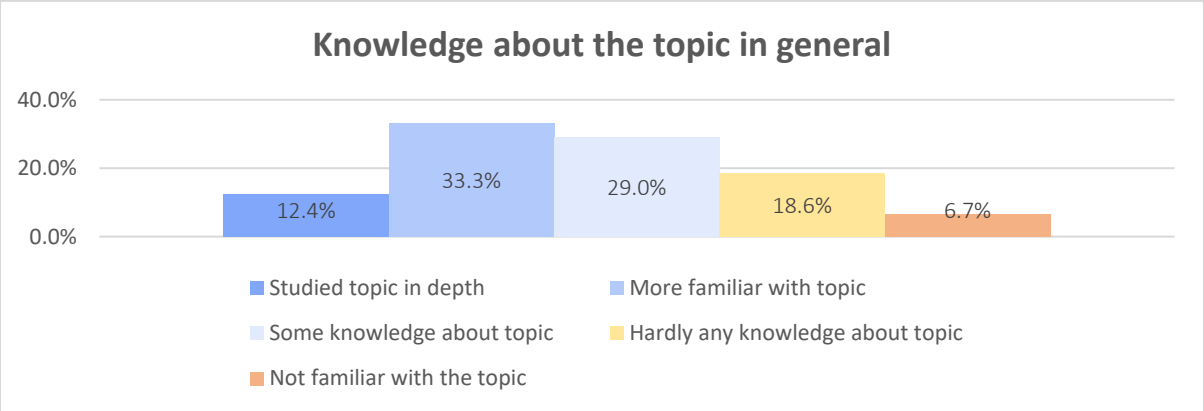

Figure 15: Assessed knowledge of participants about the topic in general (n = 435).

The distribution in the different treatments is once more even, even though slight differences can be seen in Table 19. For example, in treatment 1 around 4 % less are more familiar with the topic in comparison to treatment 2 and 3.

Own assessment of knowledge of the topic of meat production						
	Total		Treatment 1	Treatment 2	Treatment 3	Chi²-Test
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)	p-value and df
Studied topic in depth	54	12,4%	12,9%	11,6%	12,7%	p = 0.754 df = 8
More familiar with topic	145	33,3%	30,6%	34,8%	34,7%	
Some knowledge about topic	126	29,0%	33,3%	24,6%	28,7%	
Hardly any knowledge about topic	81	18,6%	15,6%	21,0%	19,3%	
Not familiar with the topic	29	6,7%	7,5%	8,0%	4,7%	

Table 19: Assessed knowledge of participants about the topic in general total and treatments (n = 435).

As a second question to assess the knowledge of participants, they were asked how much they deal with certain aspects of meat (origin, environment and animal welfare): Respondents are most concerned with origin (40.6 %), followed by animal welfare (37.6 %) an least with environmental aspects (25.4 %), where the answer "I hardly concern myself with it" was answered by 11.8%, see Table 20.

Dealing with distinct aspects of meat									
	Origin		Chi²-Test	Environment		Chi²-Test	Animal welfare		Chi²-Test
	Frequency (n)	Percent (%)	p-value and df	Frequency (n)	Percent (%)	p-value and df	Frequency (n)	Percent (%)	p-value and df
I concern myself with it very much	176	40,6%	p = 0.675 df = 8	110	25,4%	p = 0.416 df = 8	163	37,6%	p = 0.620 df = 8
I concern myself with it	147	33,9%		147	33,9%		147	33,9%	
I concern myself with it a little	63	14,5%		109	25,2%		73	16,9%	
I hardly concern myself with it	28	6,5%		51	11,8%		39	9,0%	
I do not concern myself with it	19	4,4%		16	3,7%		11	2,5%	

Table 20: Dealing with distinct aspects of meat (n = 435).

Out of both knowledge assessment questions (mean value) the mixed variable for knowledge was created (see Table 7 for details). This mixed variable shows how knowledgeable people could be assessed in total about the topic of Swiss meat production. As can be seen in Figure 16, the total assessed knowledge of respondents is high, with 48.4 % having a knowledge of 4 or higher.

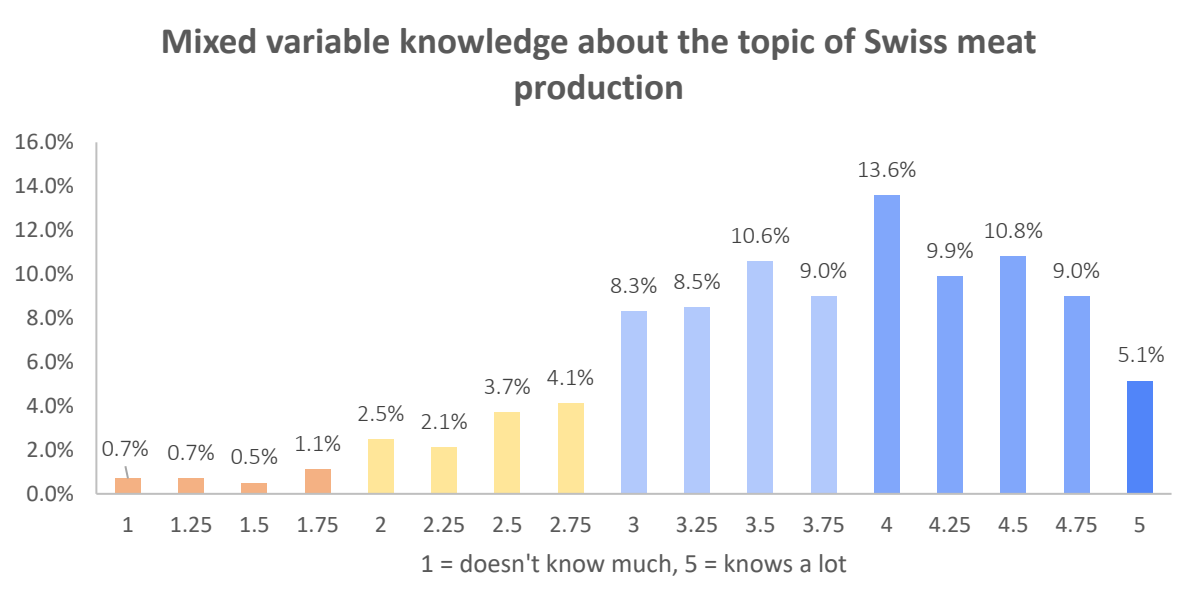

Figure 16: Mixed variable of knowledge about Swiss meat production of respondents in total (n = 435).

Overview of variables for MLR

Down below (Table 21) is an overview table of all variables relevant to the MLR results. Standard deviation is abbreviated with SD, Mixed variable with mv.

Overview table of variables for regression models						
Variable name	**Short description**	**Frequency (n)**	**Mean**	**SD**	**Min**	**Max**
Treatment	Different treatments in online survey. Dummy coding for MLR: 1 = Treatment 1 (showcase advertisement) 2 = Treatment 2 (factual advertisement) 3 = Treatment 3 (control)	435	2.01	0.827	1	3
Diet	Dietary style of participants. Dummy coding for MLR: 1 = Eat meat regularly 2 = Eat meat from time to time 3 = Flexitarian 4 = Vegetarian 5 = Pescetarian 6 = Flexivegan 7 = Vegan	435	2.82	1.920	1	7
Gender	Gender of participants. Dummy coding for MLR: 1 = Female 2 = Male 3 = Diverse For details see table	432	1.46	0.564	1	4
Age	Age of participants in years.	435	33.78	14.354	16	84
Education	Education of participants. 1 = primary school 7 = University / ETH, university of applied sciences For more details see Table 13	435	5.81	1.037	3	7
Proximity to agricultural sector	How close participants are to the agricultural sector. 1 = Very close 5 = Not close at all	435	3.62	1.258	1	5
Place of residency	Place of residency of participants. Dummy coding for MLR: 1 = In the city 2 = In the countryside 3 = In the agglomeration	435	1.97	0.815	1	5
Knowledge (mv)	Knowledge of participants about Swiss animal agriculture. Mixed variable (mean) from 4 items, for details see chapter 3.2.8.1. 1 = No knowledge 5 = Much knowledge	434	3.7199	0.8456	1	5
Emotions (mv)	Emotions from participants towards Swiss animal agriculture. Mixed variable (mean) from 5 items, for details see chapter 3.2.8.1. 1 = Positive emotions 5 = Negative emotions	431	3.1463	1.03968	1	5
Values (mv)	Values associated with Swiss animal agriculture by participants. Mixed variable (mean) from 7 items, for details see chapter 3.2.8.1. 1 = Positive values 5 = Negative values	432	3.1154	0.96496	1	5
Purchase intention (mv)	Purchase intention of advertised meat. Mixed variable (mean) from 3 items, for details see chapter 3.2.8.1. 1 = Would not buy 5 = Would definitely buy	316	3.4726	1.03661	1	5
Perceived Greenwashing	Perceived Greenwashing of participants towards the advertisements. Mixed variable (mean) from 7 items, for details see chapter 3.2.8.1. 1 = high perceived Greenwashing 5 = low perceived Greenwashing	435	2.3615	0.8417	1	5
On-farm feed cattle fattening	Estimation of participants of amount (percentage category).	435	1.82	0.867	1	5

	1 = < 20 % 2 = 21 – 40 % 3 = 41 – 60 % 4 = 61 – 80% 5 = 81% <					
On-farm feed dairy cattle	Estimation of participants of amount (percentage category). Same as above	435	2.26	0.984	1	5
On-farm feed pigs	Estimation of participants of amount (percentage category). Same as above	435	1.90	0.977	1	5
On-farm feed chicken	Estimation of participants of amount (percentage category). Same as above	435	1.99	1.010	1	5
Imported feed cattle	Estimation of participants of amount (percentage category). Same as above	435	3.16	0.950	1	5
Imported feed pigs	Estimation of participants of amount (percentage category). Same as above	435	3.21	0.998	1	5
Imported feed chicken	Estimation of participants of amount (percentage category). Same as above	435	3.15	1.048	1	5
Arable land for animal feed	Estimation of participants of amount (percentage category). Same as above	435	2.82	0.842	1	5

Table 21: Overview table of variables.

4.2.2 What image do respondents have of Swiss animal agriculture?

To assess the image, which respondents have of Swiss animal agriculture, a look at the emotions and values participants feel towards Swiss animal agriculture is needed. Taking a closer look at the table for emotions (Table 22) it can be seen, that while respondents are rather positive (2 = 27.55 %) and grateful (2 = 27.67 %) towards meat production in Swiss agriculture, they are clearly critical of it (4 = 34.11 % and 5 = 26.91 %). There is a slight negative tendency towards concerned, if the percentages for 4 and 5 are compared to the percentages of 1 and 2 and a clearer tendency towards ashamed.

What is your opinion of meat production in Swiss agriculture? (Emotions)						
	1	2	3	4	5	
Positive	16.90%	27.55%	21.30%	21.06%	13.19%	Negative
Grateful	14.65%	27.67%	29.07%	14.19%	14.42%	Ungrateful
Uncritical	4.87%	13.69%	20.42%	34.11%	26.91%	Critical
Hopeful	9.26%	25.23%	25.93%	24.31%	15.28%	Concerned
Proud	6.94%	15.28%	39.81%	24.07%	13.89%	Ashamed

Table 22: Emotions towards meat production in Swiss agriculture.

If the general trend of the mixed variable for emotions is assessed by having a look at Figure 17, the emotions participants feel tend to lean towards the negative (3.5-5 make up 41.8 % of participants, while 2.5 to 1 are 37.1 % of respondents). Thus, a mixed picture can be observed and while there are positive emotions, there are also negative emotions.

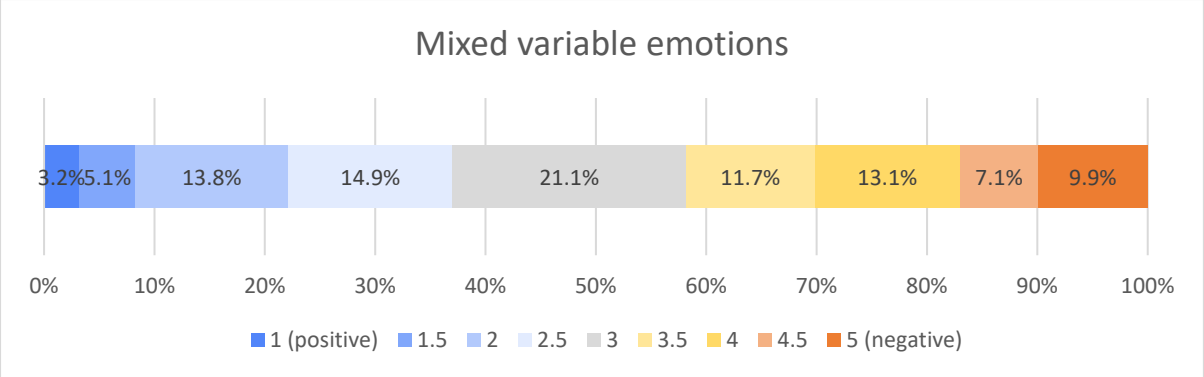

Figure 17: Mixed variable emotions percentage per category.

A similar picture emerges in the values, as seen in Table 23. While 30.11% feel that meat production in Swiss animal agriculture leans towards being closer to nature at the same time 30.16 % feel that it is rather conservative. What needs to be further emphasised, is that there is a tendency to associate meat production in Swiss animal agriculture with being unsustainable, but at the same time there is a tendency towards Swiss animal agriculture being responsible. For nearly all values there are also high percentages of participants that placed their answer in the middle.

What values do you associate with meat production in Swiss agriculture? (values)						
	1	2	3	4	5	
Close to nature	7.82%	30.11%	24.37%	27.82%	9.89%	Industrial
Innovative	3.48%	16.71%	31.09%	30.16%	18.56%	Conservative
Credible	8.08%	31.87%	24.48%	21.71%	13.86%	Incredible
Sustainable	6.25%	19.91%	28.47%	26.85%	18.52%	Unsustainable
Considerate	7.85%	26.56%	28.41%	23.56%	13.63%	Ruthless
Healthy	8.56%	26.85%	33.10%	21.53%	9.95%	Unhealthy
Responsible	9.26%	29.63%	28.24%	21.99%	10.88%	Irresponsible

Table 23: Values associated with meat production in Swiss agriculture.

As seen above with the emotions, there is a very slight tendency towards more negative with values, if a look at the mixed variable for values is taken (Figure 18), as 44.7 % of respondents lean towards the negative end of the scale, compared to 40.6 % leaning towards the positive end of the scale. Compared to the emotions, less participants scored the middle value.

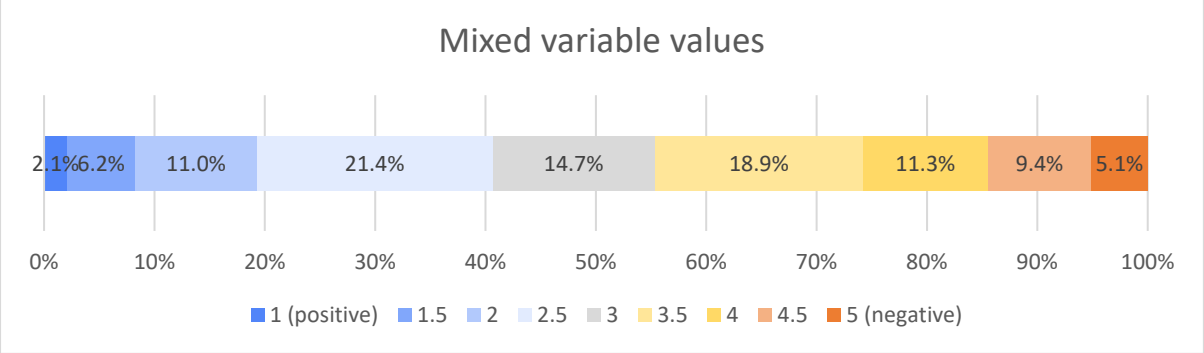

Figure 18: Mixed variable for values associated with meat production in Swiss animal agriculture.

Lastly the question image selection shows, which image corresponds the closest to the imaginations respondents have of Swiss animal agriculture. Figure 19 visualizes that image 3 (rather negative image) was chosen the most by participants, followed by image 2 (rather positive image). Thus, the slight negative view is also confirmed here.

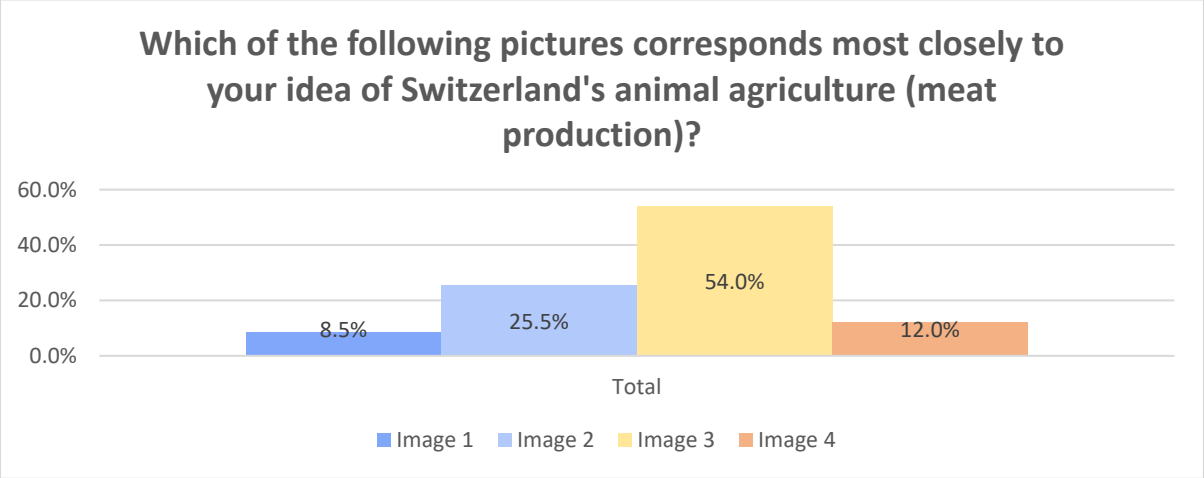

Figure 19: Image selection of respondents that corresponds most closely to their imagination.

The image selection grouped per treatment shows the same picture (Figure 20): image 3 was chosen most frequently, followed by image 2. Interesting to see, that while image 2 was chosen slightly more often by treatment 1 compared to treatment 2 and 3, image 1 was chosen the most by treatment 3, which saw no advertising, followed by treatment 1 with the showcase advertisement. Thus, it can be concluded that participants in treatment 2 were most likely to choose more negative images.

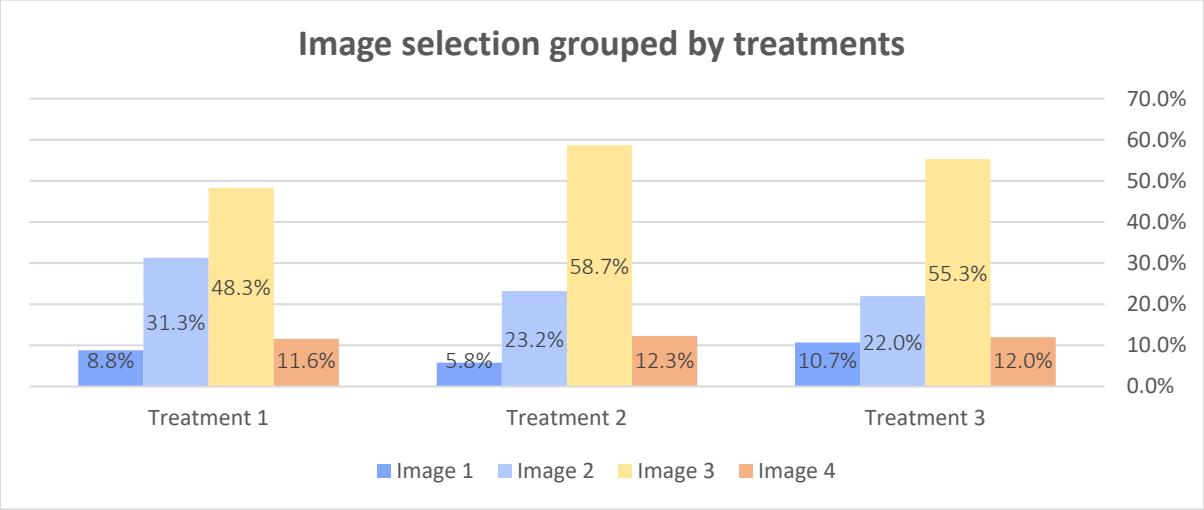

Figure 20: Image selection grouped by the different treatments.

All three questions point to a more negative view of meat production in Swiss animal agriculture. But the questions also show, that there are different images of Swiss animal agriculture.

4.2.3 How are the selected advertising campaigns for Swiss animal agriculture understood?

To answer this question first a look at the question, if the advertising, which participants from treatment 1 or 2 saw, shows a realistic image of Swiss agriculture and the product meat, is taken: Interestingly

Figure 21 depicts, that participants in treatment 1 feel that the showcase advertisement shown does not depict a realistic image of Swiss agriculture and the product meat, more so than in treatment 2 (66 % to 51.4 %). The difference for the yes-answer is with 1.1 % relatively small, but what catches the eye, is that in treatment 2 respondents were more likely to answer, "don't know".

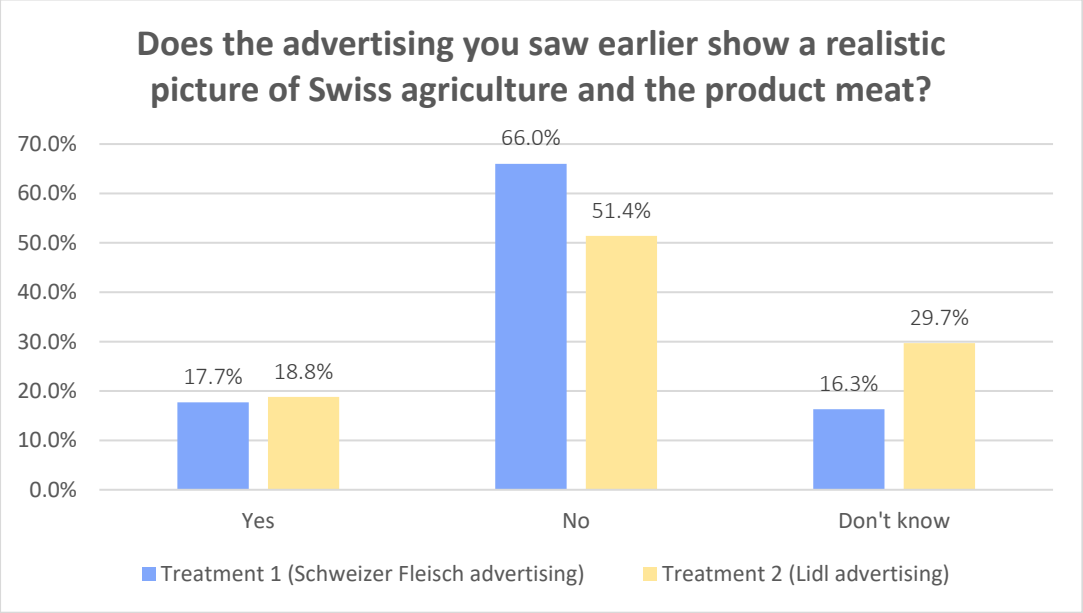

Figure 21: Perception of advertisement - does it show a realistic image of Swiss agriculture and the product meat.

To further address this question, it is also necessary to look at the perceived greenwashing. As seen in Table 7 on page 44 there were seven items to measure perceived Greenwashing. After comparing the means of all the individual items only two showed slightly bigger differences per treatment (Figure 22):

- Item 2 Environmental friendliness shown comprehensible: In the opinion of respondents from treatment 1, the showcase advertisement shows more comprehensible, how the product is environmentally friendly, compared to especially treatment 2.
- Item 6 Shows product like encountered in store: Here the exact opposite is the case, respondents of treatment 2 feel, that the advertising shows the product (meat) more like the product encountered in the store, compared to treatment 1, with an even higher effect.

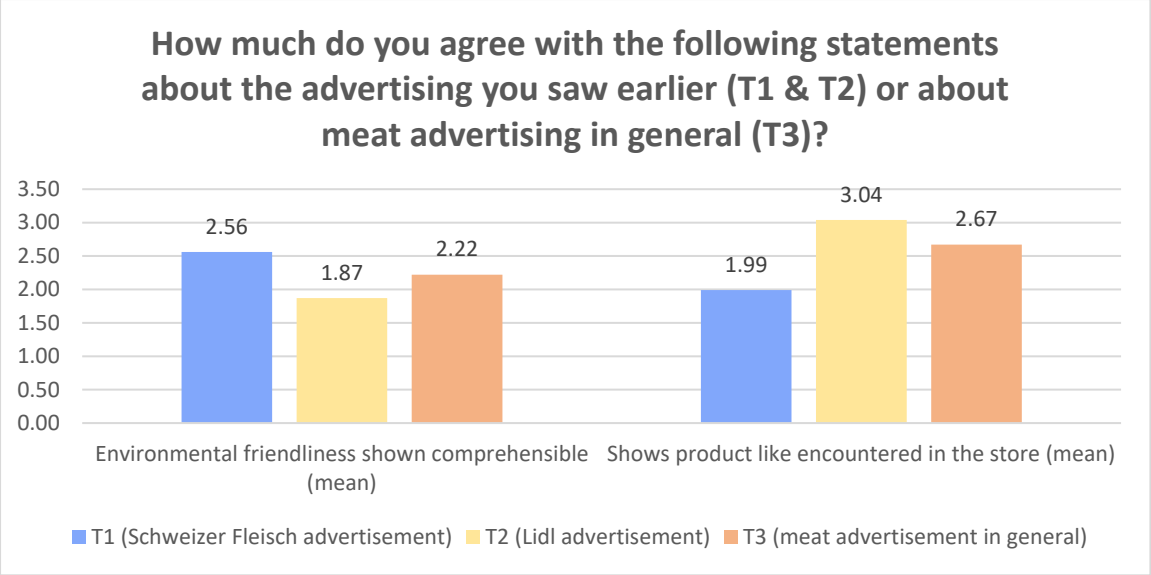

Figure 22: Agreement on two items (of seven) used to measure perceived Greenwashing.

However, when the mixed variable is examined, it becomes clear that the two items probably roughly balance each other out, as the average of perceived greenwashing is relatively similar for all 3 treatments, which can be determined when Figure 23 is looked at in combination with the means of the perceived Greenwashing for each treatment: (1) Mean for treatment 1 = 2.36, (2) mean for treatment 2 = 2.33, (3) mean for treatment 3 = 2.42.

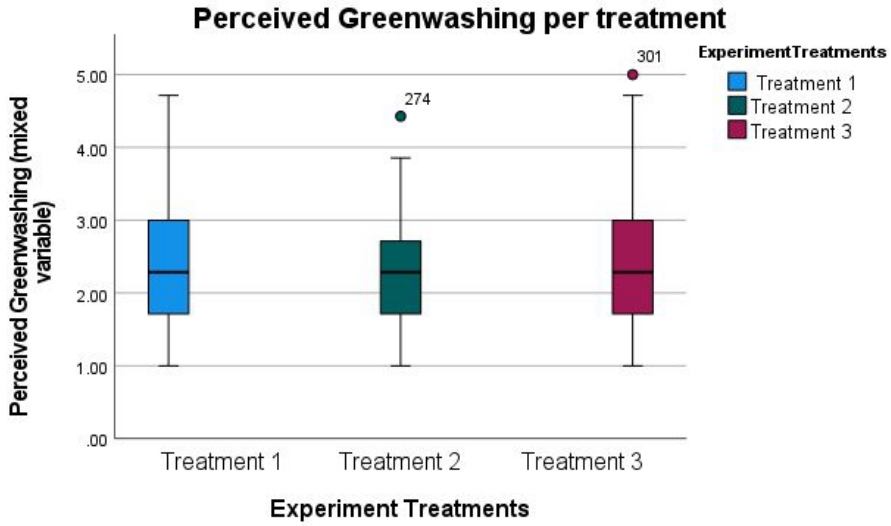

Figure 23: Boxplot of the mixed variable perceived Greenwashing grouped per treatment.

In conclusion it can be said, that when taking into consideration the answers from above more than half of the participants feel that the shown advertisements do not represent a realistic picture of Swiss agriculture and the product meat.

Finally, a brief look at the advertisers or Swiss meat advertisements in general depict, that participants in treatment 3, which haven't seen an advertisement, have a higher agreement regarding the belief, that trustworthy statements in meat advertisements are used, compared to treatment 1 and 2, which

show lower means (Figure 24). This can also be noted for the second statement, if the advertised meat is produced environmentally friendly (either the specific meat from the advertisement or meat from Switzerland in general): The highest agreement is found in treatment 3, followed by treatment 1 and last treatment 2, sporting a decrease of around 20 for each treatment.

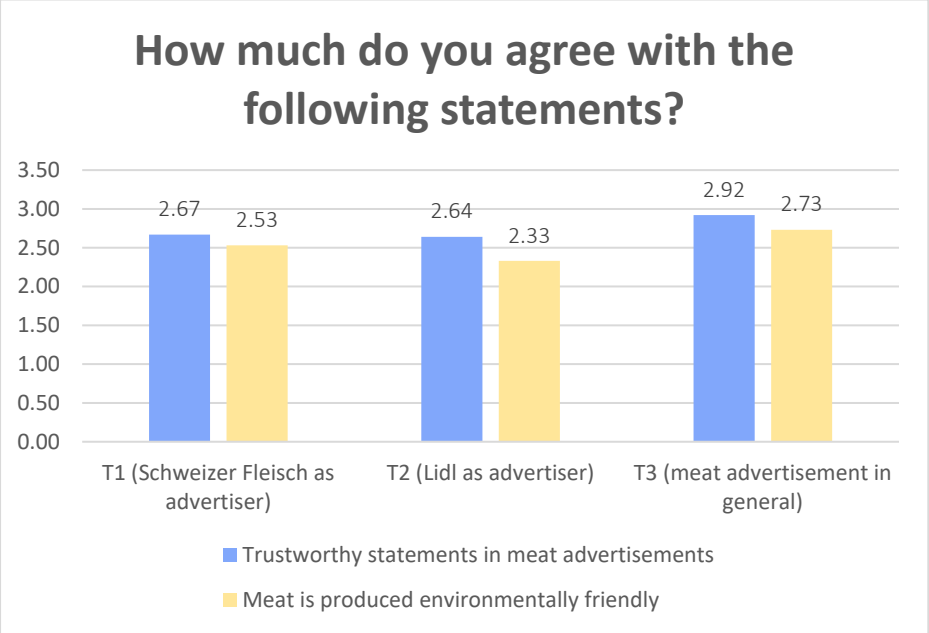

Figure 24: Means of statements regarding trustworthiness and environmentally friendly production for each treatment.

Compared to treatment 1 and 2 respondents in treatment 3 have the most positive view of Swiss meat advertising campaigns, showing the least perceived Greenwashing (mean 2.42, as visually notable in Figure 23.

4.2.4 Do the selected advertisement campaigns influence consumers' perceptions of Swiss animal agriculture and purchase intentions of Swiss meat?

To answer this research question a look at the mixed variables emotions values and perceived Greenwashing is needed to assess a difference in respondents' perceptions of Swiss animal agriculture.

4.2.4.1 Hypothesis 1 – Do perceptions of Swiss animal agriculture differ among the treatment groups?

As described previously in chapter 2.1 perceptions of consumers can be influenced positively by viewing advertisements that try to influence the viewers. While treatment 1 shows a showcase advertisement, treatment 2 sees a factual advertisement and treatment 3 sees no advertisement at all. It is assumed, that the showcase advertisement in treatment 1 will influence the perceptions of respondents about Swiss animal agriculture positively, which led to H1.

H1: Consumers' perceptions differ within the treatment groups: They are positively influenced by viewing the showcase advertisement in treatment 1.

To get a first overview, as described in more detail in chapter 3.2.8 cross tables of the treatments and the respective mixed variables were created and visualized as stacked bar charts. Figure 25 shows the stacked bar chart for the mixed variable emotions. When looking at the stacked bar charts, slight

differences can be noted among the treatments. It seems, that respondents in treatment 3 have the least negative emotions towards Swiss animal agriculture, while participants of treatment 2 have a slightly more negative emotional attitude, especially considering value 5 (negative) while taking into consideration, that value 3 (not positive, not negative) is also represented more often. Value 1 (positive) was most represented in treatment 1 (4.8 %), which could indicate, that there might be a positive influence of the showcase advertisement.

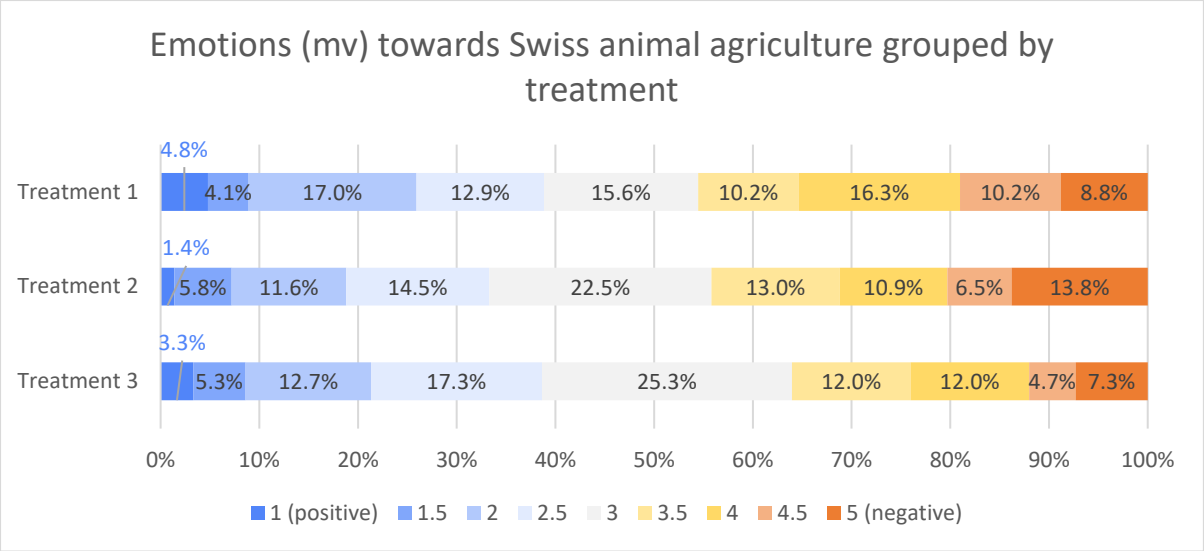

Figure 25: Emotions (mixed variable) of respondents towards Swiss animal agriculture grouped by treatment.

Similar tendencies with some differences could be noted while looking at Figure 26, which shows the tendency (positive to negative) of values associated with Swiss animal agriculture (see Table 7 for associated values). Again, participants in treatment 3 seem to be the ones, that associated the most positive values with Swiss animal agriculture, while treatment 2 and 1 show slight tendencies towards the more negative spectrum. Interestingly compared to the emotions participants in treatment 1 seem to be the group, that associate more negative values compared to the others.

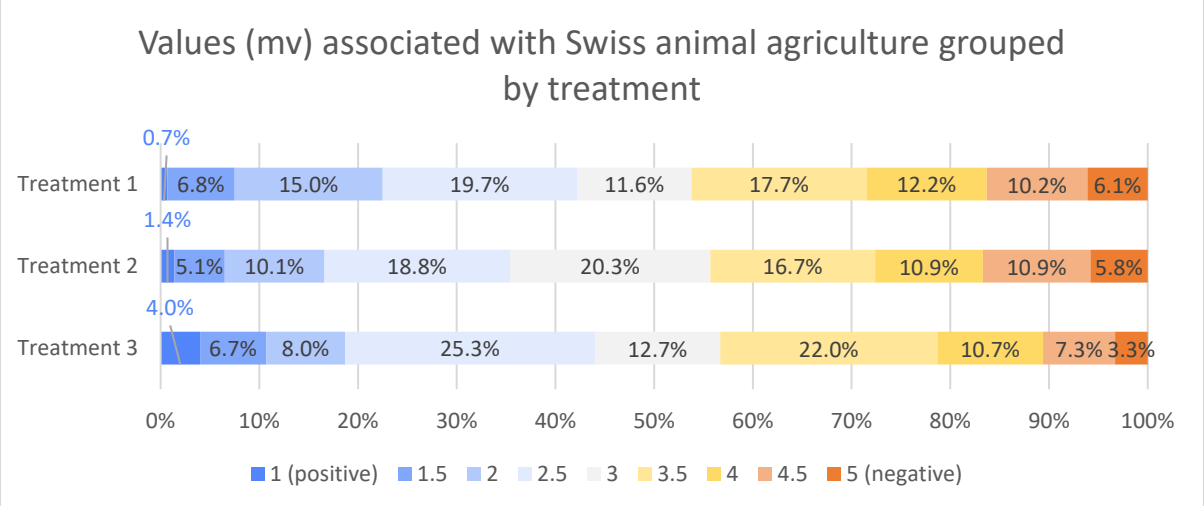

Figure 26: Values (mixed variable) of respondents associated with Swiss animal agriculture grouped by treatment.

When looking at Figure 27 the means of the perceived Greenwashing (mixed variable) are depicted grouped per treatment. The differences are very subtle, as already mentioned in chapter 4.2.3.

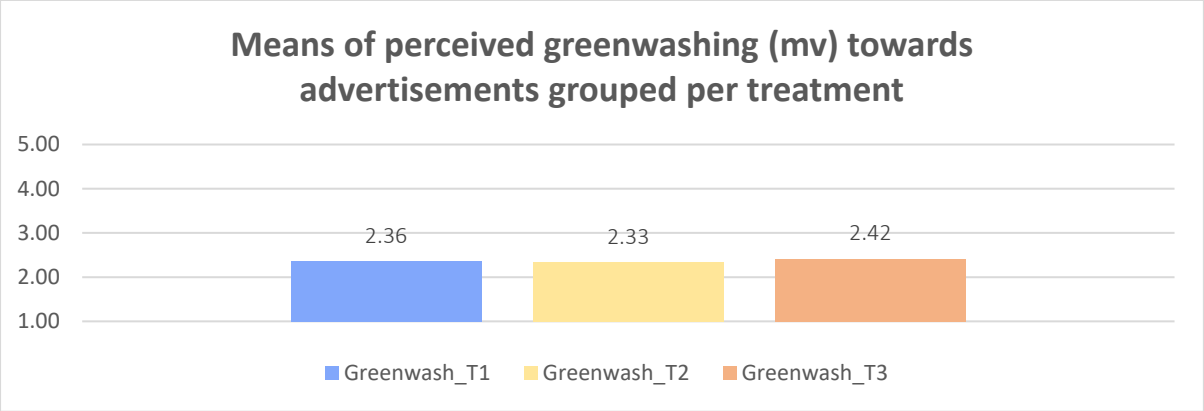

Figure 27: Means of perceived Greenwashing (mixed variable) towards the advertisements (T1, T2) or Swiss meat advertisement in general (T3).

To assess if any of the above visually noted differences are significant, Kruskal-Wallis tests were performed. The treatment didn't have any significant influences on the emotions (p-value = 0.356), the values (p-value = 0.558) and the perceived Greenwashing (p-value = 0.797), therefore H1 must be rejected. An overview can be found in Table 24.

Kruskal-Wallis – Influence of treatments on emotions, values, and perceived Greenwashing			
	Emotions	Values	Perceived Greenwashing
Asymptomatic sig.	0.356	0.558	0.797
df	2	2	2

Table 24: Overview of results from Kruskal-Wallis tests regarding H1.

4.2.4.2 Hypothesis 2 – Do intentions to buy meat differ among the treatment groups

Hypothesis 2 is based on the same assumption that showcase advertising has a positive impact, here on the purchase intentions of participants.

H2: Consumers' intentions to buy meat differ between the treatment groups: They are positively influenced by viewing the showcase advertisement in treatment 1.

For a first overview of the items of purchase intention, the means per treatment and the means of the total purchase intention are compared and visualized in Figure 28. A clear difference can be noted for treatment 2, as all means for the individual items as well as for the mixed variable purchase intention is visually lower than for treatment 1 or 3. Whereas between treatment 1 and 3 the differences appear very marginal.

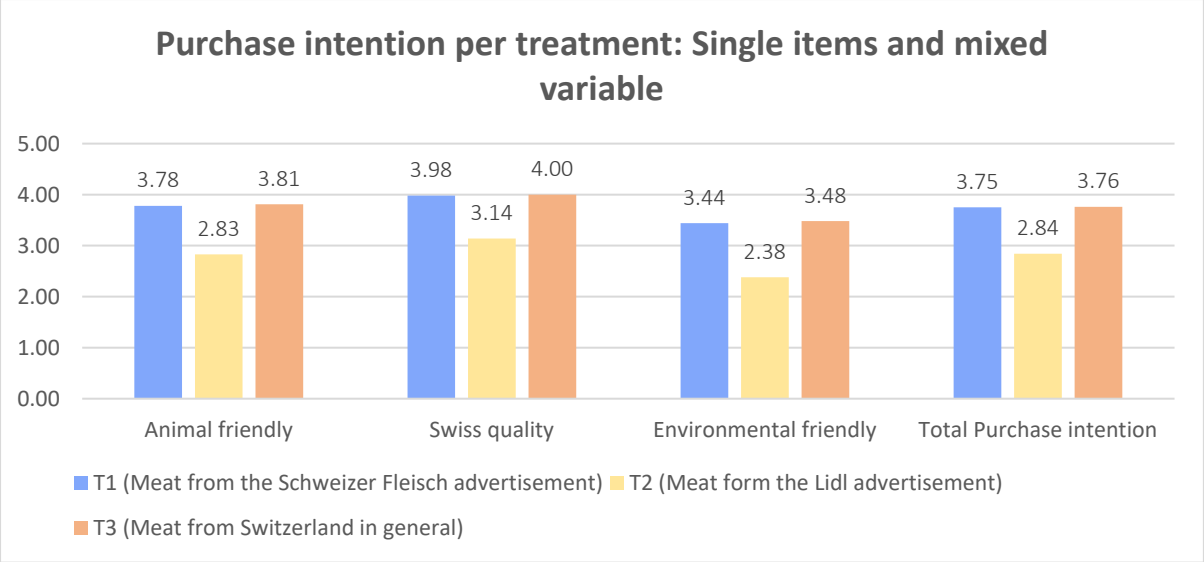

Figure 28: Means of items of purchase intention and mean of purchase intention (mixed variable) grouped per treatment.

To test statistical significance of the differences, a Kruskal-Wallis test was performed. The treatments showed a difference (p-value = < 0.001). The ranking of the treatments (T1 184.04, T2 102.96, T3 181.59) suggests, that treatment 2 differs significantly from the others, but to confirm this assumption, Dunn-Bonferroni post-hoc tests were performed. This post-hoc tests reveal that treatment 1 (z = 6.291, p = < 0.001) and treatment 3 (z = -6.284, p = < 0.001) differ significantly from treatment 2. This is a strong effect (Cohen, 1992) with r = 0.62 and r = 0.58. The boxplot of the purchase intention (mv) and the treatment down below, shows the difference very well (Figure 29). Thus, H2 can be partially accepted, as the treatments do have an influence on the purchase intention, but it is unclear, if treatment 1 had a positive effect, as it is not different from treatment 3. Rather a negative effect on the purchase intention from treatment 2 can be noted.

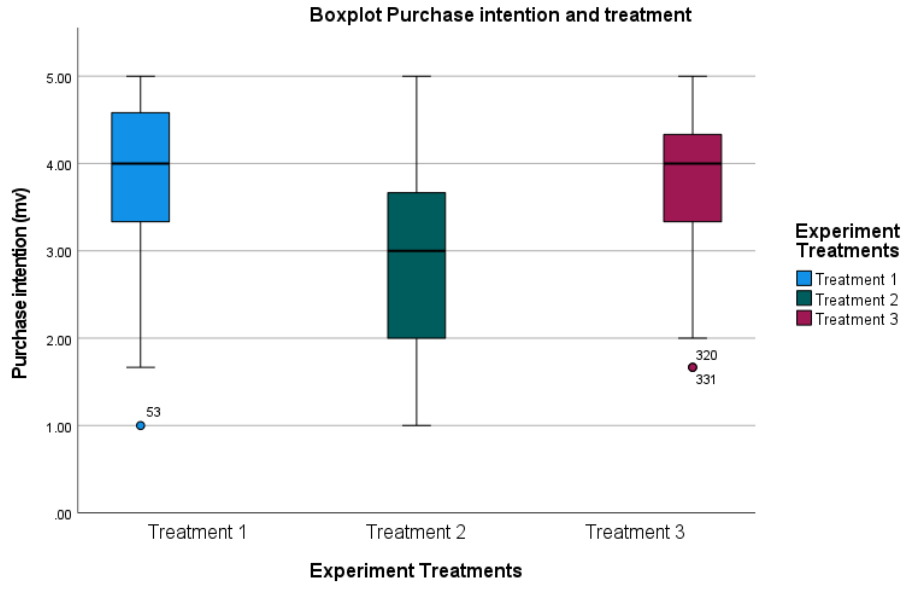

Figure 29: Boxplot of purchase intention (mixed variable) and treatment.

4.2.4.3 *Hypothesis 3 – Are the answers to objective knowledge questions influenced by the different treatments?*

As the first two hypothesis, hypothesis 3 assumes, that the treatments have an influence on the answers of participants. In this case, it is assumed, that treatment 1 influences the answers to the objective knowledge questions positively.

H3: The consumer's answers to the objective knowledge questions are influenced positively by viewing the showcase advertisement from treatment 1: They answer that more farms feed solely on-farm feed, fewer farms import feed, and farmers use less arable land to produce animal feed.

Estimated proportion of farms that feed animals solely with on-farm feed

There are three objective knowledge questions. The first one asks for estimates of the proportion of farms that feed animals solely with on-farm feed. The correct answer for all four different farm animals (cattle fattening, dairy cattle, pigs and chicken) is, that less than 20 % of farms can feed their animals solely with on-farm feed (Agroscope, 2021), e.g. 1.9 % for cattle fattening and 2.77 % for dairy cattle. For all the farm animals, except dairy cattle, most respondents answered correctly, see Figure 30. For dairy cattle respondents expected that more farms (21 – 40 %) can feed their animals with solely on-farm feed.

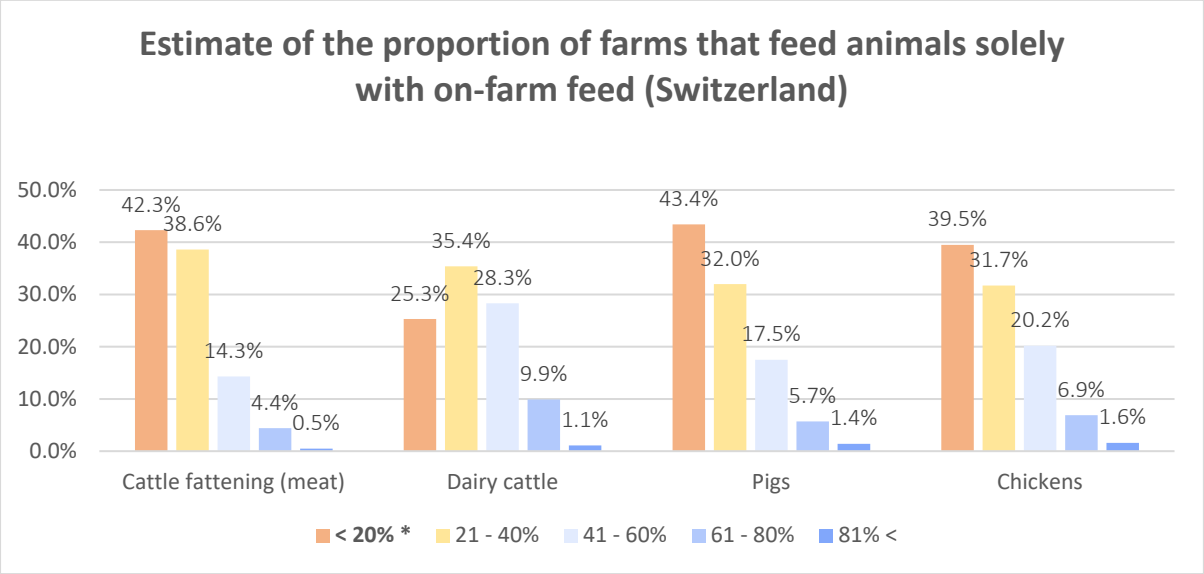

Figure 30: Estimate of the proportion of farms that feed animals solely with on farm feed for four types of farm animals.

For a first look at the influence of treatments cross tables with the objective knowledge questions and treatments were created. As these are quite large cross tables, for a better overview a table was created for only the correct answer (< 20 %), see Table 25. Differences within the treatments can be detected visually, the most prominent one being respondents of treatment 2 answering the correct estimation for cattle fattening (meat) more often compared to the other treatments. Noteworthy does also seem, that except for the category chickens, participants from treatment 3 were the ones who chose the correct answer the least often.

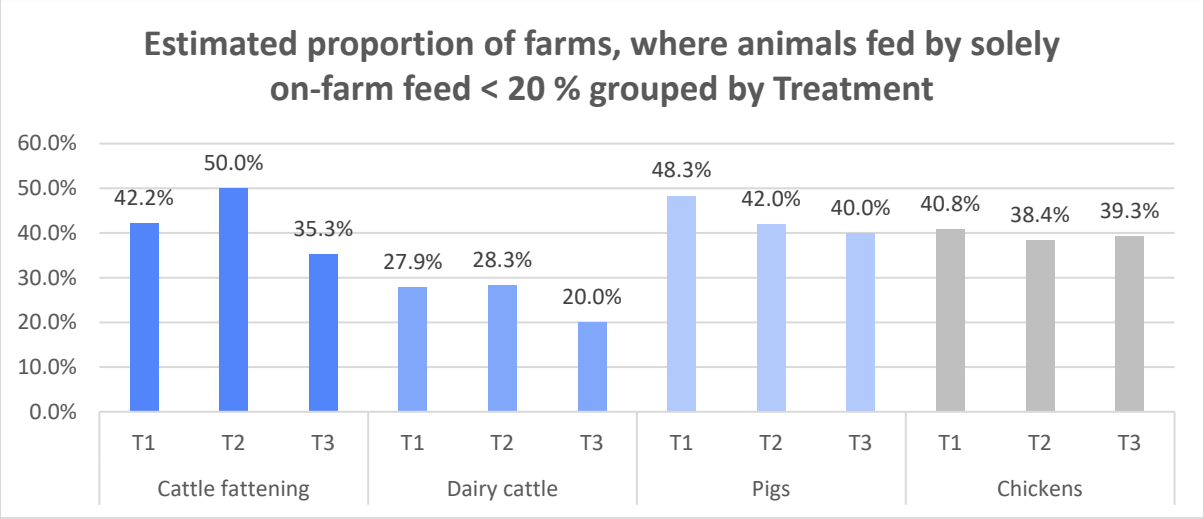

Table 25: Correct answer for estimated proportion of farms that feed their animals with solely on-farm feed (< 20 %) grouped by treatments.

To test for significance differences, Kruskal-Wallis tests were performed for each category of farm animal. The only significant difference in the treatment groups was found for cattle fattening (p-value = 0.026). The ranking of the treatments for cattle fattening (T1 221.74, T2 196.97, T3 233.69) suggests, that treatment 2 differs from the two other treatments. To confirm this assumption, a Dunn-Bonferroni post-hoc test was performed. This post-hoc tests indicates that treatment 2 (z = -2.664, p = 0.023) differs significantly from treatment 3. This is a weak effect according to Cohen (1992) with r = 0.23. No significant differences were detected for dairy cattle (p-value = 0.181), pigs (p-value = 0.255), and chickens (p-value = 0.804). Table 26 depicts the differences among the treatments for cattle fattening especially for treatment 2, whose respondents seem to have answered lower estimates (< 20 %, 21 – 40 %) more often than higher estimates, compared to the other treatments.

Estimated proportion of farms, where animals are fed by solely on-farm feed (cattle fattening) grouped by treatments					
	<20% *	21-40%	41-60%	61-80%	81%<
Treatment 1	42.2%	35.4%	18.4%	4.1%	0.0%
Treatment 2	50.0%	37.0%	9.4%	3.6%	0.0%
Treatment 3	35.3%	43.3%	14.7%	5.3%	1.3%

Table 26: Estimated proportion of farms, where animals are fed by solely on-farm feed

Estimated proportion of animal feed imported into Switzerland

The second objective knowledge question asks for estimates of the proportion of animal feed that is imported into Switzerland. The following answers are correct: For cattle (meat and dairy) less than 20 % of animal feed is imported feed (2021 exactly 10 %). For pigs between 41 to 60 % of animal feed is imported (2021 exactly 43.9 %) and for chicken (meat and eggs) the number of imported feed is even higher, with 61 to 80 % of feed imported (2021 exactly 61.4 %) (Giuliani, 2022). The only category of animal, where most respondents answered correctly is pigs, see Figure 31, where the right answers are indicated with a green frame. For chicken the correct answer was the second most chosen option, but

a higher percent of participants answered an estimation category too low. For cattle participants were on the wrong track, as the correct estimation category was chosen least frequently.

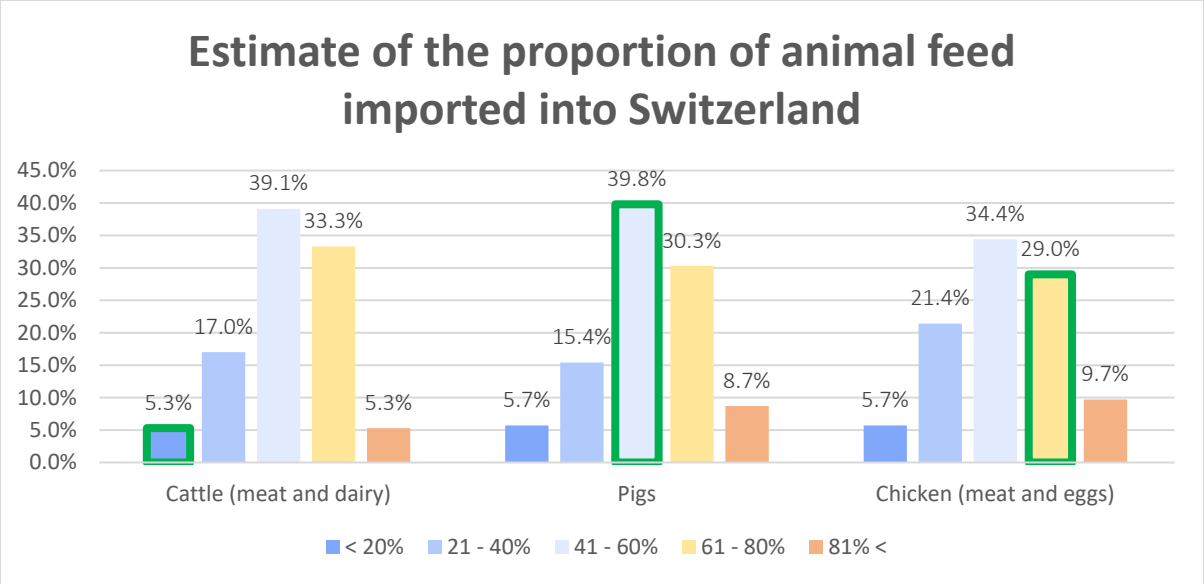

Figure 31: Estimates of the proportion of animal feed that is imported into Switzerland.

As with the first objective questions for a better overview a table was created for only the correct answer categories grouped by treatment, see Figure 32. For cattle and pigs the differences among the treatments were small with under 4 % differing amounts of participants choosing an answer. On the other hand, with the category chickens participants from treatment 1 chose the correct answer more often than respondents from treatment 3, while the difference to participants from treatment 2 is smaller with also around 4 %. To see the cross tables for all categories, see appendix (page 118).

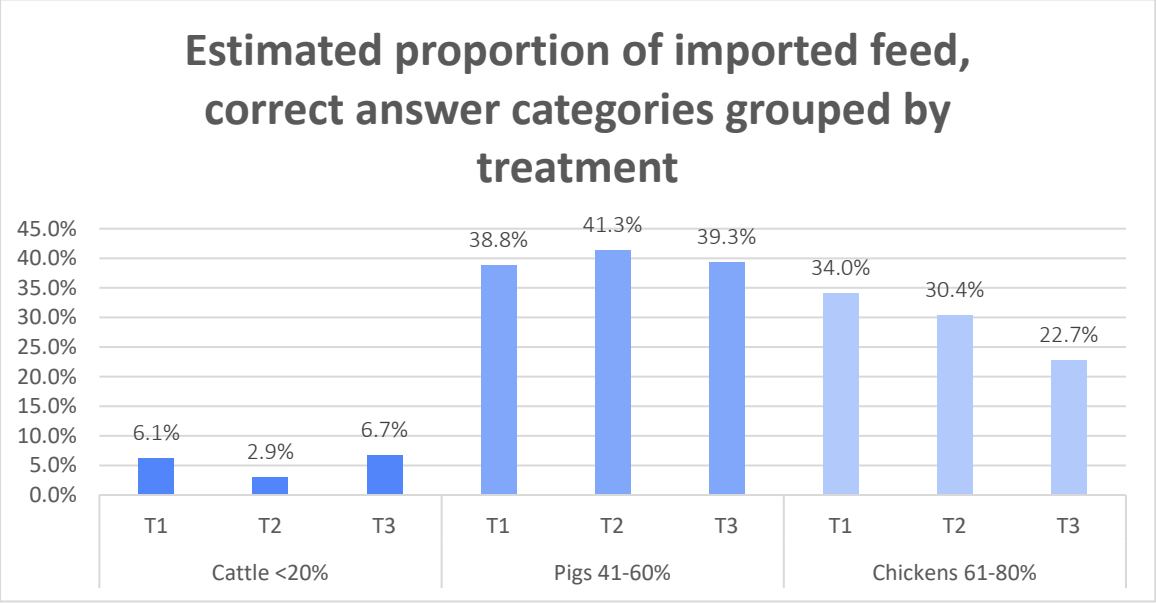

Figure 32: Correct answer for estimated proportion of imported feed for cattle (< 20 %), pigs (41 - 60 %) and chickens (61 - 80 %) grouped by treatments.

To test for significance differences, Kruskal-Wallis tests were performed for each category of farm animal. The statistical test did not detect a significant difference among the treatments for all categories: Cattle (p-value = 0.891), pigs (p-value = 0.094), chickens (p-value = 0.081). The lower p-values (< 1) can possibly be interpreted as a tendency.

Estimated proportion of arable land used to produce animal feed

The third objective knowledge question asks for estimates of the proportion of arable land that is used to produce animal feed. The correct answer is 41 to 60 % (according to agristat around 60 % if calculated (Giuliani, 2022)) , which was also the answer category, that was chosen the most by participants of the questionnaire, see Figure 33. The second most frequently chosen category is 21 to 40 %, followed by 61 to 80 %.

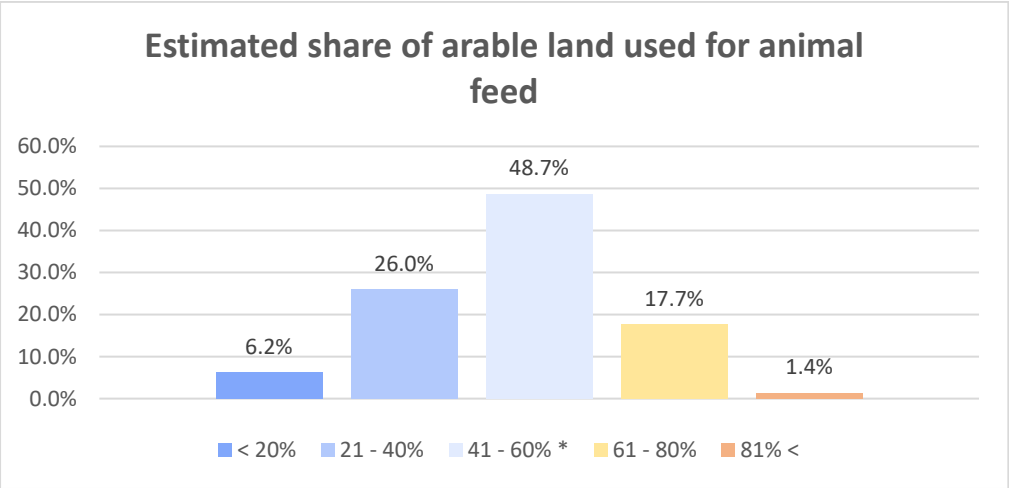

Figure 33: Estimated proportion of arable land used to produce animal feed.

A look at the cross table of treatment and the estimated share of arable land for animal feed shows a few differences among the treatments can be noted, especially for the answer categories 21-40 % and 41-60 %, where respondents from treatment 2 answered 21-40 % more frequent than 41-60 % compared to the other two treatments (Table 27).

Estimated share of arable land used for animal feed					
	<20%	21-40%	41-60%	61-80%	81%<
Treatment 1	8.2%	22.4%	49.0%	19.0%	1.4%
Treatment 2	4.3%	34.1%	42.8%	18.1%	0.7%
Treatment 3	6.0%	22.0%	54.0%	16.0%	2.0%

Table 27: Estimated share of arable land used for animal feed grouped by treatment.

To test for significant differences among the treatments, a Kruskal-Wallis test was performed. The treatment did not show a significant difference (p-value = 0.508).

Table 28 gives an overview over all the results from the performed statistical tests for the three objective knowledge questions.

Kruskal-Wallis – Influence of treatments on objective knowledge questions								
	On-farm feed				Imported feed			Arable land for animal feed
	Cattle fattening	Dairy cattle	Pigs	Chicken	Cattle	Pigs	Chicken	
Asymptomatic sig.	**0.026****	0.181	0.255	0.804	0.891	0.094*	0.081*	0.508
df	2	2	2	2	2	2	2	2
Post hoc	T2 – T3: z = -2.664, p = 0.023	-	-	-	-	-	-	-

*Table 28: Overview of results of statistical tests for the objective knowledge questions with treatments. ** significance * indicates a possible trend*

Hypothesis 3 is only supported in one case and only as far, as there is a difference in the answers among the treatments, but not that treatment 1 positively influences the answers. Instead, treatment 2 differs from treatment 3, but only in one case and for one category of animals. Thus, it is clear, that hypothesis 3 must be rejected.

This suggests that there are possibly other influences that determine the answers to the objective knowledge questions of participants.

4.2.5 To what extent do select personal characteristics have an influence on the perception

The previous chapter has illustrated, that different treatments had mostly no effect, except for the purchase intention. As suspected, it is possible that there are other factors that influence the perceptions of respondents. These are suspected in the characteristics of the participants, e.g., diet, as the interviews have already shown. To exploratively assess the role of co-variables several multiple linear regressions were conducted with and without Bootstrapping, please refer to chapter 3.2.8.2 for an overview.

The following hypothesis were tested with the MLR:

- *H4: Existing prior knowledge about Swiss animal agriculture reduces the positive influence of the showcase advertisement in treatment 1.*
- *H5: Age does not influence the perception of the advertisements in treatments 1 and 2.*
- *H6: People who eat a vegan or vegetarian diet view the advertisements shown more critically than people who eat an omnivorous diet.*

Emotions:

The multiple regression analysis shows that the diet and the proximity to the agricultural sector have significant influence on the emotions participants have towards Swiss animal agriculture, $F(16,410) = 30.005$, $p < .001$, $n = 427$. The following effects can be noted:

The less meat or animal products participants eat, the more negative becomes their emotional view on Swiss animal agriculture, e.g., by 0.96 points more negative for flexitarians, 1.306 points for vegetarians and 2.069 points for vegans, see Figure 34 where that effect can be also noted visually.

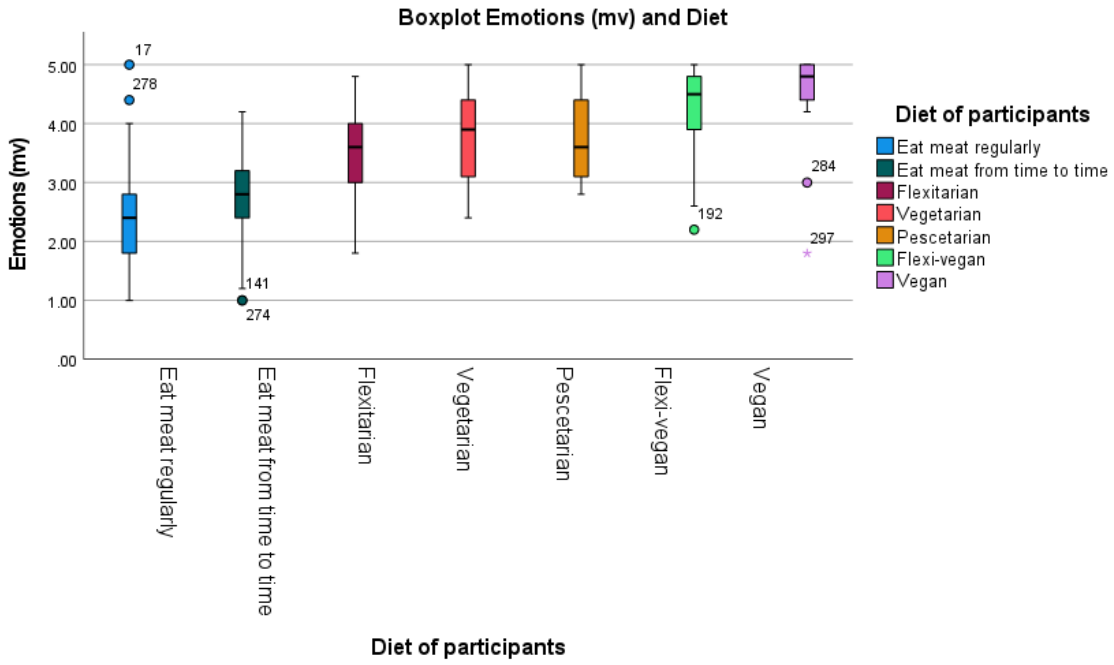

Figure 34: Boxplot of emotions (mixed variable) and diet.

The further the proximity to the agricultural sector the more negative becomes the emotional view on Swiss animal agriculture, by an average of 0.080 points. This effect can also be seen visually when looking at the boxplots in Figure 35.

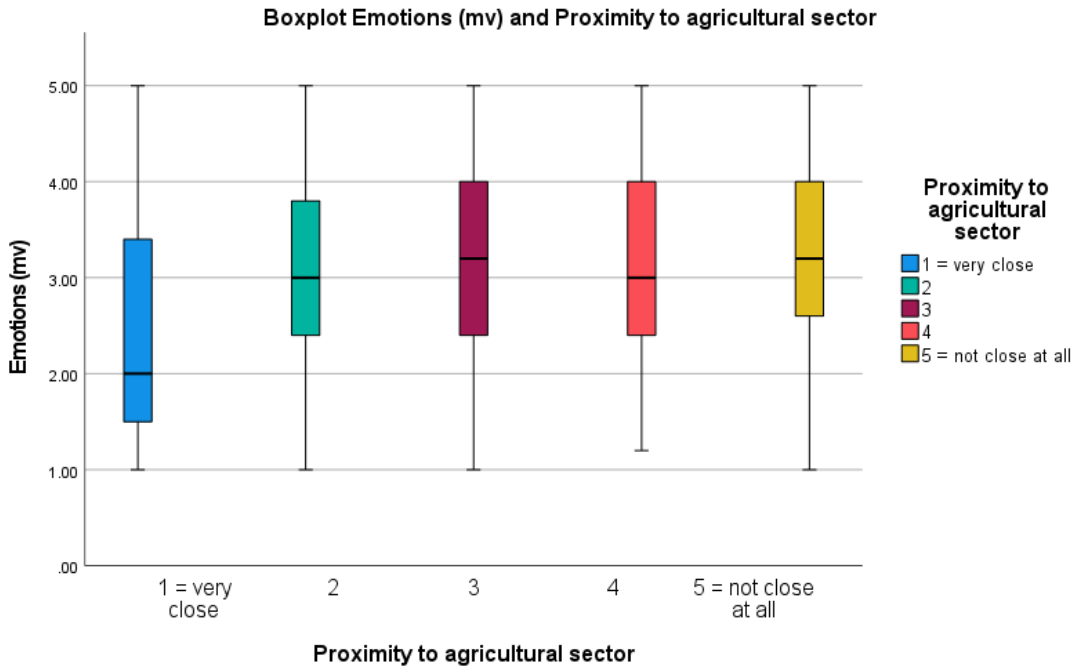

Figure 35: Boxplot of emotions (mixed variable) and proximity to agricultural sector.

Hypothesis 4 assumes, that existing prior knowledge about the topic of Swiss animal agriculture would reduce the positive influence of the showcase advertisement, but the MLR does not show a significant difference ($p = 0.059$). This can be possibly interpreted as a trend but is not statistically significant.

52% of the dispersion (corr. R^2 = 0.521) in the emotions is explained by the independent variables, which according to Cohen (1992) corresponds to a strong effect. The remaining variation is explained by factors beyond the scope of the model. Table 29 gives an overview of the relevant values for the MLR model. For a more detailed MLR table for emotions (mv) see appendix (starting page 118).

	Dependent variables		
	Emotions (mv)		
Independent variable	Unstandardized	Standardized	Standard error
Constant	1.794		0.316
Treatment 1	0.068	0.031	0.085
Treatment 2	0.087	0.039	0.086
Diet 2 (meat from time to time)	0.401***	0.168	0.096
Diet 3 (Flexitarian)	0.960***	0.341	0.114
Diet 4 (Vegetarian)	1.306***	0.350	0.139
Diet 5 (Pescetarian)	1.236***	0.151	0.283
Diet 6 (Flexi-vegan)	1.807***	0.530	0.137
Diet 7 (Vegan)	2.069***	0.518	0.154
Gender 2 (Male)	-0.021	-0.010	0.075
Gender 3 (Diverse)	-0.011	-0.001	0.299
Age	0.000	-0.005	0.003
Education	0.015	0.015	0.035
Knowledge (mv)	0.090	0.074	0.047
Proximity to agricultural sector	0.080*	0.097	0.031
Place of residency 2 (countryside)	-0.148	-0.067	0.094
Place of residency 3 (agglomeration)	-0.162	-0.073	0.089
R^2	0.539		
Corr. R	0.521		
F	(df=16;410) 30.005		

*p < 0.05; **p < 0.01; ***p < 0.001

Table 29: Multiple Linear Regression model for emotions (mv).

Values:

The multiple regression analysis shows that the diet and the proximity to the agricultural sector have significant influence on the emotions participants have towards Swiss animal agriculture, F(16,411) = 20.790, p < .001, n = 428. The following effects can be noted:

The less meat or animal products participants eat, the more negative becomes the values they associate with Swiss animal agriculture, e.g., by 0.721 points more negative for flexitarians, 1.006 points for vegetarians and 1.699 points for vegans, see Figure 36 where that effect can be also noted visually.

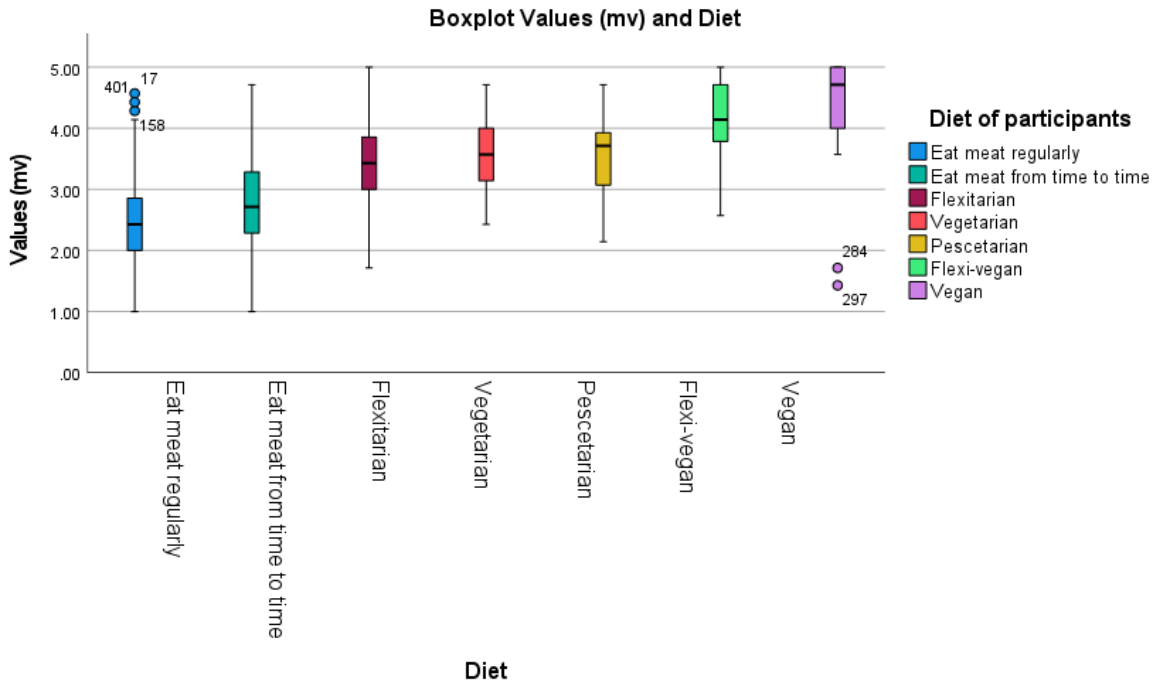

Figure 36: Boxplot values (mixed variable) and diet.

The further the proximity to the agricultural sector the more negative becomes the values they associate with Swiss animal agriculture, by an average of 0.122 points. This effect can also be seen visually when looking at the boxplots in Figure 37.

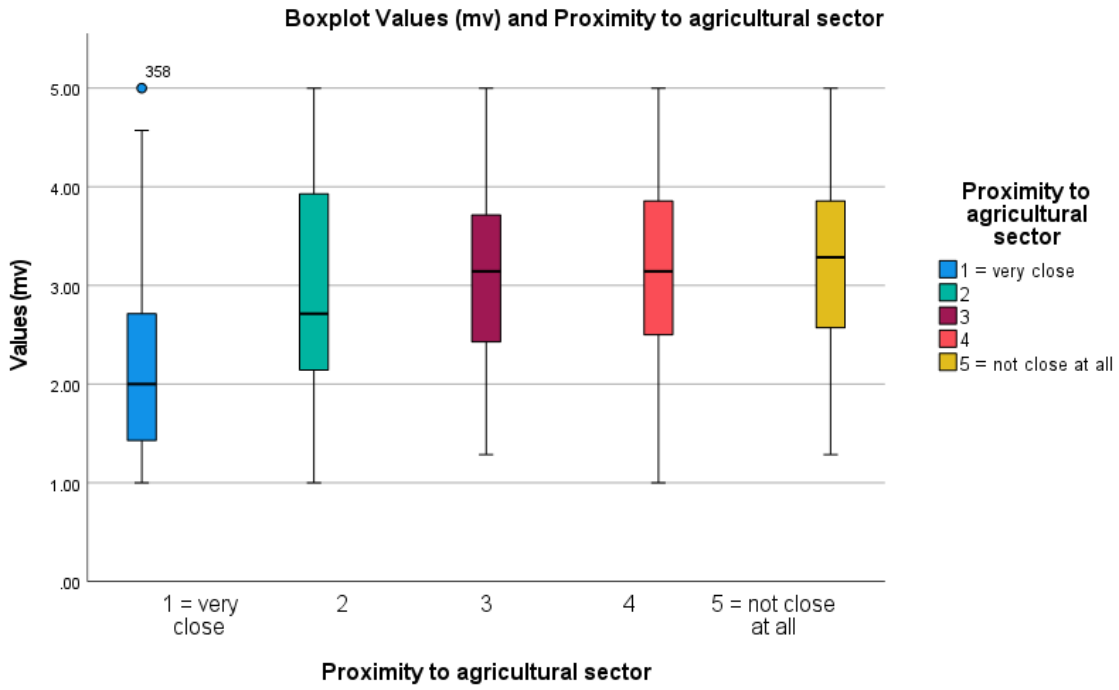

Figure 37: Boxplot values (mixed variable) and proximity to agricultural sector.

Hypothesis 4 assumes, that existing prior knowledge about the topic of Swiss animal agriculture would reduce the positive influence of the showcase advertisement, but the MLR does not show a significant difference (p = 0.065). This can be possibly interpreted as a trend but is not statistically significant.

43% of the dispersion (corr. R^2 = 0.426) in the values is explained by the independent variables, which according to Cohen (1992) corresponds to a strong effect. The remaining variation is explained by factors beyond the scope of the model. Table 30 gives an overview of the relevant values for the MLR model. For a more detailed MLR table for values (mv) see appendix (starting page 118).

	Dependent variables		
	Values (mv)		
Independent variable	Unstandardized	Standardized	Standard error
Constant	1.922		0.323
Treatment 1	0.020	0.010	0.087
Treatment 2	0.056	0.027	0.087
Diet 2 (meat from time to time)	0.223*	0.100	0.097
Diet 3 (Flexitarian)	0.721***	0.274	0.116
Diet 4 (Vegetarian)	1.006***	0.289	0.142
Diet 5 (Pescetarian)	0.811**	0.107	0.289
Diet 6 (Flexi-vegan)	1.484***	0.467	0.140
Diet 7 (Vegan)	1.699***	0.456	0.158
Gender 2 (Male)	0.072	0.037	0.076
Gender 3 (Diverse)	-0.264	-0.032	0.306
Age	-0.003	-0.037	0.003
Education	0.001	0.001	0.036
Knowledge (mv)	0.090	0.079	0.049
Proximity to agricultural sector	0.122***	0.158	0.032
Place of residency 2 (countryside)	-0.167	-0.082	0.096
Place of residency 3 (agglomeration)	-0.109	-0.053	0.091
R^2	0.447		
Corr. R	0.426		
F	(df=16;411) 20.790		

*p < 0.05; **p < 0.01; ***p < 0.001

Table 30: Multiple Linear Regression model for values (mv).

Perceived Greenwashing:

The multiple regression analysis shows that the diet, age, proximity to agriculture and the place of residency have significant influence on the perceived Greenwashing towards the shown advertisements or Swiss meat advertising in general, F(16,417) = 12.887, p = 0.003, n = 434. Treatment or knowledge (mv) did not have any effect. As the residuals were not normally distributed, the MLR was executed with bootstrapping (10'000 samples, 95 % confidence interval), to get robust results. The bootstrapping has confirmed the significance. The following effects can be noted:

The less meat or animal products participants eat, the higher was the perceived Greenwashing, e.g., by -0.518 points for flexitarians, -0.693 for flexitarians and -1.110 for vegans. See Figure 38 where that effect can be also noted visually. Thus, in this aspect hypothesis 6 is supported.

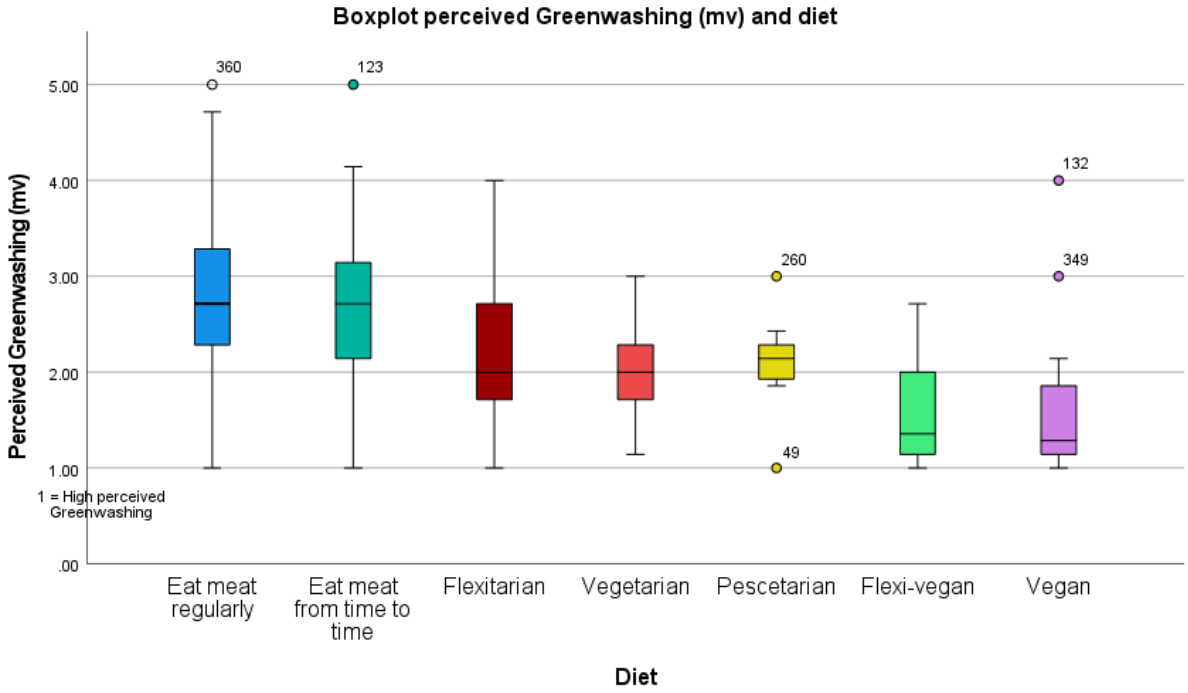

Figure 38: Boxplot perceived Greenwashing (mixed variable) and diet.

The older people are, the less Greenwashing they perceive, by an average of 0.007 points. When looking at Figure 39 the overrepresentation of younger people becomes apparent, but with the Loess adjustment line to recognize a trend, it also becomes apparent that older participants perceived less Greenwashing than younger ones, except for the youngest participants, which also perceive less Greenwashing. Here hypothesis 5 is not supported, as a statistically significant difference is given for the age of participants.

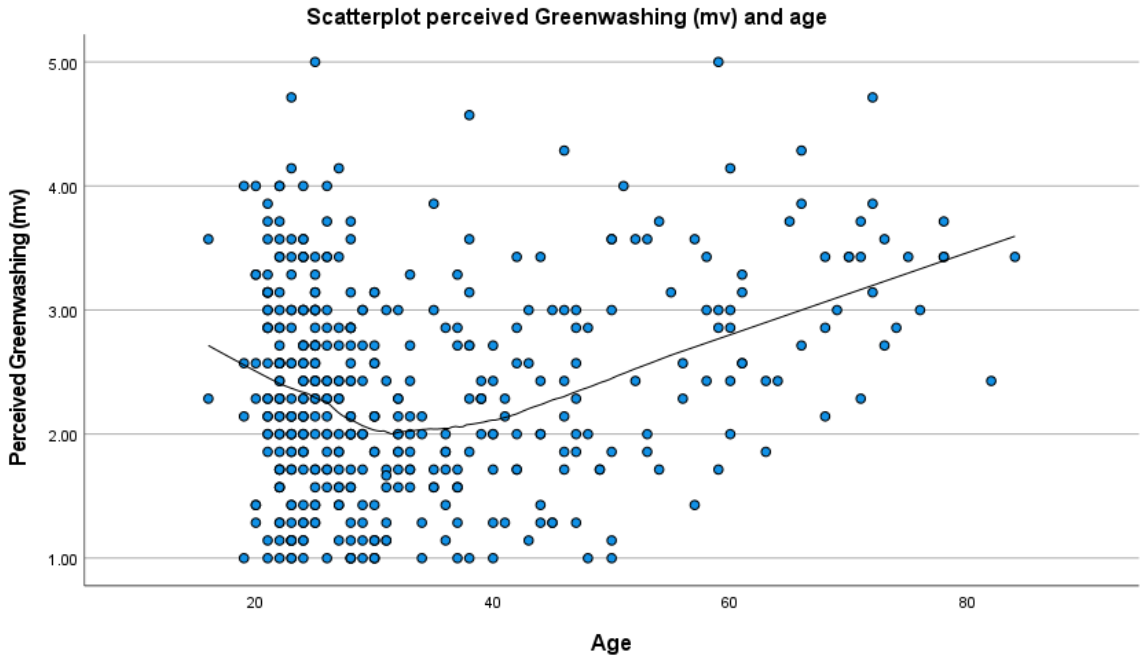

Figure 39: Scatterplot perceived Greenwashing (mv) and age with LOESS adjustment line to show trends.

The further the proximity to the agricultural sector the more Greenwashing they perceive, by an average of -0.068 points. This effect can also be seen visually when looking at the boxplots in Figure 40.

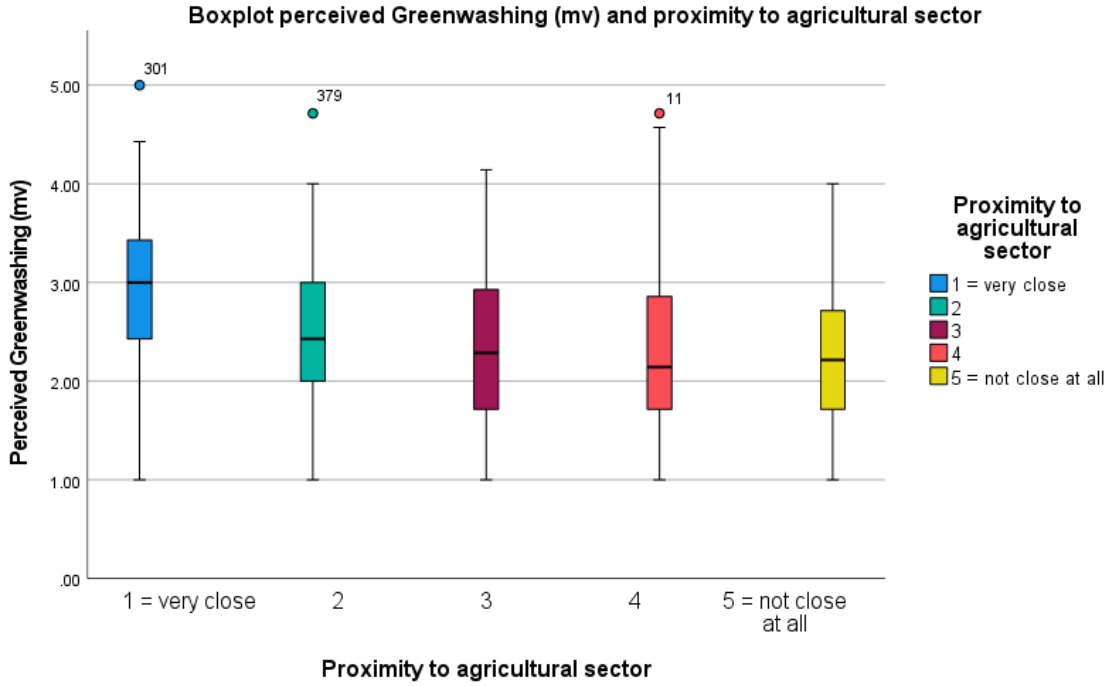

Figure 40: Boxplot perceived Greenwashing (mixed variable) and proximity to agricultural sector.

Compared to the reference place of residency (in the city) people living in the countryside perceive less Greenwashing, by an average of 0.231 points, see also Figure 41.

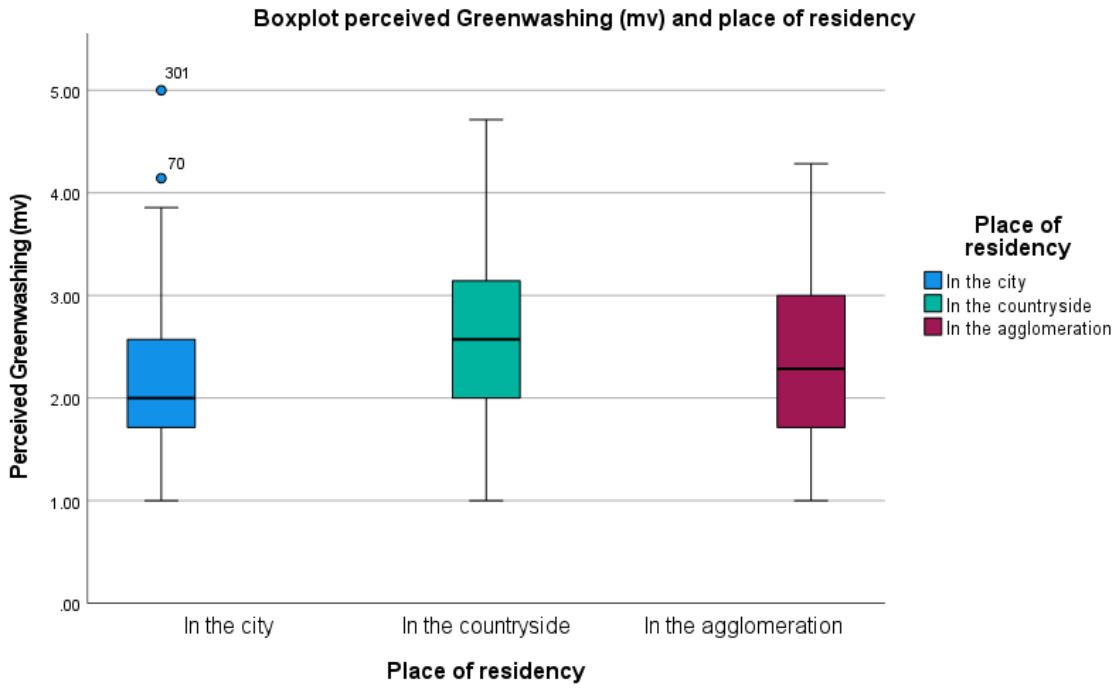

Figure 41: Boxplot perceived Greenwashing (mixed variable) and place of residency.

Hypothesis 4 assumes, that existing prior knowledge about the topic of Swiss animal agriculture would reduce the positive influence of the showcase advertisement, but the MLR does not indicate a significant difference (p = 0.345).

30% of the dispersion (corr. R^2 = 0.305) in the values is explained by the independent variables, which according to Cohen (1992) corresponds to a strong effect. The remaining variation is explained by factors beyond the scope of the model. Table 31 gives an overview over the relevant values for the MLR model. For a more detailed MLR table for perceived Greenwashing (mv) see appendix (starting page 118).

	Dependent variables				
	Perceived Greenwashing (mean)			Bootstrapping[a]	
Independent variable	Unstandardized	Standardized	Standard error	Confidence interval (95 %)	Standard error
Constant	2.862		0.308		
Treatment 1	0.022	0.012	0.082		
Treatment 2	0.018	0.010	0.083		
Diet 2 (meat from time to time)	-0.088	-0.046	0.092		
Diet 3 (Flexitarian)	-0.518***	-0.225	0.111	[-.770, -.261][b]	0.128
Diet 4 (Vegetarian)	-0.693***	-0.227	0.135	[-.910, -.462][b]	0.106
Diet 5 (Pescetarian)	-0.574*	-0.086	0.277	[-1.062, -0.95][b]	0.241
Diet 6 (Flexi-vegan)	-1.051***	-0.377	0.134	[-1.302, -.794][b]	0.126
Diet 7 (Vegan)	-1.110***	-0.340	0.151	[-1.411, -.779][b]	0.163
Gender 2 (Male)	-0.039	-0.023	0.073		
Gender 3 (Diverse)	0.471	0.065	0.293		
Age	0.007**	0.125	0.003	[.002, .013][b]	0.003
Education	-0.015	-0.018	0.034		
Knowledge (mv)	-0.044	-0.044	0.046		
Proximity to agricultural sector	-0.068*	-0.101	0.030	[-.131, -.006][b]	0.032
Place of residency 2 (countryside)	0.231*	0.130	0.091	[.043, .418][b]	0.097
Place of residency 3 (agglomeration)	0.067	0.037	0.086		
R^2	0.331				
Corr. R	0.305				
F	(df=16;417) 12.887				

*p < 0.05; **p < 0.01; ***p < 0.001

[a] per BCa-Bootstrapping with 10'000 BCa-samples
[b] based on 9967 samples

Table 31: Multiple Linear Regression model for perceived Greenwashing (mv).

Purchase intention:

The multiple regression analysis shows that the treatment, diet and the proximity to the agricultural sector have significant influence on the purchase intention of the advertised meat or Swiss meat, $F(12,299) = 10.952$, $p < .001$, $n = 312$. As the residuals were not normally distributed, the MLR was executed with bootstrapping (10'000 samples, 95 % confidence interval), to get robust results. The bootstrapping has confirmed the significance, except for "eat meat from time to time". The following effects can be noted:

Confirming the findings from chapter 4.2.4.2 treatment 2 influenced the purchase intention of participants. Compared to the control treatment participants stated to be less likely to buy the advertised meat, by -0.962 points. See the previous Figure 29 in the above-mentioned chapter on page 73 to see the effect visually.

The less meat or animal products participants eat, the less likely they are to buy the meat, by -0.771 points for flexitarians, see Figure 42 where that effect can be also noted visually.

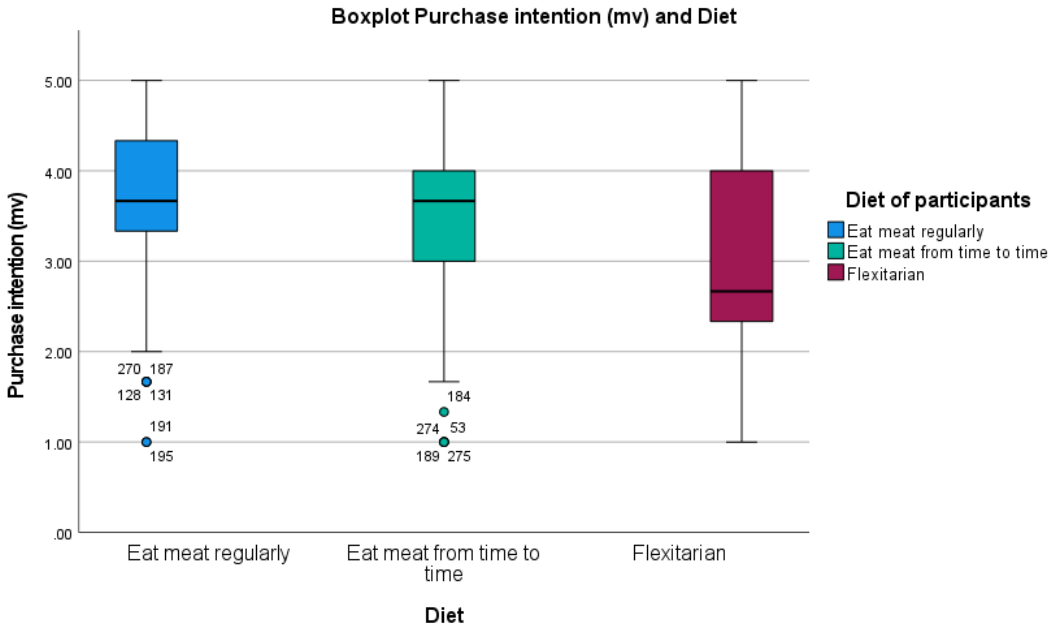

Figure 42: Boxplot of purchase intention (mixed variable) and diet.

The closer the proximity to the agricultural sector the more likely participants become to buy the advertised meat or Swiss meat, by an average of 0.118 points. This effect can also be seen visually when looking at the boxplots in Figure 43.

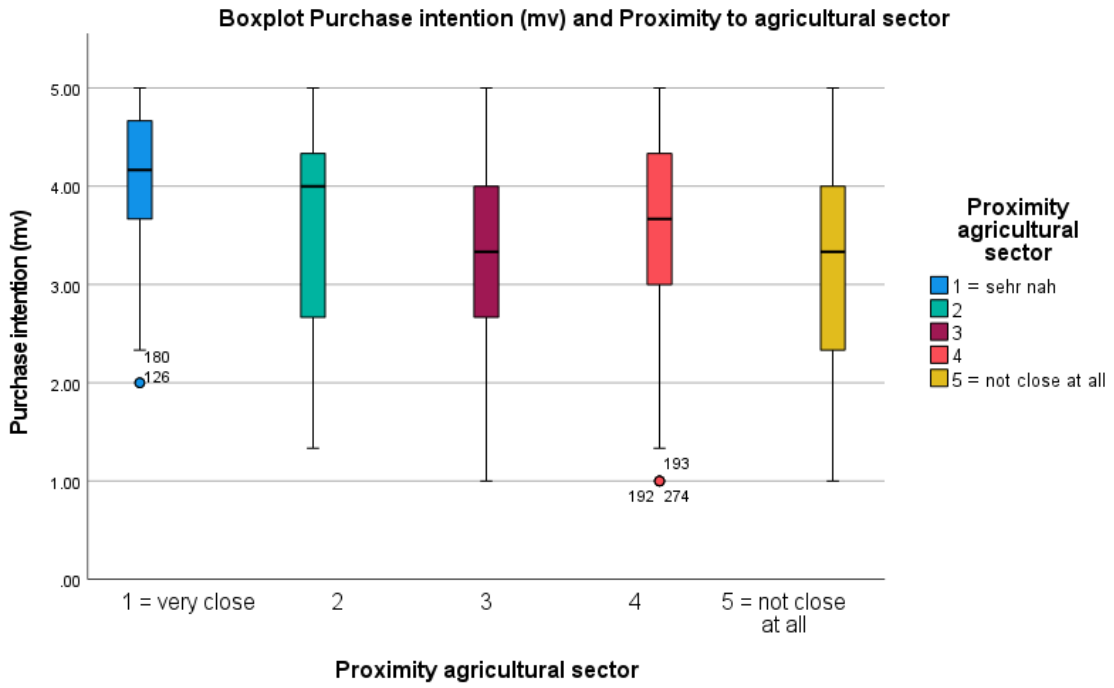

Figure 43: Boxplot purchase intention (mixed variable) and proximity to agricultural sector.

Hypothesis 4 assumes, that existing prior knowledge about the topic of Swiss animal agriculture would reduce the positive influence of the showcase advertisement, but the MLR does not indicate a significant difference (p = 0.914). In the aspect of purchase intentions hypothesis 5 is supported, as no statistically significant difference is given for the age of participants (p = 0.238).

28% of the dispersion (corr. R^2 = 0.277) in the values is explained by the independent variables, which according to Cohen (1992) corresponds to a strong effect. The remaining variation is explained by factors beyond the scope of the model. Table 32 gives an overview over the relevant values for the MLR model. For a more detailed MLR table for purchase intention (mv) see appendix (starting page 118).

	Dependent variables				
	Purchase intention (mean)			Bootstrapping[a]	
Independent variable	Unstandardized	Standardized	Standard error	Confidence interval (95 %)	Standard error
Constant	4.545		0.441		
Treatment 1	-0.020	-0.009	0.123		
Treatment 2	-0.962***	-0.427	0.123	[-1.200, -.717][b]	0.121
Diet 2 (meat from time to time)	-0.238	-0.109	0.118	[-.470, .000][b,c]	0.12
Diet 3 (Flexitarian)	-0.771***	-0.307	0.142	[-1.064, -.456][b]	0.144
Gender 2 (Male)	-0.162	-0.078	0.106		
Gender 3 (Diverse)	0.367	0.028	0.638		
Age	0.004	0.061	0.003		
Education	-0.046	-0.046	0.051		
Knowledge (mv)	0.007	0.006	0.067		
Proximity to agricultural sector	-0.118**	-0.147	0.044	[-.203, -.034][b]	0.44
Place of residency 2 (countryside)	0.107	0.049	0.136		
Place of residency 3 (agglomeration)	0.117	0.052	0.131		
R^2	0.305				
Corr. R	0.277				
F	(df=12;299) 10.952				

*p < 0.05; **p < 0.01; ***p < 0.001

[a] per BCa-Bootstrapping with 10'000 BCa-samples

[b] based on 6442 samples

[c] percentile method

Table 32: Multiple Linear Regression model for purchase intention (mv).

Objective knowledge questions

As the treatments did not have any influence on the objective knowledge question, MLRs with bootstrapping (10'000 samples, 95 % confidence interval), were executed to explore the influences of participants characteristics for each objective knowledge question.

Objective knowledge question estimation on-farm feed:

For each animal category a MLR with bootstrapping was executed (10'000 BCa samples), to have a robust model. It became apparent, that the influencing variables were not the same for each animal category.

The table down below gives an overview over the relevant values from the MLRs conducted (Table 33), with p-value, regression coefficient, the BCa confidence interval from the bootstrap and the R^2, f statistics and statement of the strongness of the effect after Cohen (1992). When looking at the table it is noticeable that the independent variable influencing the answer to the objective knowledge question about the amount of on-farm feed the most, was diet. Diet influenced all answers, except for pigs, since that model was not significant at all (p = 0.258). Flexi-vegans and vegans tended to estimate the percentage of farms, that can feed their animals only with on-farm feed lower (e.g., by -0.364 points for cattle fattening for flexi-vegans), than participants with other diets. Treatment 2 also had a negative effect, by an average of -0.258 points compared to the control treatment, but this effect could only be noted for cattle fattening. Proximity to agricultural sector seems to partly play a role as well, as the models indicated differences for two animal categories (cattle fattening and dairy cattle), which indicates, that the further away from the agricultural sector a participant is, the less the estimation of farms which can feed their animals with on-farm feed, by an average of -0.125 points for cattle fattening and -0.187 for dairy cattle. Interestingly for chicken the education and knowledge seemed to have an influence: the higher the education, the less the estimation (average of -0.107 points) and the higher the knowledge, the less estimated number of farms can feed their animals only with on-farm feed (average of -0.188 points). What needs to be noted, is that all models do not explain much of the variance in the independent variables, ranging between 5 and 10 % (chicken: corr. R^2 = 0.057, cattle fattening: corr. R^2 = 0.095, dairy cattle: corr. R^2 = 0.102), which are weak or medium effects according to Cohen (1992).

For the complete tables with all values for the MLR models for on-farm feed, please see appendix (starting page 118).

Overview MLR models for estimation on-farm feed						
	Treatment	**Diet**	**Proximity to agricultural sector**	**Place of residency**	**Education**	**Knowledge (mv)**
Cattle fattening	Treatment 2: p = 0.09, b = -2.58 BCa confidence interval (95 %) [-0.449, -0.076]	Flexi-vegan: p = 0.021, b = -0.364 BCa confidence interval (95 %) [-0.651, -0.062]	P < 0.001 b = -0.125 BCa confidence interval (95 %) [-0.207, -0.043]			
	MLR model significant: p < .001, Corr R^2 0.095, F (df= 16, 417) 3.841, weak effect (Cohen, 1992)					
Dairy cattle		Flexi-vegan: p = 0.023, b = -0.407 BCa confidence interval (95 %) [-0.746, -0.060] Vegan: p = 0.019, b = -0.472 BCa confidence interval (95 %) [-0.835, -0.087]	p < 0.001, b = -0.187 BCa confidence interval (95 %) [-0.269, -0.104]	Agglomeration: p = 0.048, b = .227 BCa confidence interval (95 %) [0.004, 0.456]		
	MLR model significant: p < .001, Corr R^2 0.102, F (df= 16, 417) 4.086, medium effect (Cohen, 1992)					
Pigs	MLR model not significant: p = 0.258					
Chicken		Flexi-vegan: p = 0.016, b = -0.452 BCa confidence interval (95 %) [-.785, -.100] Vegan: p = 0.019, b = -0.495 BCa confidence interval (95 %) [-0.825, -0.148]			p = 0.025, b = -0.107 BCa confidence interval (95 %) [-.192, -.024]	p = 0.004, b = -0.188 BCa confidence interval (95 %) [-.340, -.036]
	MLR model significant: p < .001, Corr R^2 0.057, F (df= 16, 417) 2.629, weak effect (Cohen, 1992)					

Table 33: Overview over MLR models for estimation farms feeding animal only on-farm feed.

Objective knowledge question estimation imported feed:

For each animal category a MLR with bootstrapping was executed (10'000 BCa samples), to have a robust model. It became apparent, that the influencing variables were not the same for each animal category.

The table down below gives an overview over the relevant values from the MLRs conducted (Table 34), with p-value, regression coefficient, the BCa confidence interval from the bootstrap and the R^2, f statistics and statement of the strongness of the effect after Cohen (1992). When looking at the table it is noticeable that the independent variable influencing the answer to the objective knowledge

question about the amount of imported feed most, was again diet. Diet influenced all answers, except for chickens, since that model was not significant at all (p = 0.123). Vegetarians and vegans tended to estimate the percentage of imported animal feed higher (e.g., by 0.394 points for cattle for vegetarians or 0.451 points for vegans), than participants with other diets. Other than that gender, proximity to agricultural sector and place of residency influenced the answer for the animal category cattle, but not for the other two. Males tended to estimate the amount of imported feed lower, by an average of -0.276 points compared to females. The further participants were to the agricultural sector, the higher the estimation for imported feed for cattle (by an average of 0.119 points) and compared to the city, the agglomeration tended to estimate the amount of imported feed lower (average of -0.280 points). Again, as for the estimation on-farm feed, the models do not explain much of the variance in the independent variables, ranging between 3 and 8 % (pigs: corr. R^2 = 0.036, cattle: R^2 = 0.079), which are weak effects according to Cohen (1992).

For the complete tables with all values for the MLR models for imported feed, please see appendix (starting page 118).

Overview MLR models for estimation imported feed				
	Diet	**Gender**	**Proximity to agricultural sector**	**Place of residency**
Cattle	Vegetarian p = 0.025, b = 0.394 BCa confidence interval (95 %) [0.093, 0.693] Vegan: p = 0.022, b = 0.451 BCa confidence interval (95 %) [0.017, 0.860]	Malen: p = 0.004, b = -0.276 BCa confidence interval (95 %) [-0.466, -0.091]	P = 0.003 b = 0.119 BCa confidence interval (95 %) [0.032, 0.202]	Agglomeration: p = 0.013, b = -0.280 BCa confidence interval (95 %) [-0.510, -0.48]
	MLR model significant: p < .001, Corr R^2 0.079, F (df= 16, 417) 3.327, weak effect (Cohen, 1992)			
Pigs	Vegetarian p = 0.027, b = 0.420 BCa confidence interval (95 %) [0.072, 0.772]			
	MLR model significant: p = .012, Corr R^2 0.036, F (df= 16, 417) 2.010, weak effect (Cohen, 1992)			
Chicken	MLR model not significant: p = 0.123			

Table 34: Overview over MLR models for estimation far imported animal feed.

Objective knowledge question estimation of arable land used for animal feed:

A MLR with bootstrapping was executed (10'000 BCa samples), to have a robust model.

The only independent variable, which influenced the answers is diet, though only for flexi-vegans and vegans compared to the reference diet (eat meat regularly) F(16,417) = 2.26, p = .0037, n = 434. As the

residuals were not normally distributed, the MLR was, see Table 35. Flexi-vegans estimated the amount of arable land used for the production higher, by an average of 0.507 points, vegans even higher, by an average of 0.735 points. This model also does not explain much of the variance in the independent variables, only 4% (corr. R^2 = 0.044), which corresponds to a weak effect according to Cohen (1992).

For the complete tables with all other independent variables for the MLR model for arable land used to produce animal feed, please see appendix (starting page 118).

	Dependent variable:				
	Estimation arable land used for animal feed			Bootstrapping[a]	
Independent variable	Unstandardized	Standardized	Standard error	Confidence intervals	Standard error
Constant	2.440		0.361		
Diet 6 (Flexivegan)	0.507**	0.182	0.157	[0.214, 0.799][b]	0.149
Diet 7 (Vegan)	0.735***	0.225	0.177	[0.391, 1.082][b]	0.168
R^2	0.080				
Corr. R	0.044				
F	(df=16;417) 2.260				

*p < 0.05; **p < 0.01; ***p < 0.001

[a] per BCa-Bootstrapping with 10'000 BCa-samples

[b] based on 9971 samples

Table 35: Overview MLR model for estimation amount of arable land used to produce animal feed.

5 Discussion

5.1 Discussion of results

In the following, the results of this thesis will be discussed and thus the research questions answered. For this purpose, the results from the interviews, visualizations and the online survey were related to each other (if they built up on each other) and to the literature (chapter 2) or methodology (chapter 3), if applicable.

5.1.1 Qualitative interviews:

5.1.1.1 Interviews

Understanding and perception of advertising campaigns for Swiss animal agriculture

The interviews gave a first impression on the research question how advertisements for Swiss animal agricultural products are perceived and understood by consumers.

Most participants mentioned the topic of manipulation, which indicates a reflective attitude towards the encountered advertisements. By participants raising the issue of manipulation themselves, this supports the statement of P. Baur & Krayer (2021) that the advertisements are misleading, but in the case of these participants they do not let themselves be manipulated, at least to their own assessment and reflectiveness. Participants also mentioned that they know that these advertisement images are not real. What happens unconsciously could not be determined with the interviews and was not part of this thesis. However, there is an indication, that the advertisements for Swiss animal agriculture products aired in Switzerland shape the perceptions of consumers, as P. Baur & Krayer (2021) suggested: The first associations for Swiss animal agriculture a few of the participants had, were cows on meadows, which were also described by them as beautiful advertisement images. Some of the social and cultural activities associated with meat consumption mentioned by interviewees are also the ones that are used by advertisements according to Delliston (2021), which would further incline, that the perceptions are shaped by advertising.

The overall attitude toward the advertisements is mixed and the ranges from negative attitude to likes the commercials with omnivores and an overall negative view from vegans. This proposes that the view of advertisements differ depending on the background, which would be consistent with Aitken et al. (2008). The statement that the advertisings do exactly match the taste of meat eaters, from the participant that likes the advertisement shows, that possibly entertainment, value addition and post-purchase reassurance could be reasons for some meat eaters to enjoy meat advertisements. The reasons are derived from chapter 2.1.1 (Crosier, 1983).

While there were six participants, who do eat meat, it became apparent when interviewing them, that they were rather conscious of their meat consumption and that some of them eat meat only under special conditions or try to eat less meat. This indicates that these participants are not exactly the average consumer, since the amount of meat an average Swiss person consumes is relatively high, if the numbers from chapter 2.2.1 are recalled, which say that in 2020 people consumed 50.91 kg of meat (Leuenberger, 2021a). Since some stated, that the unreality and exaggeration of advertisements is clear

to them, it would be indicated, that they can evaluate advertising. But this would be premature to say, as they do not represent the general public.

Image of Swiss animal agriculture

As mentioned, associations with Swiss animal agriculture of interviewees correspond with images and symbols Azaoui et al. (2022) found in their study that are often used in advertisements, e.g., cows on meadows. But as with the understanding and perception of advertisements, the interviewees have a more differentiated view, they state they know, that these images do not correspond to reality. Cows on meadows were mentioned as a first association, but after that followed more distinct images, especially when asking for view on animal welfare, sustainability and compared to abroad: Swiss animal agriculture is mostly viewed as better compared to abroad (with few exceptions), especially regarding rules, controls, and animal welfare. Even if Swiss animal agriculture scores well in this aspect it is clear to participants that there are more and more big farms in Switzerland as well. Sustainability seems to be a topic, that was difficult for some interviewees, as knowledge was lacking in that regard, but the view was rather negative. Social and cultural activities and events associated by participants with the consumption of meat, for example barbecuing together or Swiss traditional holidays, are also used in meat advertising (Azaoui et al., 2022; Delliston, 2021), which further strengthens the role meat plays in these events and activities.

A very interesting aspect was, that participants without agricultural background mentioned, that they do not exactly know, how Swiss animal agriculture works and some attribute this to poor knowledge transfer. This would be congruent to the agroecologist Jenny's statement, that the topic is very complex and most are not well informed (Wirz, 2015). Vegans on the other hand deem themselves well informed, as they invested to educate themselves on the matter, but it was not possible to determine how good their knowledge is in objective terms.

The views differ the most if a person has an omnivorous diet or a plant based diet, which could also be seen in the semantic differential for emotions (chapter 4.1.1.6, Figure 8) where vegans answered much more negative than omnivores, even though the interviewed omnivores are considered to be more reflective than the average Swiss.

5.1.1.2 Visualizations

While conducting the interviews it became apparent, that interviewees rather have most associations on one end of the spectrum (positive and negative) than associations, which could be allocated in the middle, thus a slight tendency to the extremes is attributed. Because of that image one and image four ("ideal image" and "negative image") correspond the most to what participants said, leaving the other two images to be a bit more interpreted by the author. Still there were hints and some ideas from interviewees, which could be used to set the key theme of the images and thereby differentiated images could nevertheless be created, following from positive to negative. The search for inspiration before drawing supplemented these ideas accordingly.

5.1.2 Online survey

It needs to be kept in mind, that the sample of the online survey was distorted regarding the following aspects:

- Diet of participants: The proportion of people who do not eat meat or animal products is too high (nearly 30 %, if flexitarians are included even over 40 %) compared to the Swiss population as a whole (5.3 % vegetarians and 0.7 % vegans in 2022 (WEMF, 2022)), see Table 12 on page 57.
- Age of participants: With over 56 % of participants being between 21 to 30 years old, this age category is overrepresented, as well as older categories, especially starting from 41 years old underrepresented, see Table 14 on page 58.
- Participants with a higher education are overrepresented with over 40 % having finished for example high school ("Matura") and over 35 % having finished e.g., a university, compare Table 15 on page 59.
- The self-assessed knowledge of participants is high, with more than 45 % having studied the topic either in depth or being more familiar with the topic, see Table 19 page 62.

5.1.2.1 What image do respondents have of Swiss agriculture?

The participants of the online survey had a rather mixed and thus most likely reflected image of Swiss animal agriculture, but they leaned slightly towards a more negative image, when looking at the emotions and values associated with Swiss animal agriculture (see Figure 17 and Figure 18), similar to participants of the interviews. This becomes particularly clear in the selection of images: Image 3 "rather negative image" was the one that was chosen most frequently by participants, regardless of the treatment. But it also needs to be pointed out, that the second most frequent chosen image is image 2 "rather positive image". As a result, this would again point to a mixed picture of Swiss animal agriculture among participants.

Taking into consideration the complexity of the topic and the not given representativity of the sample, it becomes clear that this view cannot speak for the entire Swiss population and that it could also look different with a more diverse and representative sample.

5.1.2.2 How are the selected advertising campaigns for Swiss meat understood?

Similar to interviewees it was clear to participants of the online survey in treatment 1 and 2, that the images they saw in the advertisements did not depict reality, especially for treatment 1, the showcase advertisement (see Figure 21 on page 68). Here the topic knowledge of participants possibly has had them adequately place the images, as suggested in the referenced literature (Parguel et al., 2015). Regarding perceived Greenwashing the item "shows product like encountered in the store" indicates a few interesting findings: For many respondents in treatment 1 it was clear that the showcase advertisement (where no meat is shown, only animals) does not show the product like encountered in store, especially compared to treatment 2, which in the end did depict meat pieces. Treatment 3 is in the middle of both, which would indicate, that, if no advertisement in mind, people are quite torn, if advertisements show the product like in the store (see Figure 22 page 69). The overall perceived Greenwashing was, however, quite balanced, which would in turn speak for the reflectiveness of the

participants, or rather the scepticism towards Swiss meat advertising. When taking into consideration the distorted sample, these answers are plausible, as the interviews already showed, that vegetarian or vegan participants are likely to view Swiss animal agriculture and their advertisements more critical.

To evaluate these values, it is helpful to take a quick look at Figure 44, which shows that the majority of the respondents answered the control question about the videos correctly. This means, they have heard the sound of the video and thus heard relevant information. The difference between Treatment 1 and Treatment 2 can probably be explained by the more technical control question for Treatment 2: Particularly animal-friendly housing certified (BTS certified). It is possible, that respondents were unsure and thus answered no.

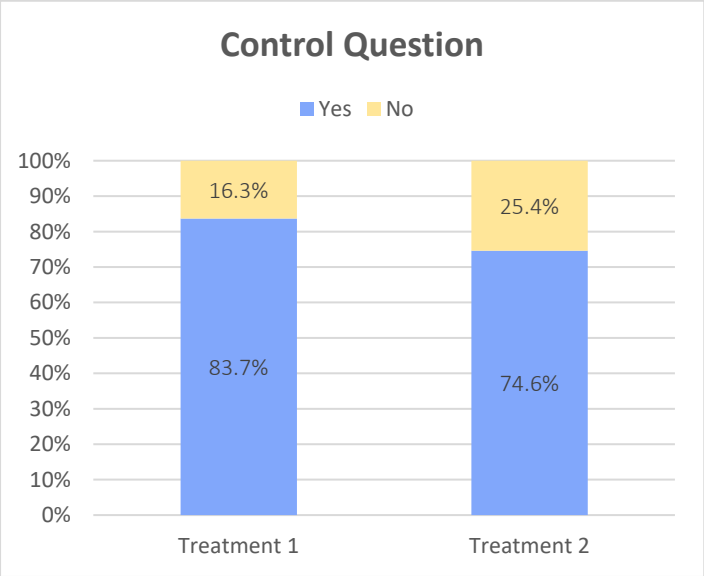

Figure 44: Answer of respondents to the control question regarding the advertisements showed in treatment 1 and 2, "yes" being correct.

Interestingly, when looking at if respondents agree with statements towards the advertisers or advertisement in general, treatment 3 was the most positive (see Figure 24 page 70). Even though the differences are not as big, this would speak for the finding Parguel et al. (2015) references, which states, that the influence of advertisements on the advertised brand are already influenced by the previous opinion of the respective brand.

5.1.2.3 Do the selected advertising campaigns influence consumers' perceptions and purchase intentions?

H1: Consumers' perceptions differ within the treatment groups: They are positively influenced by viewing the showcase advertisement in treatment 1.

It was assumed, that the different treatments would have a significant influence on the perceptions of Swiss animal agriculture, indicated by the emotions (mv), values (mv) and perceived Greenwashing (mv). The statistical tests indicated that no significant differences were found among the treatments. This is possibly explainable because of the distorted sample, as many of the participants were too informed to be influenced by the advertisements, thus their topic knowledge had successfully

countered the influence of the advertisements, similar to the findings of Parguel et al. (2015). Thus hypothesis 1 must be rejected, as the perceptions do not differ among the treatment groups

Hypothesis 2: Consumers' intentions to buy meat differ between the treatment groups: They are positively influenced by viewing the showcase advertisement in treatment 1.

As the showcase advertisement gives information about the feeding and husbandry of the animals, this information can possibly directly influence the answers participants give about the intention to purchase the advertised meat, since animal welfare is an important point for consumers (see chapter 3.1.1, Müller et al. (2019)). Thus, it was assumed, that the positive showcase advertisement influences the answers positively. This could not be confirmed directly, but the treatment did indeed have an effect, not just as expected: As while treatment 1 and treatment 3 did not really differ from each other, the statistical test gave a significant difference for treatment 2. Respondents from treatment 2 are less likely to buy the advertised meat. This is probably due to the fact that they either do not trust the statement "BTS certified", which would also speak for a low level of trust in Lidl as a supermarket, or that participants generally have a poorer image of Lidl and attribute it with lower quality, environmental friendliness and animal friendliness, which is as also evident in Figure 28 page 73. Hypothesis 2 must be rejected, even though treatment 2 had an influence, but the hypothesis assumed that treatment 1 would have a positive influence, which could not be ascertained compared to the control treatment.

H3: The consumer's answers to the objective knowledge questions are influenced positively by viewing the showcase advertisement from treatment 1: They answer that more farms feed solely on-farm feed, fewer farms import feed, and farmers use less arable land to produce animal feed.

The advertisement in treatment 1 makes statements, which could positively influence the answers to objective knowledge questions. But the treatment only had an influence in one animal category (cattle fattening) and one question (estimation farms that feed animals with only on-farm feed) and it was for treatment 2, not 1. Thus hypothesis 3 must be rejected. The influence of treatment 2 could possibly also be attributed to the perhaps more negative view about Lidl.

5.1.2.4 Do selected personal characteristics have an influence on the perception

H4: Existing prior knowledge about Swiss animal agriculture reduces the positive influence of the showcase advertisement in treatment 1.

Since for none of the conducted MLRs, except one, knowledge (mv) was an influencing independent variable, hypothesis 4 must be rejected, since only one effect could be observed but no overall effect. The only effect observed is for one of the objective knowledge questions (on-farm feed, animal category chicken, see chapter 4.2.5, section objective knowledge question estimation on-farm feed). Even though there is a tendency to be seen in other models that knowledge does have an influence (see for example chapter 4.2.5, section emotions or values) and could thus possibly moderate the positive influence of the showcase advertisement in treatment 1, it was not statistically significant. Because of this trend, another MLR model was executed, this time for knowledge (mv) as dependent variable, which showed, that the diet does influence the amount of self-assessed knowledge of participants (the less meat or animal products, the more knowledge). Further the proximity to the agricultural sector

and the place of residency had an influence on the self-assessed knowledge (see appendix for the table of the MLR, starting page 118). If this knowledge is included, it becomes clear, why the knowledge (mv) for self-assessed knowledge did not have a significant influence: Especially diet and proximity to agricultural sector play a role in nearly all MLR models. Thus, these can be considered the driving variables for answers of participants. What is particularly noteworthy is that these two aspects also made the biggest difference in the interviews.

It would be interesting to see, if knowledge would play a crucial role, if e.g., non-meat eaters would be excluded, by creating either a sub-sample without them, or by acquiring a new sample without non-meat eaters. Also, the knowledge (mv) variable might need overthinking, since proximity to agricultural sector was significant, which would imply a higher knowledge.

H5: Age does not influence the perception of the advertisements in treatments 1 and 2.

Hypothesis 5 must be rejected, as in the MLR model for perceived Greenwashing (mv) age did indeed play a role. The youngest seemed to perceive less Greenwashing, while young to middle aged people perceived more Greenwashing and the oldest perceived less Greenwashing again (see Figure 39 page 84), which would correspond to both findings: (1) younger people (e.g., university students) are more sensitised to environmental topics an thus less susceptible to the influences of Greenwashing (do Paço & Reis, 2012) and (2) from a certain point, older people are again more susceptible to influences (Mohr & Kühl, 2021). But it should not be forgotten that the obtained sample is distorted, and more younger people than older are included in the sample, which does not allow any conclusions to be drawn about the general population.

H6: People who eat a vegan or vegetarian diet view the advertisements shown more critically than people who eat an omnivorous diet.

Hypothesis 6 must be accepted, as in both MLR models regarding the perception of the advertisements (purchase intention (mv) and perceived Greenwashing (mv)) were significant for diet. In general diet was the most influencing dependent variable, affecting ten of twelve important MLR models, which was already apparent in the interviews.

Additionally, the MLRs showed, that the influence of other factors was given next to diet. The second most important is proximity to agricultural sector, which influenced seven out of twelve MLR models. Both independent variables were also identified as criteria for the interviews and showed their influence there as well. With influencing two MLR models, the place of residency is the third determining independent variable. Both diet and proximity to agricultural sector were identified beforehand as relevant, to conduct the interviews. These finding are important to take into consideration for further studies.

Gender, except for one objective knowledge question, did not play a role in the answers of participants, similar to the findings of do Paço & Reis (2012), which found no difference for gender in their study.

The explorative approach appeared to be promising, even though no treatment effect could be noted for the perception of Swiss animal agriculture and advertisement, interesting, results were nevertheless acquired, giving further material to be investigated.

5.2 Critical evaluation and limitations

In general, the methodical approach has proven successful. By first using the interviews as a pre-study, the topic could be understood more deeply from a Swiss perspective, as literature research showed a gap regarding the image, that Swiss have on Swiss animal agriculture and advertising. First assumptions could be confirmed via the interviews (diet and topic knowledge playing a role in the perception of Swiss animal agriculture and advertising) and measures tested for the online survey. This proved helpful, as otherwise the emotion and value semantic differentials wouldn't have turned out as differentiated, as they were in the end, even if the pre-test of the online survey has also given input for improvement. But to conduct these both semantic differentials took a lot of time during the interviews and hence the time was rather short. With less time for the differentials and more time for the questions possibly some more associations and images could be elicited from participants which in turn could have possibly made the visualizations more differentiated.

The selection of the interviewees can be critically questioned in the aspect, that they were all acquired via the ZHAW online survey distribution list. Hence, they were rather well educated and mostly people interested in the topic have signed up for the interviews. This can also be seen in the results, even though not all of them were very well informed about the topic, they all have already taken a closer look at their meat consumption and reflected the view they have of Swiss animal agriculture (e.g., they know that the images first coming to mind are not necessarily the truth). It was also difficult to find someone that has "no idea" about the topic and thus only one such person was interviewed. It can be assumed that the perception of Swiss animal agriculture and the advertising for it is more diverse than what could be gathered from the interviews. As it was meant as a pre-study the author argues that this is acceptable, as the images created are quite different from each other.

With eight interviews, the amount of material gathered was sufficient to create four different visualizations. This allowed to test the usage of created images to depict images of Swiss animal agriculture in the online survey, which turned to work quite well. A limitation is that for reasons of restrictions the images were limited to depict cattle farming. Depending on the animal, the picture of Swiss animal agriculture probably changes for participants. For this thesis, however, this limitation was purposeful, since beef commercials were also shown within two of the treatments and participants were thus attuned to this image. This was also the first association people in the interviews had, which shows that Swiss animal agriculture is associated with cattle farming.

As the sample of the online survey contains distortions and this research is of rather exploratory nature, there are some limitations, which affect the generalizations of the findings. It could be seen, that the sample was distorted in the following aspects: Diet, as e.g., more vegetarians and vegans were represented (which has also shown to be very crucial for the answers), the sample consisted of more rather young people, the education level was quite high and the knowledge of participants could be interpreted as rather high as well, with over 45% stating they studied the topic in depth or are more

familiar with it. As Parguel et al. (2015) stated topic knowledge can influence perceptions and Mohr & Kühl (2021) had a similar problem in their study, where they suspected biased results.

It was decided to use the advertisement from the case of Vision Landwirtschaft and the Swiss Fairness Commission to have a direct to have a direct relation to the decision of the Swiss Fairness Commission, which proved to be purposeful, even though treatment 1 did not have any influence on the perceptions and purchase intentions of participants. Though it can be argued, apart from the fact that the sample was distorted, that using existing advertisements of existing brands/advertisers could influence the answers of participants. Modifying the scales to have fewer middle answers could also be considered for future studies. For this thesis middle answers were few and thus weren't considered a problem.

The mixed variables are considered useful to measure the concepts. It only remains unclear if the self-assessed knowledge of participants is the optimal way, as it is self-assessed knowledge and not based on objective questions. In terms of the study design this approach made sense since objective knowledge questions were used to check if there were influences from the treatments or other factors. Naderer & Opree (2021) mentioned in their study, that, similar to the survey in this thesis, they already had many objective knowledge questions included in the survey and thus did not want to frustrate participants by adding more objective knowledge questions to measure the knowledge of participants objectively. Thus, they used self-assessed knowledge questions as well. What could not be assessed in the online survey, is if there are response biases caused by social desirability, for example.

Regarding the MLRs, they built a great foundation to see, if there are other characteristics influencing the answers in the perception of Swiss animal agriculture and the advertisements. While it became obvious, that the diet is very determining in the perceptions of the advertisements and Swiss animal agriculture, it could be interesting to exclude people who do not eat meat from a future study, if the effect of the advertisements on people who consume the product wants to be assessed. For this first study, it made sense to keep participants who do not eat meat in the sample, to assess the effects of the advertisements on them as well. Another point to think about could be the high knowledge, because unlike the average Swiss, who doesn't know much about Swiss animal agriculture according to Markus Jenny (Wirz, 2015), the participants were quite knowledgeable. Further, the models indicate, that there is still variation in the different variables, which is not explained by the used independent variables. This could limit the findings in the sense, that the set of variables to include in the models is not yet exhausted. But for a first explorative study, some determining variables were found and the search for other variables could be seen as a further field to analyse.

5.3 Further research

This thesis builds a first basis for a multi-layered and complex topic. A lot of further research is needed to grasp the topic in its entirety and to bring the research about the perceptions of Swiss animal agriculture and the influences of advertisements for animal products further.

By conducting more interviews, which only focus on the perceptions of Swiss animal agriculture, with more diverse participants, more and possibly more diverse visualizations could be created, which could be used for further research. This would also help to strengthen research in the area of the perception of Swiss animal agriculture, which would bring a more thorough understanding what images with the

Swiss population exists and why. This could detect further implications, that the perception of Swiss animal agriculture is influenced by advertisement images and unveil possible discrepancies between imaginations and reality. Further it could imply measures for regulations and references to be taken for communications that present an overembellished picture of Swiss agriculture. More interviews could also be conducted to deepen the knowledge of the understanding consumers have of Swiss animal product advertisements.

For the online survey, as the sample was distorted, it is suggested to replicate the study with a commercial and possibly more representative sample for Switzerland, taking into consideration a few of the points mentioned in chapter 5.2 and considering adapting them if needed. This is important, to research, if the treatments have an influence, as it couldn't be resolved conclusively with the present sample. Other factors were too influential, e.g., participants were too sensitised, thus, further multiple linear regression models should be computed with a new sample.

It could be considered to use imaginative advertisements in order to avoid an influence from prior attitudes towards the advertisers, similar to Torelli et al. (2020), or to use advertisements from small unknown companies or farms, as Neureiter et al. (2022) did. Another option could be to create a better variable which can measure the construct of brand perception and include it as an independent variable or use a measure to green scepticism, similar to do Paço & Reis (2012), and include it in the MLRs as well.

A further consideration could be the different approach towards the assessment of participants knowledge as mentioned in chapter 5.2. It could be interesting to see, that if objective knowledge questions are used to measure the knowledge of participants, if the influence of the resulting knowledge variable would have a different influence on the perceptions of Swiss animal agriculture. If measured differently, the topic knowledge could possibly be a moderator towards the influences of a showcase advertisement, as in the study of Parguel et al. (2015).

While for the online survey the data for the free text answer what participants first associate with Swiss animal agriculture was gathered, out of limitation reasons, which included the unexpectedly high sample size (n = 435), it was decided not to analyse these answers. A further step could be to analyse them by building term groups. These could give further input for the visualizations, to either leave them or revise them, by e.g., adding more details or create further visualizations. By looking at all the terms and comparing them within the treatments a possible difference for the treatments could be detected. This could also be done with a new sample, as it is expected that the answers in the sample used for this thesis are too distorted.

6 Conclusion

As present research indicates, the perception of advertisement is a complex process, and different relationships can exist between advertisements and consumers (Aitken et al., 2008). Considering that the topic of agriculture is also multi-layered and complex, the result is a topic consisting of many overlaps and a web of entangled factors that influence each other.

Despite limitations, this thesis contributes to a better understanding of the perception and influence of advertisements on Swiss consumers in the field of Agriculture animal products and of the image consumers have of Swiss animal agriculture.

Perception and understanding of advertisements of Swiss animal agriculture products:

This thesis showed that advertisements are perceived and understood differently, influenced by the recipients' background and characteristics. Respondents of both the interviews and the online survey had a relatively reflective and mixed attitude towards the advertisements for Swiss animal agriculture products, mostly knowing that the depicted images are not authentic. This would speak for topic knowledge to play a role, which has been shown to be determined by the diet of participants and the proximity to Swiss agriculture. Participants were somewhat sceptical towards the advertisements, as perceived Greenwashing was quite balanced.

Image of Swiss animal agriculture:

The image of grazing cows on meadows is ingrained in Swiss animal agriculture participants' images. The advertisements could have contributed to strengthening that association. Swiss animal agriculture enjoys a better reputation than abroad, especially regarding regulations and animal welfare. The thesis also shows that there are social and cultural activities deeply connected to meat consumption, which is reinforced by advertising using such images for their advertisements. The image respondents have depended on their personal characteristics, as in both the interview and online survey, diet and proximity to the agricultural sector were determining how Swiss animal agriculture was perceived, and the tendency leans toward a slightly more negative image. In general, it can be said that the image respondents have possibly does not match the view of the general Swiss population, as in recent years, votes concerning agriculture have been rejected by the Swiss population, e.g., the initiative against factory farming (Pirskanen, 2022).

Influence of advertisements on consumer's perceptions of Swiss animal agriculture and purchase intention of meat:

The different treatments did not influence the perception of Swiss animal agriculture. The only influence of the treatments concerned the purchase intention of the advertised meat, as respondents in treatment 2 were less likely to purchase the advertised meat. These findings speak for a more sceptical view towards discounters (Lidl) than Swiss meat from Proviande or Swiss meat in general. The treatments had no influence on the objective knowledge question except for one case, where treatment 2 had a negative influence. Generally, the models for the objective knowledge questions did not explain much of the variance in the answers.

While the thesis could not answer conclusively if the showcase advertisement influenced participants' perceptions and purchase intentions, the overall findings are still valuable, enabling research to explore the topic further.

Influence of personal characteristics on the perception

As suggested in research, the personal characteristics of participants of this thesis online survey had the most significant influence on the perception, whether of Swiss animal agriculture, the advertisements or purchase intention. The crucial characteristics in both interview and online survey were diet and proximity to agriculture. Knowledge tended to influence but was not statistically significant. This could either be because the self-assessed knowledge is lower than respondents think or because the diet influenced knowledge in the survey sample. Especially in this regard, these are first valuable insights, but further research is needed to assess the different influences that personal characteristics could have fully.

General conclusion:

In summary, this thesis has contributed to the state of research in the field of advertisement perception and influence and the image of Swiss animal agriculture in Switzerland. The findings of this thesis cannot be concluded as generally valid, as in both the interview and online survey, rather conscious, not average, consumers participated. Thus, it needs to be clarified how, for example, people who are less concerned with their meat consumption or less knowledgeable perceive and understand the advertisements and if or how they influence them.

Regarding the Swiss Fairness Commission statement, the showcase advertisement had no influence for this sample, and participants could evaluate the advertisements. However, it also must be noted that the advertisement from treatment 1 was not perceived as more Greenwashing than the ones from the other two treatments, which implies that to them, the Greenwashing was not more apparent and thus, even though they were sceptical participants that were not influenced by the advertisement, they did also not perceive it as more Greenwashing than the others. Therefore, and due to the distorted sample, which does not represent the general public, it cannot be conclusively said that the advertisements do not influence the average consumer. Hence, the author recommends that to examine further if the statement of the Swiss Fairness Commission applies to average Swiss consumers, further research is needed.

Nevertheless, the results are relevant to Vision Landwirtschaft and the Swiss Fairness Commission. They can contribute to a better understanding of the influence of advertisements on consumers, even though the study's limitations imply that more research is needed for a complete grasp of the topic. Thus, the work has also revealed some open questions that should be further explored in future research. Overall, the present thesis can be considered an important first step towards understanding the perception and influence of advertisements in Swiss animal agriculture and provides a solid basis for further research in this field.

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References

Abelin, T., Sandoz, V. B., Jeanrenaud, C., & Meister, L. (2014). *Neue Erkenntnisse zu Marketing und Werbung bei Tabakerzeugnissen—Eine Übersicht zu gesetzlichen Massnahmen und ihrer Wirksamkeit*. Eidgenössische Kommission für Tabakprävention (EKTP). https://www.bag.admin.ch/bag/de/home/das-bag/organisation/ausserparlamentarische-kommissionen/eidgenoessische-kommission-sucht-praevention-ncd-eksn/ehemalige-apk-suchtbereich/stellungnahmen-publikationen-ektp.html

Agroscope. (2021). *Anteil Betriebe mit Futterzukauf* [Buchhaltungsdaten].

Aitken, R., Gray, B., & Lawson, R. (2008). Advertising effectiveness from a consumer perspective. *International Journal of Advertising*, *27*(2), 279–297. https://doi.org/10.1080/02650487.2008.11073055

Azaoui, B., Blanvillain, C., Kohler, A., & Lebreton-Reinhard, M. (2022). *Von manipulativer Werbung auf unsere Teller: Eine Schweizer Studie über die Werbung für tierische Produkte*. schweiz@greenpeace.org greenpeace.ch/publikation/85093/eine-schweizer-studie-ueber-die-werbung-fuer-tierische-produkte/

Baur, P., & Krayer, P. (2021). *Schweizer Futtermittelimporte: Entwicklung, Hintergründe, Folgen* [102,application/pdf]. https://doi.org/10.21256/ZHAW-2400

Baur, P., & Rentsch, H. (2008). *Agrarpolitische Mythen: Argumente und Versachlichung der Debatte* (1. Aufl). Neue Zürcher Zeitung NZZ Libro.

Bingaman, J., Kipkoech, G., & Crowley, J. P. (2022). Inoculation & Greenwashing: Defending Against Misleading Sustainability Messaging. *Communication Reports*, *35*(3), 135–147. https://doi.org/10.1080/08934215.2022.2048877

Blisard, N. (1999). *Advertising and What We Eat*. 8.

BLV, B. für L. und V. (2018, June 8). *Marketing und Werbung*. https://www.blv.admin.ch/blv/de/home/lebensmittel-und-ernaehrung/ernaehrung/werbung-und-marketing.html

Brester, G. W., & Schroeder, T. C. (1995). The Impacts of Brand and Generic Advertising on Meat Demand. *American Journal of Agricultural Economics*, *77*(4), 969–979. https://doi.org/10.2307/1243820

Bretscher, D., Ammann, C., Wüst, C., Nyfeler, A., & Felder, D. (2018). Reduktionspotenziale von Treibhausgasemissionen aus der Schweizer Nutztierhaltung. *Agrarforschung Schweiz*, 8.

Bryman, A. (2012). *Social research methods* (4th ed). Oxford University Press.

Bunčić, S., Krstić, J., & Kostić-Stanković, M. (2021). Cognitive biases in marketing communication: Influence of anchoring and message framing on consumers' perception and willingness to purchase. *Marketing*, *52*(2), 103–117. https://doi.org/10.5937/mkng2102103B

Chen, Y., & Chang, C. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*, *50*(3), 502–520. https://doi.org/10.1108/00251741211216250

Chen, Y.-S., & Chang, C.-H. (2013). Greenwash and Green Trust: The Mediation Effects of Green Consumer Confusion and Green Perceived Risk. *Journal of Business Ethics*, *114*(3), 489–500. https://doi.org/10.1007/s10551-012-1360-0

Chen, Y.-S., Huang, A.-F., Wang, T.-Y., & Chen, Y.-R. (2020). Greenwash and green purchase behaviour: The mediation of green brand image and green brand loyalty. *Total Quality Management & Business Excellence*, *31*(1–2), 194–209. https://doi.org/10.1080/14783363.2018.1426450

Chou, S., Rashad, I., & Grossman, M. (2008). Fast-Food Restaurant Advertising on Television and Its Influence on Childhood Obesity. *The Journal of Law and Economics*, *51*(4), 599–618. https://doi.org/10.1086/590132

Cohen, J. (1992). Statistical Power Analysis. *Current Directions in Psychological Science*, *1*(3), 98–101. https://doi.org/10.1111/1467-8721.ep10768783

Coulter, R. A., Zaltman, G., & Coulter, K. S. (2001). Interpreting Consumer Perceptions of Advertising: An Application of the Zaltman Metaphor Elicitation Technique. *Journal of Advertising*, *30*(4), 1–21. https://doi.org/10.1080/00913367.2001.10673648

Crosier, K. (1983). Towards a Praxiology of Advertising. *International Journal of Advertising*, *2*(3), 215–232. https://doi.org/10.1080/02650487.1983.11104975

Das Schweizer Parlament. (2015, March 20). *15.3316 | Staatliche Fleischwerbung im Widerspruch zum Ressourcenschutz | Geschäft | Das Schweizer Parlament*. Die Bundesversammlung — Das Schweizer Parlament. https://www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20153316

Das Schweizer Parlament. (2020a, September 24). *20.4176 | Absatzförderung für Schweizer Fleisch im Widerspruch zu den Verfassungszielen zur Ernährungssicherheit? | Geschäft | Das Schweizer Parlament*. Die Bundesversammlung — Das Schweizer Parlament. https://www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20204176

Das Schweizer Parlament, K. (2020b, December 17). *20.1085 | Werbung für Schweizer Fleisch oder sachliche Konsumenteninformation? | Geschäft | Das Schweizer Parlament*. Die Bundesversammlung — Das Schweizer Parlament. https://www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20201085

de Freitas Netto, S. V., Sobral, M. F. F., Ribeiro, A. R. B., & Soares, G. R. da L. (2020). Concepts and forms of greenwashing: A systematic review. *Environmental Sciences Europe*, *32*(1), 19. https://doi.org/10.1186/s12302-020-0300-3

Delliston, N. (2021). *Dissected—The 7 myths of big meat's marketing*. Greenpeace Denmark. https://www.greenpeace.ch/de/die-wahrheit-hinter-den-kulissen-der-fleischwerbung/

DGE (Deutsche Gesellschaft für Ernährung e.V.). (n.d.). *ARBEITSBLÄTTER ZUR FACHINFORMATION Die Dreidimensionale DGE-Lebensmittelpyramide*. DGE Bonn. Retrieved 20 October 2022, from https://www.dge.de/gesunde-ernaehrung/dge-ernaehrungsempfehlungen/dreidimensionale-dge-lebensmittelpyramide/

DirectPoint. (2023). *Direktwerbung bleibt ein Spitzenreiter im Werbemarkt*. DirectPoint. https://www.directpoint.ch/de/dialogmedien/mediaplanung/werbestatistik-schweiz

do Paço, A. M. F., & Reis, R. (2012). Factors Affecting Skepticism toward Green Advertising. *Journal of Advertising*, *41*(4), 147–155. https://doi.org/10.1080/00913367.2012.10672463

Duden. (2023). *Werbung ▷ Rechtschreibung, Bedeutung, Definition, Herkunft | Duden*. https://www.duden.de/rechtschreibung/Werbung

Dünser, A. (2015, September 5). *„Wir unterschätzen den Einfluss der Werbung"*. thema vorarlberg. https://themavorarlberg.at/gesellschaft/wir-unterschaetzen-den-einfluss-der-werbung

Entman, R. M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*, *43*(4), 51–58. https://doi.org/10.1111/j.1460-2466.1993.tb01304.x

Entman, R. M. (2003). *Projections of Power: Framing News, Public Opinion, and U.S. Foreign Policy*. University of Chicago Press. https://doi.org/10.7208/chicago/9780226210735.001.0001

Favero, L. D. (2021, August 22). *Hitzige Debatte um Werbeverbot für Billigfleisch* [News]. Nau. https://www.nau.ch/news/wirtschaft/hitzige-debatte-um-werbeverbot-fur-billigfleisch-65984934

Felder, D. (2019). *Agrarbericht 2019—Treibhausgasemissionen aus der Landwirtschaft*. Agrar Bericht 2019. https://2019.agrarbericht.ch/de/umwelt/klima/treibhausgasemissionen-aus-der-landwirtschaft

Fernandes, J., Segev, S., & Leopold, J. K. (2020). When consumers learn to spot deception in advertising: Testing a literacy intervention to combat greenwashing. *International Journal of Advertising*, *39*(7), 1115–1149. https://doi.org/10.1080/02650487.2020.1765656

Friestad, M., & Wright, P. (1994). The Persuasion Knowledge Model: How People Cope with Persuasion Attempts. *Journal of Consumer Research*, *21*(1), 1–31. https://doi.org/10.1086/209380

Giuliani, S. (agristat). (2022). *Statistische Erhebungen und Schätzungen über Landwirtschaft und Ernährung*. Schweizer Bauernverband Agristat. https://www.sbv-usp.ch/de/services/agristat-statistik-der-schweizer-landwirtschaft/statistische-erhebungen-und-schaetzungen-ses

Hall, S. (1974). *Encoding and decoding in the television discourse*. http://epapers.bham.ac.uk/2962/

Hargreaves, S. M., Raposo, A., Saraiva, A., & Zandonadi, R. P. (2021). Vegetarian Diet: An Overview through the Perspective of Quality of Life Domains. *International Journal of Environmental Research and Public Health*, *18*(8), 4067. https://doi.org/10.3390/ijerph18084067

Helfferich, C. (2019). Leitfaden- und Experteninterviews. In N. Baur & J. Blasius (Eds.), *Handbuch Methoden der empirischen Sozialforschung* (pp. 669–686). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-21308-4_44

Hemmerich, W. A. (2023a). Multiple lineare Regression Voraussetzung #1: Lineare Beziehung zwischen den Variablen | StatistikGuru.de. *StatistiGuru*. https://statistikguru.de/spss/multiple-lineare-regression/voraussetzung-lineare-beziehung-zwischen-den-variablen.html

Hemmerich, W. A. (2023b). Multiple lineare Regression Voraussetzung #2: Keine Ausreißer | StatistikGuru.de. *StatistiGuru*. https://statistikguru.de/spss/multiple-lineare-regression/voraussetzung-keine-ausreisser.html

Hemmerich, W. A. (2023c). Multiple lineare Regression Voraussetzung #3: Unabhängigkeit der Residuen | StatistikGuru.de. *StatistikGuru*. https://statistikguru.de/spss/multiple-lineare-regression/voraussetzung-unabhaengigkeit-der-residuen.html

Hollenstein, E. (2022, June 20). *Kritik an Tilsiter-Werbung – Kann Käse klimaneutral sein?* Tages-Anzeiger. https://www.tagesanzeiger.ch/kann-kaese-klimaneutral-sein-726496295095

Huber, P. J. (1981). *Robust Statistics: Huber/Robust Statistics*. John Wiley & Sons, Inc. https://doi.org/10.1002/0471725250

Hudák, M., Madleňák, R., & Brezániová, V. (2017). The impact of advertisement on consumer's perception. *CBU International Conference Proceedings*, *5*, 187–191. https://doi.org/10.12955/cbup.v5.923

Jenny, M., & Hablützel, R. (2021). *Beschwerde gegen Aussagen in der Kampagne «Schweizer Fleisch. Der feine Unterschied» von Proviande*.

https://www.visionlandwirtschaft.ch/de/themen/ressourcenschonende-milch-und-fleischproduktion/newsletter_dezember_21/

Klimaneutrale Landwirtschaft Graubünden. (n.d.). *Projektbeschrieb/Massnahmen—Klimaneutrale Landwirtschaft Graubünden*. Retrieved 28 June 2023, from https://www.klimabauern.ch/projektbeschrieb-massnahmen

Kumar, D., & Chandra, D. S. (2017). *Impact of Advertising on Consumer Perception*. *12*(2), 11.

Leuenberger, H. U. (2021a). *Agrarbericht 2021—Fleisch und Eier*. Agrar Bericht 2021. https://www.agrarbericht.ch/de/markt/tierische-produkte/fleisch-und-eier

Leuenberger, H. U. (2021b). *Agrarbericht 2021—Milch und Milchprodukte*. Agrar Bericht 2021. https://www.agrarbericht.ch/de/markt/tierische-produkte/milch-und-milchprodukte

Lidl Schweiz. (n.d.). *Lidl Image Rindfleisch*. Admeira. Retrieved 27 June 2023, from https://admeira.ch/tv-werbung#Fleisch|6|D|0|||||||404592|D

Metzgereivergleich. (2020). *Fleischkonsum Schweiz: Der Trend geht zum qualitätsbewussten Genuss*. https://www.metzgereivergleich.ch/ratgeber/fleischkonsum-schweiz-der-trend-geht-zum-qualitaetsbewussten-genuss-c:430533

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (Third edition). SAGE Publications, Inc.

Mohr, S., & Kühl, R. (2021). Exploring persuasion knowledge in food advertising: An empirical analysis. *SN Business & Economics*, *1*(8), 107. https://doi.org/10.1007/s43546-021-00108-y

Montero-Navarro, A., González-Torres, T., Rodríguez-Sánchez, J.-L., & Gallego-Losada, R. (2021). A bibliometric analysis of greenwashing research: A closer look at agriculture, food industry and food retail. *British Food Journal*, *123*(13), 547–560. https://doi.org/10.1108/BFJ-06-2021-0708

Müller, V. S., Heim, N., & Collenberg, A. (2019). Status quo, Entwicklungen und Trends im schweizerischen Lebensmittelhandel – Eine Analyse unter besonderer Berück- sichtigung der

Auswirkungen des Markteintritts von Lidl Schweiz vor zehn Jahren. *ZHAW School of Management and Law*, 45.

Naderer, B., & Opree, S. J. (2021). Increasing Advertising Literacy to Unveil Disinformation in Green Advertising. *Environmental Communication*, *15*(7), 923–936. https://doi.org/10.1080/17524032.2021.1919171

Naderer, B., Schmuck, D., & Matthes, J. (2017). 2.3 Greenwashing: Disinformation through Green Advertising. In G. Siegert, M. B. Rimscha, & S. Grubenmann (Eds.), *Commercial Communication in the Digital Age* (pp. 105–120). De Gruyter. https://doi.org/10.1515/9783110416794-007

Neureiter, A., & Matthes, J. (2022). Comparing the effects of greenwashing claims in environmental airline advertising: Perceived greenwashing, brand evaluation, and flight shame. *International Journal of Advertising*, 1–27. https://doi.org/10.1080/02650487.2022.2076510

Parguel, B., Benoit-Moreau, F., & Russell, C. A. (2015). Can evoking nature in advertising mislead consumers? The power of 'executional greenwashing'. *International Journal of Advertising*, *34*(1), 107–134. https://doi.org/10.1080/02650487.2014.996116

Pechmann, C., & Knight, S. J. (2002). An Experimental Investigation of the Joint Effects of Advertising and Peers on Adolescents' Beliefs and Intentions about Cigarette Consumption. *Journal of Consumer Research*, *29*(1), 5–19. https://doi.org/10.1086/339918

Peña, V. A., & Gómez-Mejía, A. (2020). Effect of heuristic anchoring and adjustment, and optimism bias, in stock market forecasts. *Revista Finanzas y Política Económica*, *11*(2), 389–409. https://doi.org/10.14718/revfinanzpolitecon.2019.11.2.10

Piggott, N. E., Chalfant, J. A., Alston, J. M., & Griffith, G. R. (1996). Demand Response to Advertising in the Australian Meat Industry. *American Journal of Agricultural Economics*, *78*(2), 268–279. https://doi.org/10.2307/1243701

Pirskanen, C. (2022, September 25). *Live: Massentierhaltungsinitiative abgelehnt | Abstimmung 2022*. 20 Minuten. https://www.20min.ch/story/so-stimmt-die-schweiz-am-sonntag-ueber-die-massentierhaltung-ab-918828426042

Plec, E., & Pettenger, M. (2012). Greenwashing Consumption: The Didactic Framing of ExxonMobil's Energy Solutions. *Environmental Communication*, *6*(4), 459–476. https://doi.org/10.1080/17524032.2012.720270

Poletti, G. (2022, January 18). *Initiative «Kinder ohne Tabak» – Lassen sich Jugendliche durch Werbung tatsächlich verführen?* [Zeitung]. Der Bund. https://www.derbund.ch/lassen-sich-jugendliche-durch-werbung-tatsaechlich-verfuehren-388878348309

Porst, R. (2000). *Question Wording – Zur Formulierung von Fragebogen-Fragen*. Zentrum für Umfragen, Methoden und Analysen, Mannheim. https://search.gesis.org/publication/gesis-ssoar-20134

POSpulse. (2020, October). *Befragung: Gründe für eine vegane Ernährung 2020* [Statistik]. Statista. https://de.statista.com/statistik/daten/studie/1192354/umfrage/befragung-gruende-vegane-ernaehrung/

Proviande. (2023). *Willkommen bei Proviande*. https://www.proviande.ch/de

Regorz, A. (2022, June 3). *Tutorial Bootstrapping für Regression* [Statistik]. Regorz Statistik. http://www.regorz-statistik.de/inhalte/tutorial_bootstrapping_regression.html

Salter, A. M. (2013). Impact of consumption of animal products on cardiovascular disease, diabetes, and cancer in developed countries. *Animal Frontiers*, *3*(1), 20–27. https://doi.org/10.2527/af.2013-0004

Schuller, J. (2021, May 28). *Repräsentative Umfrage: Konsumenten schätzen Schweizer Qualität und wollen Bauern unterstützen*. bauernzeitung.ch. https://www.bauernzeitung.ch/artikel/organisationen-firmen/repraesentative-umfrage-konsumenten-schaetzen-schweizer-qualitaet-und-wollen-bauern-unterstuetzen-352069

Schweizer Fleisch (Director). (2019a, December 3). *Schweizer Fleisch – Der feine Unterschied von Werner Gschwind*. https://www.youtube.com/watch?v=mXfExN7qpHM

Schweizer Fleisch (Director). (2019b, December 3). *Schweizer Fleisch – Der feine Unterschied von Werner und Jolanda Gschwind – Webisode*. https://www.youtube.com/watch?v=yQRE4YRyrNw

Schweizerische Lauterkeitskommission. (2022a). *Dritte Kammer/Troisième Chambre/Terza Camera 19.1.2022*. https://www.faire-werbung.ch/de/?s=Fleisch

Schweizerische Lauterkeitskommission. (2022b). *Erste Kammer/Première Chambre/Prima Camera 23.3.2022*. https://www.faire-werbung.ch/de/entscheide/

Sigg. (2022, March 23). *«Lauterkeitskommission akzeptiert Schönfärberei»*. infosperber. https://www.infosperber.ch/wirtschaft/werbung-und-pr/schutz-von-schoenfaerberei-lauterkeitskommission-irritiert/

Statistik am PC (Björn Walther) (Director). (2017, September 13). *Wie teste ich Residuen auf Normalverteilung (grafisch, analytisch)? - Daten analysieren in SPSS (19)*. https://www.youtube.com/watch?v=Ibl33-e56U0

Stephenson, A. (2021, November 30). *Heuristics and Shopper Behavior in Market Research—Part 1* [Research]. Explorer Research. https://explorerresearch.com/heuristics-and-shopper-behavior/

Szabo, S., & Webster, J. (2021). Perceived Greenwashing: The Effects of Green Marketing on Environmental and Product Perceptions. *Journal of Business Ethics*, *171*(4), 719–739. https://doi.org/10.1007/s10551-020-04461-0

TerraChoice. (2007). *Six_Sins_of_Greenwashing_nov2007.pdf*. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjW09Hdr8D_AhXsgf0HHSRrBmsQFnoECAgQAQ&url=https%3A%2F%2Fsustainability.usask.ca%2Fdocuments%2FSix_Sins_of_Greenwashing_nov2007.pdf&usg=AOvVaw0pm1qP8lhts1ZJQDGzuIaa

The Decision Lab. (2023a). *Heuristics*. The Decision Lab. https://thedecisionlab.com/biases/heuristics

The Decision Lab. (2023b). *The Decision Lab—Behavioral Science, Applied.* The Decision Lab. https://thedecisionlab.com/biases

Tier im Fokus (TIF). (2018, August 7). *Unlauter! Lauterkeitskommission rügt Proviande wegen Fleischwerbung—Tier-im-fokus.ch*. https://tier-im-fokus.ch/medienmitteilung/bts_fleischwerbung_2018

Tonsor, G. T., Mintert, J. R., & Schroeder, T. C. (2010). U.S. Meat Demand: Household Dynamics and Media Information Impacts. *Journal of Agricultural and Resource Economics*, *35*, 18.

Torelli, R., Balluchi, F., & Lazzini, A. (2020). Greenwashing and environmental communication: Effects on stakeholders' perceptions. *Business Strategy and the Environment*, *29*(2), 407–421. https://doi.org/10.1002/bse.2373

UFAM, B. für U. B. | O. fédéral de l'environnement O. | U. federale dell'ambiente. (2016). *Umweltziele Landwirtschaft*. https://www.bafu.admin.ch/bafu/de/home/themen/thema-biodiversitaet/biodiversitaet--publikationen/publikationen-biodiversitaet/umweltziele-landwirtschaft-statusbericht.html

Universität Zürich. (2023). *Methodenberatung*. http://www.methodenberatung.uzh.ch/de.html

Vision Landwirtschaft. (2022, April 8). *Vision Landwirtschaft—Beschwerde gegen Proviande teilweise gutgeheissen*. Vision Landwirtschaft. https://www.visionlandwirtschaft.ch/de/themen/agrarpolitik-und-direktzahlungen/beschwerde_lauterkeitskommission/

Vision Landwirtschaft. (2023). *Vision Landwirtschaft Über uns*. Vision Landwirtschaft. https://www.visionlandwirtschaft.ch/de/ueber-uns/

Walther, B. (2019a, August 16). Heteroskedastizität in SPSS grafisch erkennen + beheben. *Björn Walther*. https://bjoernwalther.com/heteroskedastizitaet-in-spss-erkennen-grafische-diagnose/

Walther, B. (2019b, August 16). Multikollinearität in SPSS erkennen—Analytische Diagnose. *Björn Walther*. https://bjoernwalther.com/multikollinearitaet-in-spss-erkennen-analytische-diagnose/

Walther, B. (2022, July 22). Normalverteilung in SPSS testen. *Björn Walther*. https://bjoernwalther.com/test_normalverteilung/

Walther, B. (2023). *Startseite*. Björn Walther. https://bjoernwalther.com/

WEMF. (2022, November). *Schweiz—Vegetarier und Veganer 2022* [Statistik]. Statista. https://de.statista.com/statistik/daten/studie/388189/umfrage/umfrage-in-der-schweiz-zu-vegetarischer-ernaehrung/

Wirz, C. (2015, November 6). «Die meisten Leute haben ein verklärtes Bild der Landwirtschaft». *Neue Zürcher Zeitung*. https://www.nzz.ch/gesellschaft/lebensart/gesellschaft/die-meisten-leute-haben-ein-verklaertes-bild-der-landwirtschaft-ld.1067099

Appendix

Appendix A: Examples of studies tackling the problem of misinformation in advertising and literacy regarding influence strategies

More examples of studies tackling the problem of misinformation in advertising and literacy regarding influence strategies, as mentioned in chapter 2.1.3 on page 18.

A German study investigated two advertising literacy measures that should help consumers detect Greenwashing. They compared an informative text and an informative text with a quiz game with a control group without intervention and could conclude that both helped participants to detect Greenwashing better. They suggest that even though participants in the quiz condition had a lower own assessment of the ability to detect Greenwashing, the information and quiz intervention might be the most productive, as it not only heightens the ability to read Greenwashing but also keeps participants critical of their abilities, which could be beneficial (Naderer et al., 2017).

To undermine the effect of Executional Greenwashing, a label depicted as a traffic light brought positive results. For non-expert and expert consumers, the effect of the Executional Greenwashing was no longer present, and the brand image was no longer affected positively: This leads to the conclusion that appropriate forms to convey environmental performance information must be used to counter the effects of Executional Greenwashing (Parguel et al., 2015).

In another study, which focused on a Nike campaign, researchers examined that participants who receive a pre-warning message, for example, "Companies like Nike are greenwashing", before a Nike video about sustainability are likelier not to buy Nike products. They also show less positive feelings towards Nike and are more likely to resist their Greenwashing (Bingaman et al., 2022).

Consumers' perceptions of Greenwashing in vague/false Greenwashing claims and abstract and concrete compensation claims, but also the moderating role of topic environmental knowledge showed that, in contrast to the concrete compensation claims, abstract compensation claims, vague claims, and false claims caused a higher level of perceived Greenwashing among participants. Consumers may perceive green airline ads as incongruent with existing mental representations. They could find no effect for topic knowledge for vague, false, and abstract compensation claims (moderating effect of greenwashed claims), but this could be because of the topic of flying and the image it has. However, topic knowledge helped in concrete compensation claims, possibly for the evaluation (Neureiter & Matthes, 2022)

Appendix B: Interview Guide

Interview Guide

Der untenstehende Fragebogen wurde nach der SPSS Methode nach Döring und Bortz erstellt (Döring & Bortz, 2016).

Master Thesis - MRU Agroecology and Foodsystems, Forschungsgruppe Umweltkommunikation & Umweltbildung	
Datum und Uhrzeit:	
Vor Ort / Video Conferencing Tool:	Vor Ort: Video Conferencing Tool: MS Teams / ZOOM
Interviewerin:	Adriana Garibay
Interviewpartner*in:	
Kriterien:	

Interviewsituation:

- Online-Interview mit Interviewerin und interviewten Person oder Interview vor Ort (z.B. Zürich Lagerstrasse)
- Aufnahme des Bildschirms oder Aufnahme des Gesprächs nach Einholung des Einverständnisses
- Hinweis: Im Leitfaden gibt es Fragen in grauer Schrift. Diese werden gestellt, falls vorherige Fragen ungenau oder sehr kurz beantwortet werden.

- Den Interviewten wird erst am Schluss gesagt, dass die daraus resultierende online Umfrage im Anschluss dazu dient, den Einfluss von Werbung auf Vorstellungen und Handlungsabsicht der Konsumierenden zu erforschen.

Warm Up

Als Einstieg: Vorstellung mit Vornamen. Kurzes Gespräch über schweizerische tierische Agrarwirtschaft (Hintergrund der Person) und über eigene Fleischkonsumgewohnheiten und Einkaufsverhalten (Wie oft essen Sie in der Woche Fleisch? Was für Fleisch kaufen Sie ein?). Auch erläutern, warum man diese Person interviewt, siehe unten Punkt Vorstellen des Projektes.

Antwort:

Wichtige Informationen an die Interviewpartner:in:

- Bedanken, dass sie sich die Zeit genommen haben
- Dauer des Interviews bekannt geben (ca. 1/2h MAX 45min)
- Zustimmung zur Ton- und allenfalls Bildaufnahme einholen
- Zusicherung der vertraulichen Behandlung der Daten

- Vorstellen des Projektes: *Im Rahmen meiner Masterthesis am Institut für Umwelt und natürliche Ressourcen der ZHAW versuche ich Vorstellungen von Konsument:innen zur schweizerischen tierischen Agrarwirtschaft (Fleisch) zu ergründen. Des Umfangs wegen wird eine Begrenzung auf Fleisch festgelegt. Das Ziel ist, im Anschluss vier bis acht Bilder der schweizerischen tierischen Agrarwirtschaft (Fleisch) zu erstellen, welche in einer grösser angelegten online Umfrage zur Auswahl stehen („Welches Bild entspricht am ehesten Ihren Vorstellungen…"). Ausserdem werden die Interviews als kleine Vorstudie verwendet, um Erkenntnisse in die online Umfrage einfliessen zu lassen.*

- Gibt es noch Fragen? (vor dem Start Interview)

Fragen

Block 1: Vorstellungen schweizerische tierische Agrarwirtschaft:

Als erstes möchte ich Sie zu ihrem Bild, welches Sie von der Tierhaltung in der schweizer Landwirtschaft, speziell der Fleischwirtschaft, befragen:

1. Wenn Sie an die tierische Agrarwirtschaft (Fleisch) in der Schweiz denken, was kommt Ihnen als erstes in den Sinn? (Eindruck, erste bildliche Assoziationen) Anschliessend tiefer nachfragen: Wie würden Sie sie beschreiben?

Antwort:

2. Was kommen Ihnen spontan für Emotionen in den Sinn bei der Schweizer Landwirtschaft? Anbei sehen Sie einige Emotionen, die sich einander gegenüberstehen. Bitte wählen Sie aus, wo zwischen den beiden Emotionen für Sie die tierische Agrarwirtschaft der Schweiz steht.

    1. Emotionen als Polaritätenprofil

        1. Siehe Worddokument

3. Was für Werte verbinden Sie spontan mit der schweizerisch tierischen Agrarwirtschaft? Auch hier sehen Sie einige Werte, die sich einander gegenüberstehen. Bitte wählen Sie aus wo zwischen den beiden Emotionen für Sie die tierische Agrarwirtschaft der Schweiz steht.

    1. Liste mit Werten

        1. Siehe Worddokument

4. Was ist Ihr Eindruck der schweizerischen tierischen Agrarwirtschaft bezüglich Tierhaltung? Bezüglich Nachhaltigkeit? Bezüglich Produktionsweise? Und warum?

Antwort:

5. Wie finden Sie steht die schweizerische tierische Agrarwirtschaft im Vergleich zum Ausland da?

Antwort:

Block 2.1: Fleischkonsum

Fleisch wird in der Schweiz viel und gerne gegessen. Gerne möchte ich Sie zu ihren Gründen für Fleischkonsum und zu ihren Assoziationen befragen.

1. Warum ernähren Sie sich omnivor/essen sie Fleisch? Warum ernähren Sie sich vegetarisch oder vegan?

Antwort:

2. Was für Werte verbinden Sie mit Fleischessen?

Antwort:

3. Was für soziale und kulturelle Aktivitäten verbinden Sie mit Fleischessen?

Antwort:

Block 2.2: Kein Fleischkonsum

Fleisch wird in der Schweiz viel und gerne gegessen. Gerne möchte ich Sie zu ihren Gründen befragen, warum sie kein Fleisch essen und gerne nach Gründen und Assoziationen erfragen, die ihrer Meinung nach für sich omnivor ernährende Personen ausschlaggebend sind, Fleisch zu konsumieren:

1. Warum ernähren Sie sich vegetarisch oder vegan?

Antwort:

2. Was für Werte glauben Sie, verbinden Personen, die Fleisch essen, mit Fleischkonsum?

Antwort:

3. Was für soziale und kulturelle Aktivitäten verbinden Ihrer Meinung nach Personen, welche Fleisch essen, mit Fleischkonsum?

Antwort:

Block 3: Einkaufsverhalten:

Nun möchte ich Sie gerne noch zu Ihrem Einkaufsverhalten von Fleisch befragen:

1. Warum kaufen Sie (oder kaufen Sie nicht) Fleisch aus Schweizer Herkunft?

Antwort:

2. Worauf achten Sie beim Kauf von Fleisch besonders und warum? (günstig/Labels/CH Herkunft)

Antwort:

Block 4: Werbung

Erinnern Sie sich an die letzte Schweizer-Fleischwerbung, welche sie gesehen haben, bez. Welche Ihnen spontan in den Sinn kommt.

1. Wissen Sie noch, von wem die Werbung war und was für eine Werbung das war?

Antwort:

2. Wie finden sie diese Werbung und warum?

Antwort:

3. Was für ein Bild zeichnet die Werbung ihrer Meinung nach?

Antwort:

4. Woher nehmen Sie ihr Wissen über die schweizerische, tierische Agrarwirtschaft und fühlen Sie sich gut informiert?

Antwort:

Abschluss

Nochmal für die Zeit bedanken und erwähnen, dass sie sich gerne jederzeit melden können.

Weitere Anmerkungen:

Eindrücke aus dem Interview:

Zum Schluss wird überprüft, ob alle Fragen beantwortet wurden. Die folgenden Fragen werden im Anschluss zum Interview durch die Interviewerin beantwortet. Sollten Schwierigkeiten mit den Frage-Formulierungen oder der Reihenfolge festgestellt werden, können Anpassungen für bevorstehende Interviews vorgenommen werden.

- Welche Themen wurden vor und nach der Gesprächsaufnahme besprochen?

- Wie war die Gesprächsdynamik?

- Wie hat sich die Interviewerin selbst wahrgenommen?

- Wie waren die Umstände während des Interviews? (Onlineformat, Störungen)

- Wurden Themen angesprochen, die vorher noch nicht zur Sprache kamen?

- Gab es Themen, die der Interviewte besonders oft ansprach?

- Sind bestimmte non-verbalen Merkmale aufgefallen?

- Was könnte beim nächsten Interview verbessert werden?

Aussortierte Fragen:

Wenn Sie etwas an der CH Landwirtschaft ändern könnten, was wäre das? – Zu implizierend.

Wie finden Sie die Tierhaltung in der schweizerischen, tierischen Agrarwirtschaft? Gerne können Sie diese beschreiben. – Wurde umformuliert

Wie schätzen Sie die Nachhaltigkeit der schweizerischen, tierischen Agrarwirtschaft ein und warum? Bez. Die Nachhaltigkeit von Fleisch? – Wurde umformuliert

Wie würden Sie die schweizerische tierische Agrarwirtschaft beschreiben? Und wenn Sie sie in drei Worten beschreiben müssten? – In Block 1 in erster Frage integriert

Wie sehen Sie die Produktionsweise von schweizerischen, tierischen Agrarprodukten? – Frage in andere integriert

Woher nehmen Sie ihr Wissen über die schweizerische, tierische Agrarwirtschaft und fühlen Sie sich gut informiert? – Zu „Faktenbasierte" Frage

Semantic differentials Emotions and Values

Emotionen

Was für Emotionen kommen Ihnen spontan in den Sinn?

	1	2	3	4	5	
Positiv						Negativ
Dankbar						Undankbar
Schuldig						Unschuldig
Wütend						Zufrieden
Kritisch						Unkritisch
Anerkennend						Verurteilend
Verbunden						Unverbunden
Besorgt						Hoffnungsvoll
Stolz						Bescheiden

Werte

Was für Werte kommen Ihnen spontan in den Sinn?

	1	2	3	4	5	
Naturverbunden						Industriell
Effizient						Ineffizient
Innovativ						Konservativ
Idylisch						Karg
Sicher						Unsicher
Glaubwürdig						Unglaubwürdig
Empathisch						Unempathisch
Gesund						Ungesund
Nachhaltig						Verschwenderisch
Professionell						Unprofessionell
Rücksichtsvoll						Rücksichtslos
Traditionell						Zeitgemäss
Unbestechlich						Bestechlich
Verantwortungsvoll						Unverantwortungsvoll

Appendix C: Table of experimental studies

Titel of study	Authors	Year	Aim	Experimental Design
Inoculation & Greenwashing: Defending Against Misleading Sustainability Messaging	Bingaman et al.	2022	Find out whether the information with a warning makes the respondents more resistant to greenwashing.	Division into two groups: One group received information with a warning against greenwashing, the other received information which did not contain a warning.
An Experimental Investigation of the joint effects of advertising and peers on adolescents beliefs and intentions about cigarette consumption	Pechmann & Knight	2002	Find out if the advertisements influence the perception of smoking positively and the warning influences it negatively.	Division into three groups: One group sees a video with smoking ad and then peers who smoke. One group sees a video with anti-smoking info and then peers who smoke. One group (control group) which sees control ads and then peers who smoke.
Cognitive biases in marketing communication: Influence of Anchoring and Message Framing on Consumers' Perception and Willingness to Purchase	Bunčić et al.	2021	Assess, if there is influence of anchoring and message framing on consumer perception and willingness to purchase.	Two surveys with division into two groups: First survey - The same message was presented either with the principles of "cognitive ease" (visual) or as text and it was tested whether the view and behaviour of consumers changed accordingly. Second survey - It was tested whether the loss frame or gain frame is more effective in communicating insurance: 2 groups were exposed to the 2 different variants.
Can evoking nature in advertising mislead consumers? The power of 'executional greenwashing'	Parguel et al.	2015	Examine whether executional greenwashing (nature images, sounds) can influence consumers, if environmental knowledge may mitigate the effects of executional greenwashing.	Division into two groups in three experiments: One containing executional greenwashing elements and the other not. At the same time, the division into experts and non-experts was made to test whether environmental knowledge may mitigate the effect of Executional Greenwashing. In the second experiment, the same setting was used, but environmental performance info was added as text (either good in comparison to guidelines or poor). In the third experiment, the same setting was used as in experiment two, but the environmental performance was displayed graphically as a traffic light to find out whether this can better counteract executional greenwashing.
Comparing the effects of greenwashing claims in environmental airline advertising: perceived greenwashing, brand evaluation, and flight shame	Neureiter & Matthes	2022	Examine how environmental knowledge affects one of four kinds of greenwashing.	Division into two groups: One group read an article with specific environmental knowledge and was then randomly assigned to one of the four greenwashing categories (commercials that specifically use them) or the control commercials. The other group read an article about robotics and was then randomly assigned to one of the four greenwashing categories or control ads like the other group.
Greenwashing and environmental communication: Effects on	Torelli et al.	2020	Examine the effects on stakeholders of the different levels of greenwashing, and if	Participants were divided into eight different experimental sets, were they encountered in the first step a company and its commitment to the environment in different forms depending on the experimental set,

stakeholder's perceptions			and how perceptions and actions change after an assessed case of greenwashing.	after which the first part of the survey had to be completed. Afterwards they were presented information about environmental scandals of the companies and had to complete the second part of the survey.
Increasing Advertising Literacy to Unveil Disinformation in Green Advertising	Naderer & Opree	2021	Examine the effectiveness of two advertising literacy interventions to increase the ability and confidence to recognize greenwashing	Two literacy measures to increase literacy about greenwashing were tested in two groups, while a third group received no literacy intervention: 1 group - informative text (text condition), 2 group - informative text plus quiz game (quiz condition), 3 group - control group with no literacy intervention

Appendix D: List of possible advertisements for the survey

Werbung	Von wem	Warum	Verzerrung/ Beeinflussungsstrategie	Art	Link
Schweizer Fleisch Gschwind	Proviande	Vorzeigebetrieb: - Tiere Frühling bis Herbst auf Weide - Nur Hofeigenes Futter - Menge Tiere daran angepasst - Begriffe: Natur	Green Washing (Futter) Representativeness Heurstik Halo Effekt Framing Effekt	Werbespot	https://www.youtube.com/watch?v=mXfExN7qpHM
Schweizer Fleisch Fink	Proviande	Tierwohl wird hier gross geschrieben, doch viele Infos werden weggelassen - Tierwohl wird hervorgehoben, Kälber können raus - Freude der Kälber - "Einfach kalb sein können" - Begriffe: Tierwohl,	Affect Heuristik Framing Effekt	Werbespot	https://www.youtube.com/watch?v=MrTWXoTqu94
Der Mythos TSCH TSCH – Dragon	COOP	Märchen & Fabelwesen sind für das Fleisch verantwortlich - Ablenkungsstrategie - Begriffe: Herkunft	Kein bestimmter Effekt, jedoch „Augen vor der Wahrheit der Herkunft von Fleisch verschliessen", also räumlihc-zeitliche Lückenstrategie	Werbespot	https://www.youtube.com/watch?v=cgMknaCv9_c
Lidl Image Rindfleisch	LIdl	Es wird vermittelt, dass man weiss wo das Lidl Fleisch herkommt - Herkunft - BTS "Besonders tierfreundliche Stallhaltung" - Zu günstigen Preisen - Begriffe: Herkunft, Tierfreundlich	Representativeness Heuristik Attribute Substitution Heuristik (Tierfreundlich/Preis) Framing Effekt	Werbespot	https://admeira.ch/tv-werbung#Fleisch|6|D|0|||||||404592|D
Schweizer Fleisch – Wasser	Proviande	Schweizer Landwirtschaft braucht weniger Frischwasser - andere Umweltprobleme der CH Landwirtschaft werden bspw. Komplett ausgeblendet, auch Importe von Futter etc. sind nicht enthalten - nur „positive" Informationen werden vermittelt - Begriffe: Frischwasserverbrauch, Vergleich weltweiter Durchschnitt	Greenwashing/Greenwishing Framing Effekt	Werbespot	https://admeira.ch/tv-werbung#Fleisch|3|D|0|||||||900490|D
Schweizer Fleisch – Cédric	Proviande	Regionaler Metzger kauft nur regionales Fleisch, weil er den Produzent:innen vertraut - Spiegelt ein beschönigtes Bild von Lieferketten wieder - Vorzeigesituation - Schweinehaltung ist besonders problematisch, hier werden jedoch glückliche Schweine gezeigt	Representativeness Heuristik Affect Heuristik Attribute Substitution Heuristik Halo Effekt	Werbespot	https://admeira.ch/tv-werbung#Fleisch|3|D|0|||||||938285|D

		- Begriffe: Vertrauen, Region, Tierwohl, Respekt Tier & Umwelt			
Schweizer Fleisch – Rust	Proviande	Regionaler Metzger, geht selbst auf Höfe, kennt Lieferanten schon seit Kindheit - Beschönigtes Bild der Lieferkette - Vorzeigesituation - Begriffe: Regional, Höfe, Kennen Lieferanten, Tierwohl, Nähe, Freude	Representativeness Heuristik Affect Heuristik Attribute Substitution Heuristik Halo Effekt	Werbespot	https://www.youtube.com/watch?v=uDRzhVSLG8A
Schweizer Fleisch – Futter	Proviande	Grossteil des Futters wird selbst produziert - Fokus auf das positive - Nicht erwähnen von den Importen	Greenwishing/Greenwashing Framing Effekt	Werbespot	https://admeira.ch/tv-werbung#Fleisch|3|D|0|||||||900492|D
Schweizer Fleisch – Bucher	Proviande	Tierwohl wird grossgeschrieben, genug Platz, Wertschätzung des Tieres - Fokus auf Platz, macht alles andere wett - Begriffe: Tierwohl (Platz), Wertschätzung	Representativeness Heuristik	Werbespot	https://www.youtube.com/watch?v=jY0B9vTT5Ww
Schweizer Fleisch Schlatter	Proviande	Auch hier wird extrem auf Tierwohl gesagt - Begriffe: Tierwohl, Zufriedenheit, Mensch geht es gut, wenn es dem Tier gut geht	Representativeness Heuristik Affect Heuristik Halo Effekt	Werbespot	https://www.youtube.com/watch?v=DLDnxko6nK0

Appendix E: Online survey

Intro Text:

Liebe Teilnehmende

Herzlich willkommen zur Umfrage "Vorstellungen zur Tierhaltung in der Schweizer Landwirtschaft". Vielen Dank, dass Sie sich die Zeit dafür nehmen. Im Rahmen meiner Masterthesis am Institut für Umwelt und natürliche Ressourcen der ZHAW untersuche ich, welche Vorstellungen Konsument:innen darüber haben, wie die schweizerische Landwirtschaft tierische Erzeugnisse wie Fleisch produziert. Die Umfrage dauert maximal ca. 15 Minuten.

Bei der Umfrage gibt es kein richtig oder falsch, ich interessiere mich für Ihre persönliche Meinung.

Mit Ihrer Teilnahme bestätigen Sie, dass Sie mindestens 16 Jahre alt sind. Ihre Daten werden vertraulich behandelt und Ihre Teilnahme an der Umfrage ist freiwillig.

Falls Sie Fragen oder Anregungen haben, können Sie mich jederzeit per E-Mail kontaktieren.

Bitte füllen Sie die Umfrage bis am 12. Mai aus. Vielen herzlichen Dank.

Mit besten Grüssen,

Adriana Garibay

Fragen

Demografische Fragen

Zuerst möchte ich Ihnen ein paar Fragen zu Ihrer Person stellen.

1. Wie ernähren Sie sich? [Einzelauswahl]
    1. Ich esse regelmässig Fleisch
    2. Ich esse ab und zu Fleisch
    3. Ich ernähre mich mehrheitlich ohne Fleisch (flexitarisch)
    4. Ich ernähre mich ohne Fleisch (vegetarisch)
    5. Ich ernähre mich ohne Fleisch, esse aber Fisch (pescetarisch)
    6. Ich ernähre mich ohne Fleisch und mehrheitlich ohne tierische Produkte (flexi-vegan)
    7. Ich ernähre mich ohne tierische Produkte (vegan)

2. Welchem Geschlecht fühlen Sie sich zugehörig?

    1. Weiblich
    2. Männlich
    3. Divers
    4. Ich möchte hierzu keine Angabe machen

3. Wie alt sind Sie? (Bitte in Anzahl Jahren angeben) [Textfeld, beschränkt auf 2 Ziffern nach Möglichkeit]

    1. Textfeld:

4. Welches ist Ihr höchster Bildungsstand? [Einzelauswahl]

    1. Kein obligatorischer Schulabschluss
    2. Primarstufe
    3. Sekundarstufe
    4. Berufslehre
    5. Maturitätsschule, Berufsmaturität, Diplom-/Fachmittelschule
    6. Höhere Fach- und Berufsausbildung
    7. Universität / ETH, Fachhochschule
    8. Unbekannt

5. Welches ist Ihre momentane Hauptbeschäftigung? [Einzelauswahl]

    1. Ich bin noch in der Schule
    2. Ich bin noch in der Lehre
    3. Ich bin noch im Studium
    4. Ich bin Vollzeit berufstätig
    5. Ich bin Teilzeit berufstätig
    6. Ich arbeite unbezahlt/ehrenamtlich
    7. Ich bin pensioniert
    8. Ich bin auf Stellensuche

9. Anderes: ___

Abschnitt Vorstellungen:

Variante 1 „Vorzeigewerbung“	**Variante 2 „Lidl Werbung“**	**Variante 3 „keine Werbung“**
Als nächstes werden Sie eine kurze Werbung sehen. Bitte stellen Sie sicher, dass Sie den Ton des Videos ebenfalls hören.	Als nächstes werden Sie eine kurze Werbung sehen. Bitte stellen Sie sicher, dass Sie den Ton des Videos ebenfalls hören.	Als nächstes möchte ich Sie zu Ihren Vorstellungen zur Fleischproduktion in der Schweizer Landwirtschaft befragen.
Video Schweizer Fleisch	Video Lidl Werbung	Kein Video

6. Kontrollfrage Ton Video [Einzelauswahl]:

Variante 1 „Vorzeigewerbung“	**Variante 2 „Lidl Werbung“**	**Variante 3 „keine Werbung“**
Gerne möchte ich Ihnen eine kurze Frage zum eben gesehenen Video stellen. Ist folgende Information im Video vorgekommen? „Die Rinder und Ochsen bekommen ausschliesslich hofeigenes Futter.“	Gerne möchte ich Ihnen eine kurze Frage zum eben gesehenen Video stellen. Ist folgende Information im Video vorgekommen? „Das gesamte Rindfleischsortiment von Lidl ist aus besonders tierfreundlicher Stallhaltung (BTS).“	
• Ja • Nein	• Ja • Nein	

7. Wenn Sie sich die tierische Landwirtschaft der Schweiz (Fleischproduktion) vorstellen, was ist das Erste, was Ihnen in den Sinn kommt? Nennen Sie drei Begriffe/Assoziationen: [3 Antworten Feld mit Text]

- 1
- 2
- 3

8. Wie stehen Sie der Fleischproduktion in der Schweizer Landwirtschaft gegenüber? [Emotionen - Skala]

Wählen Sie den Punkt, welcher am ehesten Ihrem Gefühl zwischen den beiden Begriffen entspricht.

	1	2	3	4	5	
Positiv						Negativ
Dankbar						Undankbar
Kritisch						Unkritisch
Hoffnungsvoll						Besorgt
Stolz						Beschämt

9. Welche Werte verbinden Sie mit der Fleischproduktion in der Schweizer Landwirtschaft? [Werte – Skala]

Wählen Sie den Punkt, welcher am ehesten für Sie zwischen den beiden Werten passt.

	1	2	3	4	5	
Naturverbunden						Industriell
Innovativ						Konservativ
Glaubwürdig						Unglaubwürdig
Nachhaltig						Nicht nachhaltig
Rücksichtsvoll						Rücksichtslos
Gesund						Ungesund
Verantwortungsvoll						Verantwortungslos

10. Welches der folgenden Bilder entspricht am ehesten Ihrer Vorstellung der tierischen Landwirtschaft der Schweiz (Fleischproduktion)? [Einzelauswahl Bild]
Wählen Sie es durch Anklicken aus.

11. Frage Erinnerung Werbung [Textfeld, freie Antwort – nur Variante 1 und 2]:

Variante 1 „Vorzeigewerbung“	**Variante 2 „Lidl Werbung“**	**Variante 3 „keine Werbung“**
Woran erinnern Sie sich spontan, wenn Sie an die vorhin gezeigte Werbung denken?	Woran erinnern Sie sich spontan, wenn Sie an die vorhin gezeigte Werbung denken?	

12. Frage Werbung realistisches Bild [Einzelauswahl – nur Variante 1 und 2]:

Variante 1 „Vorzeigewerbung“	**Variante 2 „Lidl Werbung“**	**Variante 3 „keine Werbung“**
Zeigt die vorhin gesehene Werbung ein realistisches Bild	Zeigt die vorhin gesehene Werbung ein realistisches Bild	

der Schweizer Landwirtschaft und des Produkts Fleisch? • Ja • Nein • Weiss nicht	der Schweizer Landwirtschaft und des Produkts Fleisch? • Ja • Nein • Weiss nicht	

Abschnitt Wahrnehmung:

Gerne möchte ich Ihnen ein paar Fragen zur Wahrnehmung der Werbung zu Fleisch aus Schweizer Produktion und zu Fleischprodukten allgemein stellen:

13. Wie sehr stimmen Sie folgenden Aussagen zu? [Skala 1-5 (1 = stimme überhaupt nicht zu, 5 = stimme voll und ganz zu, sowie «Kann ich nicht beurteilen», angepasste Green purchase intentions von Chen und Chang]

Variante 1 „Vorzeigewerbung“	**Variante 2 „Lidl Werbung“**	**Variante 3 „keine Werbung“**
Wie sehr stimmen Sie folgenden Aussagen zum beworbenen Produkt zu?	Wie sehr stimmen Sie folgenden Aussagen zum beworbenen Produkt zu?	Wie sehr stimmen Sie folgenden Aussagen zu Fleisch aus der Schweiz zu?
• Ich würde das Fleisch aus der Werbung kaufen, weil es tierfreundlich ist • Ich würde das Fleisch aus der Werbung kaufen, weil es Schweizer Qualität ist • Ich würde das Fleisch aus der Werbung kaufen, weil es umweltfreundlich ist	• Ich würde das Fleisch aus der Werbung kaufen, weil es tierfreundlich ist • Ich würde das Fleisch aus der Werbung kaufen, weil es Schweizer Qualität ist • Ich würde das Fleisch aus der Werbung kaufen, weil es umweltfreundlich ist	• Ich würde Fleisch aus der Schweiz kaufen, weil es tierfreundlich ist • Ich würde Fleisch aus der Schweiz kaufen, weil es Schweizer Qualität ist • Ich würde Fleisch aus der Schweiz kaufen, weil es umweltfreundlich ist

14. Wie sehr stimmen Sie folgenden Aussagen zu? [Skala 1-5, Greenwashing Items von Chen und Chang 2013]

Variante 1 „Vorzeigewerbung“	**Variante 2 „Lidl Werbung“**	**Variante 3 „keine Werbung“**

Wie sehr stimmen Sie folgenden Aussagen zur vorhin gesehenen Werbung?	Wie sehr stimmen Sie folgenden Aussagen zur vorhin gesehenen Werbung?	Wie sehr stimmen Sie folgenden Aussagen zu Werbung für Fleisch aus der Schweiz zu?
• Die Werbung zeigt das Produkt, das wir im Laden antreffen. • Die Werbung zeigt die Produktion von Rindfleisch in der Schweiz so, wie sie ist. • Die visuellen Bilder der Werbung entsprechen der Realität • Die Werbung zeigt nachvollziehbar, wie umweltfreundlich das Produkt ist • Die Werbung übertreibt, wie umweltfreundlich das Produkt tatsächlich ist • Die Werbung enthält alle wichtigen Informationen • Die Informationen in der Werbung sind glaubwürdig	• Die Werbung zeigt das Produkt, das wir im Laden antreffen. • Die Werbung zeigt die Produktion von Rindfleisch in der Schweiz so, wie sie ist. • Die visuellen Bilder der Werbung entsprechen der Realität • Die Werbung zeigt nachvollziehbar, wie umweltfreundlich das Produkt ist • Die Werbung übertreibt, wie umweltfreundlich das Produkt tatsächlich ist • Die Werbung enthält alle wichtigen Informationen • Die Informationen in der Werbung sind glaubwürdig	• Die Werbung zeigt das Produkt, das wir im Laden antreffen. • Die Werbung zeigt die Produktion von Fleisch in der Schweiz so, wie sie ist. • Die visuellen Bilder von Werbung für Fleisch aus der Schweiz entsprechen der Realität • Werbung für Fleisch aus der Schweiz zeigt nachvollziehbar, wie umweltfreundlich das Produkt ist • Werbung für Fleisch aus der Schweiz übertreibt, wie umweltfreundlich das Produkt tatsächlich ist • Werbung für Fleisch aus der Schweiz enthält alle wichtigen Informationen • Die Informationen in Werbung für Fleisch aus der Schweiz sind glaubwürdig

Um zu erfragen, ob die Marke, einmal Schweizer Fleisch, einmal Lidl, und Fleisch allgemein für die Befragen Greenwashing betreibt, werden die items von Chen und Chang auf den eigenen Kontext angewandt und abgefragt. Aussagen werden randomisiert angezeigt.

15. Wie sehr stimmen Sie folgenden Aussagen zu? [Skala 1-5 (1 = stimme überhaupt nicht zu, 5 = stimme voll und ganz zu), Green Trust Items von Chen und Chang 2013]

Variante 1 „Vorzeigewerbung“	**Variante 2 „Lidl Werbung“**	**Variante 3 „keine Werbung“**
Wie sehr stimmen Sie folgenden Aussagen zum Verband «Schweizer Fleisch» zu?	Wie sehr stimmen Sie folgenden Aussagen zu Lidl Schweiz zu?	Wie sehr stimmen Sie folgenden Aussagen zu Fleisch aus der Schweiz zu?
• Die Aussagen des Verbands «Schweizer Fleisch» aus der Werbung sind im Allgemeinen vertrauenswürdig • Das Fleisch, das der Verband «Schweizer Fleisch» bewirbt, wird umweltverträglich produziert	• Die Aussagen von «Lidl» aus der Werbung sind im Allgemeinen vertrauenswürdig • Das Fleisch, das «Lidl» bewirbt, wird umweltverträglich produziert	• Die Aussagen mit welchem Fleisch aus der Schweiz beworben werden, sind im Allgemeinen vertrauenswürdig • Fleisch aus der Schweiz wird umweltverträglich produziert

Abschnitt Wissen:

Gerne würde ich erfahren, wie vertraut Sie mit der schweizerischen Landwirtschaft sind. Sie brauchen kein Vorwissen, diese Fragen dienen bei der Analyse zur Einordnung der Antworten.

16. Wie schätzen Sie Ihr Wissen zum Thema Fleischproduktion in der Schweiz ein? [Skala 1-5]

- 1 = Ich kenne mich nicht mit dem Thema aus, 5 = Ich habe mich bereits vertieft mit dem Thema auseinandergesetzt

17. Wie intensiv setzen sie sich mit den folgenden Aspekten von Fleisch auseinander: 1 = ich setze mich nicht gross damit auseinander, 5 = ich setze mich sehr stark damit auseinander

- Herkunft
- Umweltaspekte
- Tierwohl

18. Wie hoch schätzen Sie den Anteil der Betriebe in der Schweiz, welche ihre Tiere ausschliesslich mit hofeigenem Futter ernähren? [Schieberegler]
Wählen Sie die Prozentkategorie, die Ihrer Schätzung entspricht.

1. Betriebe mit Rindermast für Fleisch
2. Betriebe mit Milchvieh
3. Betriebe mit Schweinen
4. Betriebe mit Hühnern

19. Wie hoch schätzen Sie den Anteil des Tierfutters, das in die Schweiz importiert wird? Was schätzen Sie, welcher Anteil des Tierfutters wird in der Schweiz importiert? [Schieberegler] Wählen Sie die Prozentkategorie, die Ihrer Schätzung entspricht.

1. bei Rindern (Rindfleisch und Milch)

2. bei Schweinen

3. beim Geflügel (Geflügelfleisch und Eier)

20. Wie hoch schätzen Sie den Anteil der Ackerfläche in der Schweiz, der für die Produktion von Tierfutter genutzt wird? Wählen Sie die Prozentkategorie, die Ihrer Schätzung entspricht.

Abschluss

Zum Abschluss möchte ich Sie noch kurz dazu befragen, wie nah Sie der Landwirtschaft sind.

21. Wie nah sind Sie der tierischen Landwirtschaft der Schweiz? [Skala 1-5, 1 = sehr nah, 5 = gar nicht nah]
z.B. sehr nah: Arbeiten in der tierischen Landwirtschaft der Schweiz, auf einem Bauernhof aufgewachsen
z.B. gar nicht nah: Keine Verbindung zur tierischen Landwirtschaft der Schweiz (ausser einkaufen von Fleisch)

22. Wohnen Sie [Einzelantwort]:

1. In der Stadt

2. Auf dem Land

3. In der Agglomeration

Damit wären Sie am Ende der Umfrage angelangt. Diese untersucht hauptsächlich, ob Werbungen einen Einfluss auf die Vorstellungen und Kaufabsichten von Befragten haben. Dazu wurden Sie während der Umfrage einer von drei Optionen zufällig zugeteilt, wobei in zwei davon jeweils eine Fleischwerbung zu sehen ist. Damit können allfällige Unterschiede innerhalb der Antworten der Gruppen aufgezeigt werden.

Vielen herzlichen Dank für Ihre Teilnahme, damit leisten Sie einen wertvollen Beitrag zu meiner Masterarbeit und unserer Forschung. Falls Sie Fragen oder Rückmeldungen haben, können Sie mich jederzeit per E-Mail kontaktieren.

Die Daten werden anonym verwendet und es gibt keinerlei Rückschlüsse auf Ihre Person.

Freundliche Grüsse,

Adriana Garibay

Herzlichen Dank für Ihre Teilnahme, Sie können das Fenster jetzt schliessen.

Appendix F: Cross tables objective knowledge questions

Estimate of the proportion of farms that feed animals solely with on-farm feed

Estimate of the proportion of farms that feed animals solely with on-farm feed (cattle fattening)					
	Total		Treatment 1	Treatment 2	Treatment 3
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)
< 20%	184	42,3%	42,2%	50,0%	35,3%
21 - 40%	168	38,6%	35,4%	37,0%	43,3%
41 - 60%	62	14,3%	18,4%	9,4%	14,7%
61 - 80%	19	4,4%	4,1%	3,6%	5,3%
81% <	2	0,5%	0,0%	0,0%	1,3%

Estimate of the proportion of farms that feed animals solely with on-farm feed (dairy cattle)					
	Total		Treatment 1	Treatment 2	Treatment 3
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)
< 20%	184	42,3%	27,9%	28,3%	20,0%
21 - 40%	168	38,6%	36,1%	34,8%	35,3%
41 - 60%	62	14,3%	24,5%	26,8%	33,3%
61 - 80%	19	4,4%	10,9%	8,7%	10,0%
81% <	2	0,5%	0,7%	1,4%	1,3%

Estimate of the proportion of farms that feed animals solely with on-farm feed (pigs)					
	Total		Treatment 1	Treatment 2	Treatment 3
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)

< 20%	184	42,3%	48,3%	42,0%	40,0%
21 - 40%	168	38,6%	30,6%	33,3%	32,0%
41 - 60%	62	14,3%	15,0%	17,4%	20,0%
61 - 80%	19	4,4%	5,4%	6,5%	5,3%
81% <	2	0,5%	0,7%	0,7%	2,7%

Estimate of the proportion of farms that feed animals solely with on-farm feed (chickens)					
	Total		**Treatment 1**	**Treatment 2**	**Treatment 3**
	Frequency (n)	Percent (%)	Percent (%)	Percent (%)	Percent (%)
< 20%	184	42,3%	40,8%	38,4%	39,3%
21 - 40%	168	38,6%	33,3%	31,2%	31,7%
41 - 60%	62	14,3%	17,0%	21,0%	20,2%
61 - 80%	19	4,4%	6,8%	8,0%	6,9%
81% <	2	0,5%	2,0%	1,4%	1,6%

Estimate of the proportion of animal feed imported into Switzerland

Estimation imported animal feed cattle					
	<20%	21-40%	41-60%	61-80%	81%<
Treatment 1	6,1%	16,3%	40,8%	28,6%	8,2%
Treatment 2	2,9%	13,8%	45,7%	35,5%	2,2%
Treatment 3	6,7%	20,7%	31,3%	36,0%	5,3%

Estimation imported animal feed pigs					
	<20%	21-40%	41-60%	61-80%	81%<
Treatment 1	5,4%	11,6%	38,8%	31,3%	12,9%
Treatment 2	5,8%	18,1%	41,3%	30,4%	4,3%
Treatment 3	6,0%	16,7%	39,3%	29,3%	8,7%

Estimation imported animal feed chicken					
	<20%	21-40%	41-60%	61-80%	81%<

Treatment 1	7,5%	15,0%	31,3%	34,0%	12,2%
Treatment 2	2,9%	30,4%	31,2%	30,4%	5,1%
Treatment 3	6,7%	19,3%	40,0%	22,7%	11,3%

Estimate of the proportion of farms that feed animals solely with on-farm feed

Estimation share of cropland for animal feed					
	<20%	21-40%	41-60%	61-80%	81%<
Treatment 1	8,2%	22,4%	49,0%	19,0%	1,4%
Treatment 2	4,3%	34,1%	42,8%	18,1%	0,7%
Treatment 3	6,0%	22,0%	54,0%	16,0%	2,0%

Appendix G: Multiple Linear Regression tables objective knowledge questions

Multiple Linear Regression tables for on-farm feed

Cattle fattening

Abhängige Variable: Feeding only on-farm feed (dairy cattle)

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	2.517	0.362	Löschen	6.955	<0.001	1.805	3.228
Treatment 1	-0.086	0.097	-0.047	-0.894	0.372	-0.277	0.104
Treatment 2	-0.258	0.098	-0.139	-2.637	0.009	-0.451	-0.066
Eat meat from time to time	0.034	0.108	0.017	0.314	0.754	-0.179	0.247
Flexitarian	-0.305	0.131	-0.129	-2.336	0.020	-0.561	-0.048
Vegetarian	-0.315	0.159	-0.100	-1.978	0.049	-0.628	-0.002
Pescetarian	0.045	0.325	0.007	0.139	0.889	-0.594	0.685
Flexi-vegan	-0.364	0.158	-0.127	-2.309	0.021	-0.673	-0.054
Vegan	-0.197	0.177	-0.058	-1.108	0.268	-0.545	0.152
Gender Male	-0.050	0.085	-0.028	-0.581	0.561	-0.217	0.118
Gender Diverse	0.364	0.344	0.049	1.058	0.290	-0.312	1.041
Age	0.005	0.003	0.082	1.645	0.101	-0.001	0.011
Education	0.004	0.040	0.004	0.091	0.927	-0.075	0.083
Knowledge (mv)	-0.081	0.054	-0.079	-1.494	0.136	-0.188	0.026
Proximity to agricultural sector	-0.125	0.036	-0.182	-3.515	<0.001	-0.195	-0.055
Place of residency - countryside	0.161	0.107	0.088	1.506	0.133	-0.049	0.372
Place of residency - agglomeration	0.185	0.102	0.099	1.826	0.069	-0.014	0.385

Anmerkungen: N = 434; R^2 = 0.128; korr. R^2 = 0.095; F(16, 417) = 3.841; <0,001

BCa-Bootstrapping with 10'000 BCa samples

95% KI		SE
UG	*OG*	
1.787[b]	3.219[b]	.360[b]
-.274[b]	.089[b]	.100[b]
-.449[b]	-.076[b]	.098[b]

-.198[b]	.275[b]	.116[b]
-.549[b]	-.049[b]	.127[b]
-.626[b]	.017[b]	.156[b]
-.672[b]	.790[b]	.369[b]
-.651[b]	-.062[b]	.149[b]
-.531[b]	.180[b]	.174[b]
-.225[b]	.132[b]	.088[b]
-.601[b]	1.335[b]	.452[b]
-.001[b]	.011[b]	.003[b]
-.074[b]	.087[b]	.040[b]
-.199[b]	.041[b]	.061[b]
-.207[b]	-.043[b]	.041[b]
-.058[b]	.381[b]	.112[b]
-.023[b]	.409[b]	.104[b]

b. Basierend auf 9971 Stichproben

Dairy cattle

Abhängige Variable: Feeding only on-farm feed (dairy cattle)

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	3.560	0.409	Löschen	8.701	<0.001	2.756	4.364
Treatment 1	-0.133	0.109	-0.064	-1.218	0.224	-0.348	0.082
Treatment 2	-0.145	0.111	-0.069	-1.311	0.191	-0.363	0.073
Eat meat from time to time	0.074	0.122	0.033	0.607	0.544	-0.166	0.315
Flexitarian	-0.039	0.148	-0.014	-0.262	0.793	-0.329	0.251
Vegetarian	-0.221	0.180	-0.062	-1.228	0.220	-0.575	0.133
Pescetarian	-0.048	0.368	-0.006	-0.130	0.896	-0.771	0.675
Flexi-vegan	-0.407	0.178	-0.125	-2.287	0.023	-0.757	-0.057
Vegan	-0.472	0.201	-0.124	-2.355	0.019	-0.867	-0.078
Gender Male	0.056	0.097	0.028	0.576	0.565	-0.134	0.245
Gender Diverse	0.185	0.389	0.022	0.476	0.634	-0.580	0.950
Age	0.004	0.003	0.055	1.106	0.269	-0.003	0.011
Education	-0.070	0.045	-0.073	-1.532	0.126	-0.159	0.020
Knowledge (mv)	-0.073	0.061	-0.062	-1.184	0.237	-0.194	0.048
Proximity to agricultural sector	-0.187	0.040	-0.239	-4.645	<0.001	-0.266	-0.108

Place of residency - countryside	0.007	0.121	0.003	0.058	0.954	-0.231	0.245
Place of residency - agglomeration	0.227	0.115	0.107	1.979	0.048	0.002	0.453

Anmerkungen: N = 434; R^2 = 0.136; korr. R^2 = 0.102; F(16, 417) = 4.086; <0,001

BCa-Bootstrapping with 10'000 BCa samples

95% KI		SE
UG	*OG*	
2.766[b]	4.286[b]	.416[b]
-.333[b]	.061[b]	.107[b]
-.362[b]	.068[b]	.110[b]
-.174[b]	.323[b]	.122[b]
-.313[b]	.233[b]	.143[b]
-.601[b]	.184[b]	.198[b]
-.875[b,c]	.914[b]	.451[b]
-.746[b]	-.060[b]	.176[b]
-.835[b]	-.087[b]	.189[b]
-.143[b]	.263[b]	.098[b]
-.473[b,c]	.759[b]	.313[b]
-.003[b]	.010[b]	.004[b]
-.164[b]	.030[b]	.047[b]
-.200[b]	.065[b]	.064[b]
-.269[b]	-.104[b]	.041[b]
-.226[b]	.234[b]	.115[b]
.004[b]	.456[b]	.113[b]

b. Basierend auf 9971 Stichproben

c. Einige Ergebnisse konnten aus den Jackknife-Stichproben nicht berechnet werden, daher wird dieses Konfidenzintervall mit der Perzentilmethode und nicht mit der BCa-Methode berechnet.

Pigs

Abhängige Variable: Feeding only on-farm feed (pigs)

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	2.911	0.427	Löschen	6.825	<0.001	2.073	3.750

Treatment 1	-0.164	0.114	-0.080	-1.440	0.151	-0.388	0.060
Treatment 2	-0.044	0.116	-0.021	-0.377	0.706	-0.271	0.183
Eat meat from time to time	0.024	0.128	0.011	0.188	0.851	-0.227	0.275
Flexitarian	-0.074	0.154	-0.028	-0.482	0.630	-0.377	0.228
Vegetarian	-0.186	0.188	-0.053	-0.993	0.321	-0.555	0.183
Pescetarian	-0.144	0.384	-0.019	-0.376	0.707	-0.898	0.610
Flexi-vegan	-0.122	0.186	-0.038	-0.659	0.510	-0.487	0.243
Vegan	-0.339	0.209	-0.089	-1.620	0.106	-0.750	0.072
Gender Male	-0.029	0.101	-0.015	-0.288	0.773	-0.227	0.169
Gender Diverse	0.442	0.406	0.053	1.091	0.276	-0.355	1.240
Age	0.004	0.004	0.064	1.229	0.220	-0.003	0.011
Education	-0.099	0.047	-0.105	-2.095	0.037	-0.192	-0.006
Knowledge (mv)	-0.079	0.064	-0.068	-1.228	0.220	-0.205	0.047
Proximity to agricultural sector	-0.025	0.042	-0.032	-0.600	0.549	-0.108	0.057
Place of residency - countryside	-0.092	0.126	-0.045	-0.730	0.466	-0.341	0.156
Place of residency - agglomeration	-0.122	0.120	-0.058	-1.022	0.307	-0.358	0.113

Anmerkungen: N = 434; R^2 = 0.044; korr. R^2 = 0.008; F(16, 417) = 1.208; 0.257976555629025

BCa-Bootstrapping with 10'000 BCa samples		
95% KI		SE
UG	*OG*	
2.099[b]	3.727[b]	.425[b]
-.385[b]	.047[b]	.114[b]
-.275[b]	.187[b]	.119[b]
-.241[b]	.286[b]	.136[b]
-.368[b]	.207[b]	.152[b]
-.546[b]	.189[b]	.184[b]
-.954[b]	.819[b]	.471[b]
-.525[b]	.314[b]	.204[b]
-.660[b]	-.005[b]	.167[b]
-.238[b]	.182[b]	.104[b]
-.497[b,c]	1.508[b]	.515[b]
-.003[b]	.013[b]	.004[b]
-.190[b]	-.010[b]	.046[b]
-.223[b]	.065[b]	.071[b]

-.110[b]	.062[b]	.044[b]
-.341[b]	.155[b]	.129[b]
-.372[b]	.120[b]	.125[b]

b. Basierend auf 9959 Stichproben

c. Einige Ergebnisse konnten aus den Jackknife-Stichproben nicht berechnet werden, daher wird dieses Konfidenzintervall mit der Perzentilmethode und nicht mit der BCa-Methode berechnet.

Chickens

Abhängige Variable: Feeding only on-farm feed (chickens)

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	3.507	0.430	Löschen	8.153	<0.001	2.662	4.353
Treatment 1	-0.024	0.115	-0.011	-0.207	0.836	-0.250	0.202
Treatment 2	0.065	0.117	0.030	0.556	0.579	-0.164	0.294
Eat meat from time to time	-0.164	0.129	-0.071	-1.271	0.204	-0.417	0.089
Flexitarian	-0.303	0.155	-0.110	-1.956	0.051	-0.608	0.002
Vegetarian	-0.113	0.189	-0.031	-0.598	0.550	-0.485	0.259
Pescetarian	-0.092	0.387	-0.012	-0.239	0.811	-0.853	0.668
Flexi-vegan	-0.452	0.187	-0.135	-2.416	0.016	-0.820	-0.084
Vegan	-0.495	0.211	-0.126	-2.349	0.019	-0.910	-0.081
Gender Male	-0.016	0.101	-0.008	-0.159	0.874	-0.216	0.183
Gender Diverse	-0.111	0.409	-0.013	-0.272	0.786	-0.915	0.693
Age	0.003	0.004	0.041	0.799	0.425	-0.004	0.010
Education	-0.107	0.048	-0.110	-2.243	0.025	-0.201	-0.013
Knowledge (mv)	-0.188	0.065	-0.157	-2.902	0.004	-0.315	-0.060
Proximity to agricultural sector	-0.018	0.042	-0.023	-0.429	0.668	-0.101	0.065
Place of residency - countryside	-0.042	0.127	-0.019	-0.326	0.744	-0.292	0.209
Place of residency - agglomeration	-0.100	0.121	-0.046	-0.826	0.409	-0.337	0.137

Anmerkungen: N = 434; R^2 = 0.092; korr. R^2 = 0.057; F(16, 417) = 2.629; <0,001

BCa-Bootstrapping with 10'000 BCa samples	
95% KI	SE

UG	*OG*	
2.688[b]	4.323[b]	.418[b]
-.248[b]	.208[b]	.113[b]
-.162[b]	.299[b]	.115[b]
-.431[b]	.105[b]	.137[b]
-.571[b]	-.028[b]	.138[b]
-.523[b]	.330[b]	.218[b]
-.617[b]	.522[b]	.304[b]
-.785[b]	-.100[b]	.174[b]
-.825[b]	-.148[b]	.178[b]
-.214[b]	.185[b]	.102[b]
-.891[b]	.633[b]	.370[b]
-.005[b]	.010[b]	.004[b]
-.192[b]	-.024[b]	.043[b]
-.340[b]	-.036[b]	.075[b]
-.099[b]	.066[b]	.042[b]
-.282[b]	.200[b]	.125[b]
-.322[b]	.129[b]	.114[b]

b. Basierend auf 9967 Stichproben

Multiple Linear Regression tables for imported feed

Cattle

Abhängige Variable: Estimation imported feed for cattle

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	3.151	0.399	Löschen	7.893	<0.001	2.367	3.936
Treatment 1	0.004	0.107	0.002	0.042	0.967	-0.205	0.214
Treatment 2	0.054	0.108	0.027	0.500	0.617	-0.158	0.267
Eat meat from time to time	0.145	0.120	0.067	1.216	0.225	-0.090	0.380
Flexitarian	0.040	0.144	0.016	0.280	0.780	-0.243	0.323
Vegetarian	0.394	0.176	0.115	2.245	0.025	0.049	0.740
Pescetarian	-0.056	0.359	-0.007	-0.155	0.877	-0.762	0.650
Flexi-vegan	0.147	0.174	0.047	0.843	0.400	-0.195	0.488
Vegan	0.451	0.196	0.123	2.306	0.022	0.067	0.836
Gender Male	-0.276	0.094	-0.143	-2.927	0.004	-0.461	-0.091

Gender Diverse	-0.712	0.380	-0.088	-1.875	0.061	-1.458	0.034
Age	-0.004	0.003	-0.067	-1.343	0.180	-0.011	0.002
Education	0.006	0.044	0.007	0.138	0.890	-0.081	0.093
Knowledge (mv)	-0.054	0.060	-0.048	-0.905	0.366	-0.172	0.064
Proximity to agricultural sector	0.119	0.039	0.157	3.016	0.003	0.041	0.196
Place of residency - countryside	-0.077	0.118	-0.038	-0.647	0.518	-0.309	0.156
Place of residency - agglomeration	-0.280	0.112	-0.137	-2.503	0.013	-0.500	-0.060

Anmerkungen: N = 434; R^2 = 0.113; korr. R^2 = 0.079; F(16, 417) = 3.327; <0,001

BCa-Bootstrapping with 10'000 BCa samples		
95% KI		SE
UG	*OG*	
2.371[b]	3.937[b]	.386[b]
-.223[b]	.241[b]	.113[b]
-.163[b]	.267[b]	.110[b]
-.083[b]	.368[b]	.120[b]
-.237[b]	.310[b]	.140[b]
.093[b]	.693[b]	.160[b]
-.930[b]	.658[b]	.392[b]
-.190[b]	.477[b]	.176[b]
.017[b]	.860[b]	.228[b]
-.466[b]	-.091[b]	.096[b]
-1.689[b,c]	.454[b]	.552[b]
-.011[b]	.002[b]	.003[b]
-.079[b]	.091[b]	.043[b]
-.164[b]	.055[b]	.057[b]
.032[b]	.202[b]	.044[b]
-.323[b]	.176[b]	.127[b]
-.510[b]	-.048[b]	.117[b]

b. Basierend auf 9963 Stichproben

c. Einige Ergebnisse konnten aus den Jackknife-Stichproben nicht berechnet werden, daher wird dieses Konfidenzintervall mit der Perzentilmethode und nicht mit der BCa-Methode berechnet.

Pigs

Abhängige Variable: Estimation imported feed for pigs

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	2.562	0.429	Löschen	5.968	<0.001	1.718	3.405
Treatment 1	0.148	0.115	0.071	1.294	0.196	-0.077	0.374
Treatment 2	-0.135	0.116	-0.063	-1.163	0.246	-0.364	0.093
Eat meat from time to time	0.120	0.128	0.052	0.932	0.352	-0.133	0.372
Flexitarian	-0.171	0.155	-0.063	-1.105	0.270	-0.475	0.133
Vegetarian	0.420	0.189	0.116	2.221	0.027	0.048	0.791
Pescetarian	-0.192	0.386	-0.024	-0.497	0.620	-0.951	0.567
Flexi-vegan	0.013	0.187	0.004	0.068	0.946	-0.355	0.380
Vegan	0.425	0.210	0.110	2.018	0.044	0.011	0.838
Gender Male	-0.164	0.101	-0.081	-1.616	0.107	-0.363	0.035
Gender Diverse	-0.619	0.408	-0.073	-1.516	0.130	-1.421	0.183
Age	-0.002	0.004	-0.032	-0.621	0.535	-0.009	0.005
Education	0.079	0.048	0.082	1.652	0.099	-0.015	0.172
Knowledge (mv)	0.062	0.064	0.053	0.961	0.337	-0.065	0.189
Proximity to agricultural sector	0.022	0.042	0.028	0.519	0.604	-0.061	0.105
Place of residency - countryside	-0.121	0.127	-0.057	-0.952	0.342	-0.371	0.129
Place of residency - agglomeration	0.006	0.120	0.003	0.052	0.959	-0.230	0.243

Anmerkungen: N = 434; R^2 = 0.072; korr. R^2 = 0.036; F(16, 417) = 2.01; 0.011624662107389

BCa-Bootstrapping with 10'000 BCa samples

95% KI		SE
UG	*OG*	
1.720[b]	3.432[b]	.415[b]
-.081[b]	.380[b]	.116[b]
-.362[b]	.074[b]	.117[b]
-.138[b]	.371[b]	.132[b]
-.456[b]	.119[b]	.146[b]
.072[b]	.772[b]	.179[b]
-1.184[b]	.687[b]	.468[b]
-.334[b]	.350[b]	.184[b]

-.017[b]	.845[b]	.225[b]
-.361[b]	.039[b]	.102[b]
-1.797[b,c]	.750[b]	.634[b]
-.009[b]	.004[b]	.003[b]
-.009[b]	.166[b]	.046[b]
-.064[b]	.184[b]	.067[b]
-.066[b]	.113[b]	.045[b]
-.388[b]	.141[b]	.133[b]
-.246[b]	.257[b]	.126[b]

b. Basierend auf 9973 Stichproben

c. Einige Ergebnisse konnten aus den Jackknife-Stichproben nicht berechnet werden, daher wird dieses Konfidenzintervall mit der Perzentilmethode und nicht mit der BCa-Methode berechnet.

Chickens

Abhängige Variable: Estimation imported feed for chickens

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	2.035	0.456	Löschen	4.465	<0.001	1.139	2.930
Treatment 1	0.154	0.122	0.069	1.261	0.208	-0.086	0.393
Treatment 2	-0.128	0.123	-0.057	-1.040	0.299	-0.371	0.114
Eat meat from time to time	0.093	0.136	0.039	0.681	0.496	-0.175	0.361
Flexitarian	-0.216	0.164	-0.075	-1.312	0.190	-0.539	0.107
Vegetarian	-0.038	0.201	-0.010	-0.189	0.850	-0.432	0.356
Pescetarian	-0.126	0.410	-0.015	-0.308	0.758	-0.932	0.679
Flexi-vegan	0.041	0.198	0.012	0.209	0.835	-0.349	0.431
Vegan	0.273	0.223	0.067	1.220	0.223	-0.167	0.712
Gender Male	0.056	0.108	0.026	0.521	0.603	-0.155	0.267
Gender Diverse	-0.412	0.433	-0.046	-0.952	0.342	-1.264	0.439
Age	0.001	0.004	0.016	0.303	0.762	-0.006	0.009
Education	0.105	0.051	0.104	2.085	0.038	0.006	0.205
Knowledge (mv)	0.140	0.068	0.113	2.047	0.041	0.006	0.275
Proximity to agricultural sector	-0.017	0.045	-0.021	-0.384	0.701	-0.105	0.071
Place of residency - countryside	-0.091	0.135	-0.041	-0.674	0.501	-0.356	0.174

Place of residency - agglomeration	0.017	0.128	0.008	0.133	0.894	-0.234	0.268

Anmerkungen: N = 434; R^2 = 0.052; korr. R^2 = 0.016; F(16, 417) = 1.431; 0.12319985889393

BCa-Bootstrapping with 10'000 BCa samples		
95% KI		SE
UG	*OG*	
1.201[b]	2.896[b]	.430[b]
-.093[b]	.406[b]	.125[b]
-.368[b]	.097[b]	.120[b]
-.184[b]	.363[b]	.143[b]
-.531[b]	.084[b]	.159[b]
-.407[b]	.330[b]	.193[b]
-.959[b]	.577[b]	.393[b]
-.350[b]	.417[b]	.198[b]
-.196[b]	.736[b]	.242[b]
-.149[b]	.265[b]	.106[b]
-1.355[b]	.422[b]	.439[b]
-.006[b]	.008[b]	.004[b]
.012[b]	.198[b]	.048[b]
.010[b]	.270[b]	.067[b]
-.108[b]	.073[b]	.045[b]
-.357[b]	.177[b]	.133[b]
-.242[b]	.285[b]	.131[b]

b. Basierend auf 9971 Stichproben

Multiple Linear Regression tables for arable land used to produce animal feed

Abhängige Variable: arable land used to produce animal feed

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	2.440	0.361	Löschen	6.757	<0.001	1.730	3.149
Treatment 1	-0.053	0.096	-0.030	-0.549	0.583	-0.243	0.137
Treatment 2	-0.128	0.098	-0.071	-1.308	0.192	-0.320	0.064
Eat meat from time to time	0.186	0.108	0.097	1.722	0.086	-0.026	0.399
Flexitarian	0.203	0.130	0.088	1.556	0.120	-0.053	0.459

Vegetarian	0.087	0.159	0.029	0.549	0.584	-0.225	0.399
Pescetarian	0.269	0.325	0.040	0.828	0.408	-0.369	0.907
Flexi-vegan	0.507	0.157	0.182	3.226	0.001	0.198	0.816
Vegan	0.735	0.177	0.225	4.151	<0.001	0.387	1.083
Gender Male	0.076	0.085	0.044	0.892	0.373	-0.091	0.243
Gender Diverse	0.269	0.343	0.037	0.783	0.434	-0.406	0.944
Age	0.006	0.003	0.094	1.840	0.066	0.000	0.012
Education	-0.006	0.040	-0.007	-0.150	0.881	-0.085	0.073
Knowledge (mv)	0.038	0.054	0.038	0.695	0.488	-0.069	0.144
Proximity to agricultural sector	-0.037	0.036	-0.056	-1.047	0.296	-0.107	0.033
Place of residency - countryside	0.101	0.107	0.057	0.944	0.346	-0.109	0.311
Place of residency - agglomeration	0.061	0.101	0.033	0.598	0.550	-0.139	0.260

Anmerkungen: N = 434; R^2 = 0.08; korr. R^2 = 0.044; F(16, 417) = 2.26; 0.00366923744230457

BCa-Bootstrapping with 10'000 BCa samples		
95% KI		SE
UG	*OG*	
1.735[b]	3.181[b]	.350[b]
-.241[b]	.132[b]	.099[b]
-.311[b]	.048[b]	.096[b]
-.022[b]	.391[b]	.108[b]
-.041[b]	.457[b]	.126[b]
-.245[b]	.419[b]	.171[b]
-.286[b,c]	.856[b]	.291[b]
.214[b]	.799[b]	.149[b]
.391[b]	1.082[b]	.168[b]
-.084[b]	.237[b]	.085[b]
-.160[b,c]	.705[b]	.219[b]
.000[b]	.011[b]	.003[b]
-.084[b]	.069[b]	.041[b]
-.071[b]	.147[b]	.057[b]
-.109[b]	.034[b]	.037[b]
-.114[b]	.321[b]	.109[b]
-.139[b]	.265[b]	.102[b]

b. Basierend auf 9971 Stichproben

c. Einige Ergebnisse konnten aus den Jackknife-Stichproben nicht berechnet werden, daher wird dieses Konfidenzintervall mit der Perzentilmethode und nicht mit der BCa-Methode berechnet.

Appendix H: Multiple Linear Regression table knowledge (mv)

	Abhängige Variable: Knowledge_scale						
Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	3.669	0.273	Löschen	13.425	<0.001	3.132	4.206
Treatment 1	-0.062	0.088	-0.034	-0.704	0.482	-0.234	0.111
Treatment 2	-0.003	0.088	-0.002	-0.035	0.972	-0.177	0.171
Eat meat from time to time	0.092	0.098	0.047	0.935	0.350	-0.101	0.285
Flexitarian	0.572	0.114	0.248	5.005	<0.001	0.347	0.797
Vegetarian	0.378	0.142	0.124	2.650	0.008	0.098	0.658
Pescetarian	0.376	0.293	0.056	1.283	0.200	-0.200	0.952
Flexi-vegan	0.975	0.134	0.349	7.287	<0.001	0.712	1.238
Vegan	0.955	0.153	0.292	6.238	<0.001	0.654	1.256
Gender Male	-0.180	0.077	-0.105	-2.346	0.019	-0.331	-0.029
Gender Diverse	-0.087	0.310	-0.012	-0.280	0.779	-0.697	0.523
Age	0.009	0.003	0.157	3.445	<0.001	0.004	0.015
Education	0.008	0.036	0.010	0.223	0.824	-0.063	0.079
Proximity to agricultural sector	-0.159	0.031	-0.237	-5.109	<0.001	-0.221	-0.098
Place of residency - countryside	0.064	0.097	0.036	0.662	0.508	-0.127	0.255
Place of residency - agglomeration	0.080	0.092	0.044	0.877	0.381	-0.100	0.261

Anmerkungen: N = 431; R^2 = 0.253; korr. R^2 = 0.226; F(15, 415) = 9.387; <0,001

Appendix I: Remaining multiple Linear Regression tables

Multiple Linear Regression table emotions (mv)

	Abhängige Variable: Emotions (mv)						
Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	1.794	0.316		5.671	<0.001	1.172	2.416
Treatment 1	0.068	0.085	0.031	0.794	0.428	-0.100	0.235
Treatment 2	0.087	0.086	0.039	1.014	0.311	-0.081	0.255
Eat meat from time to time	0.401	0.096	0.168	4.196	<0.001	0.213	0.589
Flexitarian	0.960	0.114	0.341	8.445	<0.001	0.736	1.183
Vegetarian	1.306	0.139	0.350	9.425	<0.001	1.034	1.579
Pescetarian	1.236	0.283	0.151	4.364	<0.001	0.679	1.793
Flexi-vegan	1.807	0.137	0.530	13.182	<0.001	1.538	2.077
Vegan	2.069	0.154	0.518	13.405	<0.001	1.766	2.373
Gender Male	-0.021	0.075	-0.010	-0.285	0.775	-0.168	0.126
Gender Diverse	-0.011	0.299	-0.001	-0.038	0.970	-0.600	0.577
Age	0.000	0.003	-0.005	-0.148	0.882	-0.006	0.005
Education	0.015	0.035	0.015	0.417	0.677	-0.055	0.084
Knowledge (mv)	0.090	0.047	0.074	1.895	0.059	-0.003	0.183
Proximity to agricultural sector	0.080	0.031	0.097	2.566	0.011	0.019	0.141
Place of residency - countryside	-0.148	0.094	-0.067	-1.576	0.116	-0.332	0.037
Place of residency - agglomeration	-0.162	0.089	-0.073	-1.822	0.069	-0.337	0.013

Anmerkungen: N = 427; R^2 = 0.539; korr. R^2 = 0.521; F(16, 410) = 30.005; <0,001

Multiple Linear Regression table values (mv)

	Abhängige Variable: Values (mv)						
Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	1.922	0.323		5.941	<0.001	1.286	2.557
Treatment 1	0.020	0.087	0.010	0.230	0.818	-0.151	0.191
Treatment 2	0.056	0.087	0.027	0.638	0.524	-0.116	0.227
Eat meat from time to time	0.223	0.097	0.100	2.289	0.023	0.031	0.415
Flexitarian	0.721	0.116	0.274	6.203	<0.001	0.492	0.949
Vegetarian	1.006	0.142	0.289	7.103	<0.001	0.728	1.284
Pescetarian	0.811	0.289	0.107	2.805	0.005	0.243	1.380
Flexi-vegan	1.484	0.140	0.467	10.593	<0.001	1.209	1.760
Vegan	1.699	0.158	0.456	10.767	<0.001	1.389	2.009
Gender Male	0.072	0.076	0.037	0.947	0.344	-0.078	0.222
Gender Diverse	-0.264	0.306	-0.032	-0.863	0.389	-0.864	0.337

Age	-0.003	0.003	-0.037	-0.928	0.354	-0.008	0.003
Education	0.001	0.036	0.001	0.015	0.988	-0.070	0.071
Knowledge (mv)	0.090	0.049	0.079	1.847	0.065	-0.006	0.185
Proximity to agricultural sector	0.122	0.032	0.158	3.820	<0.001	0.059	0.184
Place of residency - countryside	-0.167	0.096	-0.082	-1.744	0.082	-0.356	0.021
Place of residency - agglomeration	-0.109	0.091	-0.053	-1.202	0.230	-0.287	0.069

Anmerkungen: N = 428; R^2 = 0.447; korr. R^2 = 0.426; F(16, 411) = 20.79; <0,001

Multiple Linear Regression table purchase intention (mv)

Abhängige Variable: Purchase Intention (mv)

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	4.545	0.441	Löschen	10.310	<0.001	3.677	5.413
Treatment 1	-0.020	0.123	-0.009	-0.163	0.870	-0.261	0.221
Treatment 2	-0.962	0.123	-0.427	-7.804	<0.001	-1.204	-0.719
Diet 2 (meat from time to time)	-0.238	0.118	-0.109	-2.022	0.044	-0.470	-0.006
Diet 3 (Flexitarian)	-0.771	0.142	-0.307	-5.407	<0.001	-1.051	-0.490
Gender 2 (Male)	-0.162	0.106	-0.078	-1.521	0.129	-0.371	0.048
Gender 3 (Diverse)	0.367	0.638	0.028	0.576	0.565	-0.889	1.624
Age	0.004	0.003	0.061	1.182	0.238	-0.003	0.011
Education	-0.046	0.051	-0.046	-0.910	0.364	-0.146	0.054
Knowledge (mv)	0.007	0.067	0.006	0.108	0.914	-0.125	0.140
Proximity to agricultural sector	-0.118	0.044	-0.147	-2.680	0.008	-0.205	-0.031
Place of residency 2 (countryside)	0.107	0.136	0.049	0.785	0.433	-0.161	0.375
Place of residency 3 (agglomeration)	0.117	0.131	0.052	0.892	0.373	-0.141	0.374

Anmerkungen: N = 312; R^2 = 0.305; korr. R^2 = 0.277; F(12, 299) = 10.952; <0,001

BCa-Bootstrapping with 10'000 BCa samples

95% KI		SE
UG	*OG*	
3.734[b]	5.362[b]	.424[b]
-.263[b]	.214[b]	.122[b]
-1.200[b]	-.717[b]	.121[b]

-.470[b,c]	.000[b]	.120[b]
-1.064[b]	-.456[b]	.144[b]
-.378[b]	.055[b]	.108[b]
-.459[b,c]	1.190[b]	.486[b]
-.003[b]	.011[b]	.004[b]
-.150[b]	.063[b]	.051[b]
-.133[b]	.143[b]	.073[b]
-.203[b]	-.034[b]	.044[b]
-.141[b]	.365[b]	.133[b]
-.147[b]	.392[b]	.139[b]

b. Basierend auf 6442 Stichproben
c. Einige Ergebnisse konnten aus den Jackknife-Stichproben nicht berechnet werden, daher wird dieses Konfidenzintervall mit der Perzentilmethode und nicht mit der BCa-Methode berechnet.

Multiple Linear Regression table perceived Greenwashing (mv)

Abhängige Variable: Perceived Greenwashing (mv)

Koeffizienten	*b*	SE	*β*	*t*	*p*	95% KI	
						UG	*OG*
(Konstante)	2.862	0.308	Löschen	9.295	<0.001	2.257	3.467
Treatment 1	0.022	0.082	0.012	0.264	0.792	-0.140	0.183
Treatment 2	0.018	0.083	0.010	0.217	0.828	-0.146	0.182
Eat meat from time to time	-0.088	0.092	-0.046	-0.957	0.339	-0.269	0.093
Flexitarian	-0.518	0.111	-0.225	-4.667	<0.001	-0.737	-0.300
Vegetarian	-0.693	0.135	-0.227	-5.114	<0.001	-0.959	-0.427
Pescetarian	-0.574	0.277	-0.086	-2.071	0.039	-1.118	-0.029
Flexi-vegan	-1.051	0.134	-0.377	-7.845	<0.001	-1.315	-0.788
Vegan	-1.110	0.151	-0.340	-7.352	<0.001	-1.407	-0.813
Gender Male	-0.039	0.073	-0.023	-0.533	0.595	-0.181	0.104
Gender Diverse	0.471	0.293	0.065	1.609	0.108	-0.104	1.047
Age	0.007	0.003	0.125	2.868	0.004	0.002	0.012
Education	-0.015	0.034	-0.018	-0.437	0.663	-0.082	0.052
Knowledge (mv)	-0.044	0.046	-0.044	-0.945	0.345	-0.135	0.047
Proximity to agricultural sector	-0.068	0.030	-0.101	-2.241	0.026	-0.128	-0.008
Place of residency - countryside	0.231	0.091	0.130	2.535	0.012	0.052	0.411

Place of residency - agglomeration	0.067	0.086	0.037	0.771	0.441	-0.103	0.236

Anmerkungen: N = 434; R^2 = 0.331; korr. R^2 = 0.305; F(16, 417) = 12.887; <0,001

BCa-Bootstrapping with 10'000 BCa samples		
95% KI		SE
UG	*OG*	
2.232[b]	3.443[b]	.317[b]
-.148[b]	.188[b]	.086[b]
-.142[b]	.177[b]	.081[b]
-.286[b]	.112[b]	.100[b]
-.770[b]	-.261[b]	.128[b]
-.910[b]	-.462[b]	.106[b]
-1.062[b]	-.095[b]	.241[b]
-1.302[b]	-.794[b]	.126[b]
-1.411[b]	-.779[b]	.163[b]
-.182[b]	.110[b]	.075[b]
-.289[b,c]	1.334[b]	.408[b]
.002[b]	.013[b]	.003[b]
-.085[b]	.058[b]	.035[b]
-.143[b]	.063[b]	.052[b]
-.131[b]	-.006[b]	.032[b]
.043[b]	.418[b]	.097[b]
-.102[b]	.230[b]	.086[b]

b. Basierend auf 9967 Stichproben
c. Einige Ergebnisse konnten aus den Jackknife-Stichproben nicht berechnet werden, daher wird dieses Konfidenzintervall mit der Perzentilmethode und nicht mit der BCa-Methode berechnet.