Information Avoidance with Regard to Pig Farming and Its Implications for Communication Strategies of The Agricultural Livestock Sector

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Abstract

In the agri-food industry, public relations work relies on consumers who are willing to receive information. However, studies have shown that people often avoid using information, a behavior known as information avoidance. Sweeny et al. (2010) identify three main motives for this behavior: avoiding negative effects on action, affect or cognition. Currently, the effectiveness of agribusiness communication strategies and information formats in improving acceptance and trust in intensive livestock farming may be limited. There have been no published studies to date that address the suitability of communication strategies employed by the agri-food industry in light of information avoidance and its underlying motives, particularly with regard to pig farming. This present exploratory study aims to fill this research gap. The study employed Howell and Shepperd's (2016) 8-item information avoidance scale to measure the relationship between the occurrence and impact of three motives for information avoidance and information avoidance in pig farming. The influence of sociodemographics, personality-related characteristics and level of acceptance regarding pig farming on information avoidance has been tested in addition to the basic model specification. The impact of the motives for information avoidance showed some significant results on tendency to avoid information. Expected contradiction to one's own beliefs (cognition) has a negative effect on information avoidance, while expected negative effects on affect has a positive impact on information avoidance. This findings align with the meat paradox, which is a form of dissonance. Consumers use information avoidance as a strategy to reduce emotional discomfort caused by moral contradictions. Therefore images, formulations or information content that tend to be seen as emotionally charged regarding animals should not be used for public relations work. Suitable target groups for public relations work are primarily intellectually open-minded people who are, according to our results, interested in new information, even if this could create a contradictory image to their previous attitudes. In addition, people who are completely opposed to pig farming are generally interested in information on this topic and could therefore potentially be reached well with factual information and neutral arguments. Furthermore, it has been shown that consumers with a low level of acceptance of pig farming tend to avoid information on the subject. It is important to consider this when preparing and disseminating information about pig farming, as it could limit the success of public relations work in the agricultural industry.

Key words: information avoidance, public relations, communication strategies, livestock farming

1   Introduction

In many western industrialized countries, the agricultural and food industry has been the center of a public debate on the conditions under which farm animals are kept (Spiller et al., 2015). A growing discrepancy between diverse social expectations on the one hand and market demands on the other hand are becoming increasingly apparent (Kayser et al., 2012a). The public's expectations go beyond provision with traditional product quality attributes of tasty, safe, healthy and inexpensive food (Busch et al., 2013) and also include process qualities such as origin and animal welfare. In order to be able to formulate recommendations for the industry on how to deal with these developments and the public debate,

numerous studies have analyzed the reasons for the increase in critical consumer voices and possible solutions (Cordts et al., 2013; Kayser et al., 2012a; Sonntag et al., 2021; Spiller et al., 2015).

A lack of information about livestock farming is considered to be a major reason for the lack of acceptance of livestock farming (Berkes et al., 2019). Therefore, informed consumers are the basis for the success of cognitively based communication strategies in the public relations work of the agricultural sector (Busch et al., 2013). In standard economics, information is a scarce resource and there is no rational justification for not utilising all available information (Golman et al. 2017). However, studies have repeatedly shown that, contrary to this assumption, people refrain from using information on the consequences of their actions (e.g. Dana et al., 2007; Feiler, 2014; Larson and Capra, 2009). This behavior, which aims to delay or completely prevent the absorption of information, is called information avoidance (Sweeny et al., 2010).

Current research in agricultural economics largely focuses on the phenomenon of information avoidance in relation to making consumption decisions (Deng et al., 2023; Epperson and Gerster, 2021). So far, no studies have been published about underlying motives for information avoidance in the context of agricultural public relations in pig farming. This study was developed with the aim of contributing to closing this research gap and providing recommendations for public relations work to increase the acceptance of pig farming in society.

This paper is structured as follows: In the following section, the theoretical background and hypotheses are presented. The analytical approach of the study and the data generation are presented in section 3. Section 4 briefly presents the results, while section 5 discusses the results and the final section concludes.

2   Theoretical background

Some studies see a reason for the changed perception of livestock farming in the changing relationship between humans and animals, for example (Spiller et al., 2015). The social demands on animal welfare have grown against the backdrop of the ethical perception of livestock farming. The demand for more animal welfare in livestock farming is explained by the ability of animals to feel pain, suffering and negative emotions and with their use to exercise their species-appropriate behavior (WBA, 2015). The consequence of this development is an increasing criticism of animal husbandry systems, the treatment of farm animals, the structures in agricultural livestock farming and a resulting loss of acceptance (Sonntag et al., 2021).

Against the backdrop of changing ethical values, the predominant explanation for critical attitudes in society lies in the general perception of modern agricultural production (Zander et al., 2013). This is justified, for example, by the fact that only a few citizens still have a direct connection to agriculture or personal points of contact with livestock farming (Böhm et al., 2010) and that agriculture is partially retreating into a bubble. Due to the mutual alienation between society and agriculture, the portrayal of agriculture in the media in particular plays a decisive role in shaping consumer attitude (Kothe et al., 2020). However, this is characterised by an increasingly critical view and reporting on the conditions in which farm animals are kept (Böhm et al., 2010; Kothe et al., 2020). It can be seen that, alongside horror stories and scandals surrounding livestock farming (Albersmeier and Spiller, 2010; Kothe et al., 2020), negative associations with the terms used, such as the term "factory farming", also lead to a loss of image and, in particular, trust (Busch et al., 2013; Kayser et al., 2012a; Kayser et al., 2012b). At the same time, however, technological developments in agricultural production are often met with romanticised ideas of agriculture and livestock farming on the part of consumers. Overall, this is leading to an ever-increasing discrepancy between society's ideas and expectations and the reality of livestock farming (Spiller et al., 2015).

Building sustainable trust in communication in the agricultural sector is fundamental to improving acceptance and image (Berkes et al., 2019). The solutions cited in previous studies therefore primarily focus on providing more information and realistic portrayals of agriculture in the media (Busch et al., 2013; Schulze Walgern and Mergenthaler, 2020; Wernsmann et al., 2018). A frequently cited approach to this is the expansion of public relations work and improved communication with consumers on the part of agriculture (Albersmeier and Spiller, 2010). The aim is to give consumers a real picture of agriculture and livestock farming, thereby minimizing the impact of media coverage (Busch et al., 2017). According to Härlen et al. (2004), credibility in communication and the general availability of detailed information play a decisive role in consumer acceptance. Direct contact and dialogue with farmers also leads to a much more positive image of agriculture among consumers (Helmle, 2010).

The provision of easily accessible and everyday information directly from agricultural practice therefore forms the basis of successful public relations and educational work (Härlen et al., 2004). However, this raises the question of which communication strategies can improve acceptance of and trust in modern

livestock farming (Sonntag et al., 2021). This is also due to the fact that the industry has primarily reacted passively to media criticism and favoured a more public-focused approach in the recent past (Spiller et al., 2015; WBA, 2015). For the often-criticised processing industry in particular, the recommendation is therefore to actively respond to negative portrayals in the public media on the one hand and to proactively carry out informative public relations and educational work on the other (Busch et al., 2013). Dialogue-based public relations work is probably the most frequently cited method for providing citizens with realistic information about agricultural production and thus regaining more mutual understanding and trust (Berkes et al., 2019; Böhm et al., 2010).

Due to a growing research interest, basic principles of information avoidance can be understood from an increasing number of studies. In general, the decision to seek or avoid information depends on the positive or negative influences that are expected on feelings, actions or cognitions as a result of receiving certain information. A positive assessment triggers or reinforces information seeking, a negative expectation leads to information avoidance and neither positive nor negative expected effects indicate indifference to the information (Sharot and Sunstein, 2020). It is assumed that this decision-making is often controlled by implicit processes and that the triggering of information search or avoidance is therefore often to be understood as an unconscious decision (Sweeny et al., 2010; Woolley and Risen, 2021). Only in a few cases can an active and conscious avoidance of information be assumed. The decisive factors for active information avoidance are awareness of the availability of information and free access to it (Golman et al., 2017). For active information avoidance this means, for example, asking someone not to share information, whereas in the case of unconscious information avoidance, information procurement, for example asking for information, is omitted (Sweeny et al., 2010). The principle of economic decision-making states that active avoidance of information can only be justified by a strategic advantage of ignorance (Golman et al., 2017; Stigler, 1961).

The reasons for information avoidance can be manifold (Golman et al., 2017). Sweeny et al. (2010) categorize these into three overarching motives for information avoidance, which can be decisive for information avoidance independently of each other or in combination with each other. A similar integrative framework for three overarching motives for information seeking or avoidance is also used and adopted by Sharot and Sunstein (2020). They base this model on the assumption that information can influence action (instrumental value), affect (hedonic value) and cognition (cognitive value) in both positive and negative ways. Accordingly, a motive for information avoidance can be the avoidance of an expected discrepancy between one's own beliefs and newly acquired information. The cognitive value of the information can lead to the need to abandon or change one's own beliefs and attitudes (Sharot and Sunstein, 2020). People are inclined to seek out information that corresponds to or supports their own beliefs and decisions (Smith et al., 2008). In doing so, new information should always be consistent with their attitude towards themselves, other people or their own world view (Sharot and Sunstein, 2020; Sweeny et al., 2010). Maintaining a positive self-image can also play a role in this context if information about the negative consequences of one's own actions is avoided (Grossman and van der Weele, 2017). Another motive for avoiding information is the possibility that knowledge of new information, i.e. the instrumental value of the information, may result in a need for undesirable behavior or actions (Sharot and Sunstein, 2020). The problem here is not only the undesirable required actions themselves, but also a variety of negative consequences (costs, pain, etc.) that could result for that person (Sweeny et al., 2010). The third overarching motive for information avoidance is the avoidance of expected negative affects that may result from the information or its hedonic value (Sharot and Sunstein, 2020). The aim is to avoid or minimize negative emotions such as sadness, fear, shame or guilt on the one hand and to reinforce and prolong positively experienced information on the other. At the same time, however, the decision to search for information can also evoke a negative emotion or the regret of this decision. It is therefore assumed that before seeking information, people weigh up whether they will feel more regret by experiencing information or by avoiding it (Sweeny et al., 2010).

If we consider the motives for information avoidance described above in a moral context, in this case in relation to meat consumption and livestock farming, a correspondence with the "meat paradox" frequently cited in research becomes clear (Bastian and Loughnan, 2017). This is a cognitive dissonance that arises from the contradiction between one's own values and one's own behavior (Bastian and Loughnan, 2017). In the case of meat consumption, this describes the psychological conflict that arises between a person's preference for meat and their moral reaction to possible animal suffering (Loughnan et al., 2014). Previous studies on the meat paradox assume that people change their perception of livestock farming in order to reduce negative emotions caused by meat consumption (Loughnan et al., 2014). Thus, trivialising the harm that follows the behavior and avoiding triggers are tactics to reduce cognitive dissonance (Gradidge et al., 2021). One possible strategy for avoiding triggers would be to avoid receiving further information on livestock farming. Avoiding information can therefore enable people to circumvent moral concerns about meat consumption and the animal suffering that may result from it

(Hestermann et al., 2020). In the Social Lab project, for example, strong emotional reactions to images of livestock farming led to defence reactions and an unwillingness to obtain information (Christoph-Schulz et al., 2018). Epperson and Gerster (2021) also found in an experimental study that around 30 % of test subjects avoid information about the conditions in which pigs are kept in the immediate temporal context of food consumption.

When consumers use justification (Woolley and Risen, 2021) or to avoid negative emotions such as shame or feelings of guilt (Hestermann et al., 2020) when consuming meat, the success of some communication strategies in the agricultural sector could be limited at this point. Active engagement and information-seeking by consumers would be essential for the success of dialogue-oriented formats of educational work.

Current research in agricultural economics is largely focused on information avoidance in relation to making consumption decisions, for example on meat consumption (Deng et al., 2023; Epperson und Gerster, 2021). With regard to consumer communication and public relations, previous studies have primarily investigated the way in which information is presented and its impact on consumers (Busch et al., 2015; Sonntag et al., 2016; Vierboom and Härlen, 2012). So far, no studies have been published that deal with communication strategies of the agricultural and food industry against the background of information avoidance and the underlying motives, especially in pig farming.

The following hypotheses are put forward with the aim of helping to close this research gap:

H1: The content of information on pig farming and information avoidance are related to each other.

H2: The used information channel and information avoidance are related to each other.

H3: Consumers avoid dealing with information about pig farming to maintain their views on pig farming (cognition).

H4: Consumers avoid dealing with information about pig farming to avoid a change in meat consumption (action).

H5: Consumers avoid dealing with information about pig farming to prevent the occurrence of negative emotions (affect).

H6: Unacceptance and high acceptance of pig farming negatively affect the avoidance of information.

H7: Consumers who follow a meat-free diet avoid less information on pig farming.

H8: Personality traits influence the tendency to avoid information.
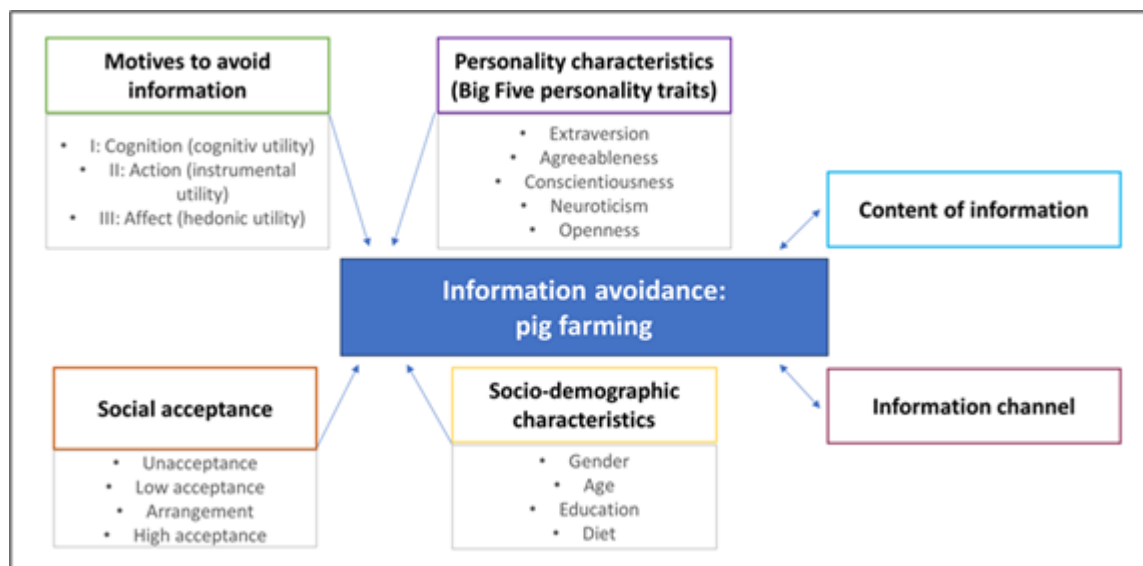
3   Data and methods

Data was collected as part of an online survey to test the hypotheses. The survey was conducted from 27 December 2023 to 15 January 2024 via the online portal LimeSurvey. The data was collected as part of an exploratory, convenience sample using open online recruitment. The sample size comprises 109 participants

aged between 21 and 71 years. The questionnaire was checked in advance in a qualitative pre-test and adjusted accordingly. Information avoidance regarding pig farming was used as the dependent variable of different OLS-regression model specifications to test the hypotheses.

3.1   Dependent variable: Information avoidance

For the measurement of information avoidance (IA), the IA scale consisting of 8 items from Howell and Shepperd (2016) was adopted and adapted according the purpose of our study. An example item reads: "I would avoid learning how pigs are kept in German livestock farming." Participants indicated their level of agreement for each item on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. After recoding the reverse coded statements, the arithmetic mean was calculated from the answers to the 8 items to determine the extent to which a person avoids information.

In addition to information avoidance, information on perceived key topics and the use of various communication and information formats relating to pig farming was also surveyed. The evaluation of this information was intended to provide further facets associated with information avoidance and validate the information avoidance construct but was not used in the OLS.

The frequency of use of various communication and information formats in agricultural public relations and media reporting was surveyed. The participants were asked to indicate how often they had used various sources of information relating to pig farming in the last two years. The frequency of use could be selected on a 6-point scale ranging from 'never' to 'almost daily'. For example, respondents were asked about direct conversations with farmers, watching reports on television or reading random posts on social media. By asking the frequency of use of the corresponding information formats, the descriptive evaluation was intended to provide information about the media use and information behavior of the respondents. In addition, Spearman's correlation coefficient was used to investigate a possible connection between the frequency of use of the information formats and the tendency to avoid information. For this purpose, the arithmetic mean value was determined for each respondent from the stated usage frequencies and this was examined in a correlation analysis with the arithmetic mean value of information avoidance.

In order to be able to draw further conclusions about the information behavior of consumers, perceived key topics relating to German pig farming were also surveyed. In addition to the descriptive evaluation, a possible connection between perceived content in relation to pig farming and the tendency to avoid information was also to be investigated here. To this end, participants were asked to choose up to three topics from a selection of suggested topics relating to pig farming about which they had already received information through personal contacts or the media. These included, for example, "castration of piglets", "space requirements of fattening pigs" or "keeping sows around birth", as well as the option to freely name other topics. This data was also correlated with the extent of information avoidance as part of a correlation analysis and examined in more detail.

3.2   Independent variables

Data was collected as part of an online survey to test the hypotheses. The survey was conducted from 27 December 2023 to 15 January 2024 via the online portal LimeSurvey. The data was collected as part of an exploratory, convenience sample using open online recruitment. The sample size comprises 109 participants aged between 21 and 71 years. The questionnaire was checked in advance in a qualitative pre-test and adjusted accordingly. Information avoidance regarding pig farming was used as the dependent variable of different OLS-regression model specifications to test the hypotheses.

3.2.1   *Independent variables: Motives*

The main interest was to analyze the relationship between the occurrence of the three motives for information avoidance according to Sweeny et al. (2010) in the integrative framework according to Sharot and Sunstein (2020) and information avoidance in the area of pig farming. The three overarching motives, i.e. the avoidance of the expected negative effects on action (instrumental value), affect (hedonic value) and cognition (cognitive value) were each queried with two items. For example, participants were presented with the following statement for the motive to avoid negative effects on cognitive perception: "I think that information about pig farming could contradict my views on animal rights and animal welfare.". The following item, for example, was asked about avoiding negative effects on actions as a motive for avoiding information: "I think that information about pig farming could make me feel forced to change my consumption or purchasing behavior.". The motive to avoid expected negative emotions and effects on affect was tested with the following item, for example: "I think that information about pig farming could make me sad or angry.". The participants rated the statements for themselves on a five-point Likert scale from 1 = strongly disagree to 5 = strongly agree. For the statistical analysis, the arithmetic mean of the two items per motive was calculated.

3.2.2 Independent variables: Social acceptance score (SAS)

The focus was on the relationship between information avoidance and the three overarching motives for information avoidance, but further specifications were also identified for a more comprehensive evaluation. For example, the influence of the level of acceptance on information avoidance was examined as a further specification. For this purpose, the social acceptance score (SAS) from Kenning et al. (2023) was adopted and adapted for the area of application of agricultural pig farming in accordance with the legal minimum standard. The SAS consists of 8 items, which were to be rated on an 11-point scale from 0 = does not apply to me at all to 10 = applies to me completely. An item for measuring opposition to pig farming was, for example: "Because I am opposed to agricultural pig farming, I actively act against it not only privately but also publicly. ". While arrangement, for example, was asked using the following item: "Since I perceive a change in agricultural pig farming, I come to terms with it as long as this is the case.". This information is intended to break down the level of acceptance into unacceptance, low acceptance, arrangement and high acceptance in an 8-level differentiation.

3.2.3 Independent variables: Personality traits and socio-demographics

The third specification included socio-demographic variables such as age, gender, highest level of education attained and diet (avoidance of meat products). Regression model four included the Big5 personality characteristics. These were surveyed using the BFI-10 scale by Rammstedt et al. (2014). Due to the limited sample size, only the socio-demographic and personality characteristics were considered in specifications three and four respectively, and only in the fifth model of the regression was the entirety of the independent variables considered.

4   Results

4.1   Information behavior and information avoidance

The following section summarizes the results on information behavior and information avoidance, which serve as key variables in the following analysis. Table 1 shows the mean agreement for the individual statements of the information avoidance scale and the corresponding standard deviations. The table also shows the mean agreement for the question on motives for information avoidance with the corresponding standard deviation. The mean agreement with the statements on the motives for information avoidance is significantly above the mid-point value of 2.5 on a scale of 1-5 for all statements.

Table 1.
Arithmetic mean for items of information avoidance scale and motives to avoid information

	Mean	Sd
Information avoidance scale		
I would rather not know how pigs are kept in German livestock farming.	1.79	0.96
I would avoid learning how pigs are kept in German livestock farming.	1.74	0.92
Even if it will upset me, I want to know how pigs are kept in German livestock farming.	4.15 (r)	0.96
When it comes to how pigs are kept in German livestock farming, sometimes ignorance is bliss.	2.33	1.18
I want to know how pigs are kept in German livestock farming.	4.22 (r)	0.85
I can think of situations in which I would rather not know how pigs are kept in German livestock farming.	2.86	1.34
It is important to know how pigs are kept in German livestock farming.	4.49 (r)	0.72
I want to know how pigs are kept in German livestock farming immediately.	3.47 (r)	1.24
Motives		
- *cognition*		
I think information about pig farming could conflict with my convictions about sustainable agriculture.	3.35	1.23
I think information about pig farming could contradict my views on animal rights and animal welfare.	3.39	1.26
- *action*		
I think information about pig farming could make me feel forced to give up meat products.	2.84	1.30
I think information about pig farming could force me to change my consumption or purchasing behavior.	3.25	1.26
- *affect*		
I think information about pig farming could make me sad or angry.	3.54	1.26
I think information about pig farming could put me under emotional strain.	3.06	1.37

Note: r indicates reversed scaled items

Table 2 shows the relative and percentage frequency of selection of the perceived main topics relating to pig farming in the sample. 'Space requirements for fattening pigs' and 'Alternative forms of husbandry above the legal minimum standard' were mentioned most frequently by the participants. Topics at earlier life stages of fattening pigs like 'Keeping sows around the time of birth' and 'Rearing piglets' were mentioned less frequently. The participants did not use the opportunity to name their own information content.

Table 2.
Selection frequency of perceived information content regarding pig farming

	total	percentage
Space requirements for fattening pigs	57	52.29 %
Alternative forms of husbandry above the legal minimum standard	54	49.54 %
Animal husbandry labelling	38	34.86 %
Environmental impact of pig farming	36	33.03 %
Slaughter process	33	30.28 %
Shortening the tails of piglets	19	17.43 %
Castration of piglets	20	18.35 %
Keeping sows around the time of birth	18	16.51 %
Rearing piglets	9	8.26 %
None of the other topics	4	3.67 %

Note: multiple answers were possible; ordered in sequence of highest frequencies (questionnaire order was randomized)

Table 3 provides the average frequency of use of the communication formats surveyed. The frequency of use was indicated on a index-scale of 1-6. None of the information /communication channels surveyed is used more than several times a year on average in the sample.

Table 3.
Average usage frequency of information formats surveyed

	Mean index	Sd
Followed the latest news on the radio or TV	2.98	1.05
Talked to friends	2.65	0.97
Watched random posts on social media	2.46	1.00
Talked to farmers directly	2.34	1.29
Watched relevant reports on TV	2.32	0.73
Read articles in print or online newspapers	2.28	1.03
Researched posts on the Internet	1.79	0.85
Influencers followed on social media	1.62	1.06
Visited farm festivals or open days	1.61	0.75

Note: index-scale: 1 = never, 2 = extremely rare, 3 = several times a year, 4 = several times a month, 5 = several times a week, 6 = almost daily; ordered in sequence of highest mean rank (questionnaire order was randomized)

4.2 Summary statistics of the variables of the OLS-model

Summary statistics of all variables used in the OLS-regression models are provided in table 4 further down. The sample's mean score for information avoidance was 2.05 on a scale of 1-5 and thus slightly below the midpoint.

Table 4.
Summary statistics of variables used in the OLS-regression models

	Mean	sd	min	max
Dependent variable:				
Information avoidance	2.05	0.70	1.00	4.00
Independent variables:				
Motives				
I: Cognition	3.37	1.10	1.00	5.00
II: Action	3.05	1.21	1.00	5.00
III: Affect	3.30	1.22	1.00	5.00
Acceptance				
Unacceptance	1.91	2.48	0.00	8.50
Low acceptance	3.95	2.45	0.00	9.67
Arrangement	3.90	3.04	0.00	10.00
High acceptance	1.81	2.02	0.00	10.00
Age	42.37	16.19	21	71
Personality				
Extraversion	3.27	0.86	1.0	5.0
Agreeableness	3.21	0.74	2.0	5.0
Conscientiousness	3.89	0.67	2.5	5.0
Neuroticism	2.84	0.82	1.0	5.0
Openness (to experience)	3.35	1.00	1.0	5.0
	total	percentage		
Gender				
Male	43	39.45 %		
Female	66	60.55 %		
Education				
Without qualification	3	2.75 %		
Vocational training	46	42.20 %		
Technical college	28	25.69 %		
University	29	26.60 %		
PhD	1	0.92 %		
No specification	2	1.83 %		
Diet				
Flexitarian	90	82.57 %		
Veggi / vegan	19	17.43 %		

Table 5 shows the correlation coefficients between the perceived main topics relating to pig farming and the frequency of use of the individual information/communication channels and information avoidance.

Table 5.
correlations between content of information on pig farming rsp. the information channel and information avoidance

	correlation with IA
Content of information	
Rearing piglets	- 0.11
Space requirements for fattening pigs	0.21
Keeping sows around the time of birth	- 0.11
Castration of piglets	- 0.07
Shortening the tails of piglets	- 0.16
Alternative forms of husbandry above the legal minimum standard	0.03
Environmental impact of pig farming	-0.19
Slaughter process	-0.01
Animal husbandry labelling	-0.06
None of the other topics	-0.00
Information channel	
Followed the latest news on the radio or TV	-0.11
Watched random posts on social media	-0.11
Talked to friends	-0.27
Watched relevant reports on TV	-0.05
Read articles in print or online newspapers	-0.26
Researched posts on the Internet	-0.28
Influencers followed on social media	-0.15
Talked to farmers directly	-0.12
Visited farm festivals or open days	-0.04

4.3 OLS: Influences on information avoidance

The overall regression model was highly significant in all specifications with p-values <0.01. R^2 increases in the specifications with the gradual inclusion of further independent variables. Significant influences of the motives *Cognition* and *Affect* on information avoidance were found in the simple OLS regression model (see table 6). By including further independent variables (specification II, III, IV and V) in the OLS-regression model, the significance level of the motives *Cognition* and *Affect* decreases to a p-value <0.01. The motive *Cognition* shows a negative coefficient across all specifications, while the coefficient for the motive *Affect* shows a positive value in all regression models. No significant influence was found for the motive *Action* in the other OLS-regression models. Across all specifications, *unacceptance* and *low acceptance* of pig farming show a highly significant influence on information avoidance. Interestingly, *unacceptance* of pig farming shows a negative influence in all OLS-regression models, whereas a positive influence on information avoidance can be determined for a *low level of acceptance*. By controlling for socio-demographics in model III and V, no significant impact could be determined for socio-demographic characteristics on information avoidance. By including the Big 5 personality characteristics a significant negative influence on information avoidance can be determined only for the personality trait of *openness* in model specifications IV and V.

Table 6.
OLS-regression results of effects on information avoidance

	Model I	Model II	Model III	Model IV	Model V
	Coeff. (p-value)	Coeff. (p-value)	Coeff. (p-value)	Coeff. (p-value)	Coeff. (p-value)
Motives					
- Cognition	-0.228 (**0.013**)	-0.215 (**<0.01**)	-0.219 (**<0.01**)	-0.219 (**<0.01**)	-0.220 (**<0.01**)
- Action	-0.130 (0.067)	-0.044 (0.477)	-0.054 (0.409)	-0.045 (0.471)	-0.059 (0.374)
- Affect	0.172 (**0.047**)	0.023 (**<0.01**)	0.266 (**<0.01**)	0.240 (**<0.01**)	0.266 (**<0.01**)
Acceptance					
- Unacceptance		-0.117 (**<0.01**)	-0.153 (**<0.01**)	-0.118 (**<0.01**)	-0.142 (**<0.01**)
- Low acceptance		0.109 (**<0.01**)	0.115 (**<0.01**)	0.101 (**<0.01**)	0.104 (**<0.01**)
- Arrangement		-0.009 (0.641)	-0.007 (0.703)	-0.004 (0.837)	-0.004 (0.825)
- High acceptance		-0.023 (0.499)	-0.022 (0.528)	-0.052 (0.119)	-0.055 (0.121)
Socio-demographics					
- Female			-0.062 (0.610)		-0.012 (0.925)
- Age in years			0.000 (0.983)		0.001 (0.695)
- Education - rank			0.033 (0.606)		0.033 (0.602)
- Veggi / vegan			0.280 (0.207)		0.152 (0.498)
Personality					
- Extraversion				0.090 (0.211)	-0.081 (0.288)
- Agreeableness				-0.047 (0.523)	-0.031 (0.696)
- Conscientiousness				-0.071 (0.378)	-0.053 (0.567)
- Neuroticism				-0.088 (0.237)	-0.102 (0.201)
- Openness				-0.172 (**<0.01**)	-0.173 (**<0.01**)
p-value	(**<0.01**)	(**<0.01**)	(**<0.01**)	(**<0.01**)	(**<0.01**)
R²	0.1161	0.4199	0.4341	0.496	0.5032

5   Discussion

5.1   General discussion

The main assumption of the study was that participants would avoid information about pig farming. Contrary to our expectations, the results show that respondents in our sample do not clearly tend to voluntarily avoid information about pig farming. A rational decision to take in information would be rated with a value of 1 on the information avoidance scale, while in our study a mean value of 2.05 on the

information avoidance scale could be determined. Accordingly, only a very weak tendency towards information avoidance can be assumed. This result is surprising, as Volker and Grüner (2023) already found a clearer tendency towards information avoidance in their study on information avoidance for animal welfare topics using the information avoidance scale by Howell and Shepperd (2016). Bell et al. (2017) also found similar results on information avoidance in relation to husbandry conditions and pork production in an internet survey in the US state of Oklahoma. A possible reason for the contrasting results in this study could be the non-random sample and the fact that respondents were already recruited by topic. Participants were recruited via an open online recruitment with a request for information about their attitudes towards pig farming in Germany. It is therefore likely that more people who already feel a stronger connection to the topic or are interested in the topic took part. A striking feature of the socio-demographic data of the sample was a comparatively high proportion of people with a high level of education (~26% university degree) and a meat-free diet (~17%). These characteristics suggest a higher level of information in general, but particularly in relation to animal husbandry among people with a meat-free diet. The more education-oriented sample also indicates that the respondents consider themselves to be well informed and interested in new information when consciously assessing their information behavior. This effect should therefore be taken into account when interpreting the results.

As part of the correlation analysis in the second section of the data evaluation, the factors influencing information avoidance were examined, with only slightly significant results being observed in some cases. A relevant connection between the perceived information content and the avoidance of information could not be established in the correlation analysis, as assumed in hypothesis 1. A connection between the frequency of use of information or communication formats and information avoidance could also not be confirmed in this study through clear correlations. However, the slightly higher negative correlation coefficients for actively used information channels such as "researching articles on the Internet", "talking to friends" and "reading articles in print or online newspapers" could indicate that respondents who have used these information channels tend to have a lower level of information avoidance. These people proactively search for information or actively engage with the topic out of interest. Overall, the low correlation coefficients indicate that information avoidance with regard to pig farming is generally independent of the main topics and information channels surveyed.

For the main interest of the study, the influence of the three motives described at the beginning on the tendency to avoid information, significant results were found for two of the three motives. However, the motive to change consumer behavior (action) showed no significant effect on information avoidance in this study. Hypothesis 4 can therefore not be confirmed in this study. This is surprising as, for example, Epperson and Gerster (2021) found a correlation between the avoidance of information about pig farming and the direct consumption of meat products in an earlier study. Woolley and Risen (2021) also observed in their studies that information that is directly related to the purchasing process tends to be avoided. The lack of effect of this motive in this study can possibly be explained by the high proportion of participants with a vegetarian or vegan diet (~17%). As these people avoid meat products anyway, they probably did not indicate in the survey that they expected additional information about pig farming to have an undesirable effect on their consumption behavior. Against the background of the diverse social debate on the consumption of meat products in recent years, similar assumptions could also be made for meat eaters (Lin-Schilstra and Fischer, 2020). Following this broad debate, it can be assumed that meat eaters are aware of the arguments for and against meat consumption (Hölker et al., 2019) and therefore, like vegetarians, do not expect additional information to have a direct negative impact on their consumption behavior.

Hypothesis 5, that information is avoided due to possible negative emotions such as feelings of guilt or shame, can be confirmed across all specifications due to the positive regression coefficients. Since, for example, emotional reactions to pictures of animal husbandry were observed by Christoph-Schulz et al. (2018) as a trigger for a lack of willingness to provide information. This positive influence of the expected negative emotions on information avoidance was to be expected. Also, Schröter et al. (2023) found negative emotional reactions to pictures of suffering animals. Other studies on information avoidance in consumer decisions also found a positive tendency towards information avoidance among consumers who expected negative emotions when receiving new information (Deng et al., 2023). Bell et al. (2017) were even able to explicitly highlight the avoidance of feelings of guilt as a motivator for information avoidance. In all OLS-regression models, the expected contradiction to one's own beliefs due to the knowledge of new information as a motive (cognition) shows a significant negative influence on information avoidance. Against the background of the phenomenon of the meat paradox as a form of dissonance described at the beginning (Loughnan et al., 2014), these results allow initial interpretations of information avoidance behavior in relation to pig farming. In this model, consumers use the strategy of avoidance to avoid dealing with the trade-off between meat consumption and concern for animal welfare. Rothgerber (2020), for example, concludes in his explanatory framework for meat-related dissonance that

people try to reduce the triggers of dissonance in advance through disengagement strategies, such as the indirect strategy of avoidance. We can also support this observation with the positive effect of the motive Affect on the tendency to avoid information. People perceive information about pig farming as emotionally distressing because it makes the moral dilemma of meat consumption clear to them (Lin-Schilstra and Fischer, 2020). We therefore assume that the meat paradox primarily describes an emotional dissonance. Due to the simultaneous negative effect of the motive Cognition (contrary to hypothesis 3), it can be assumed that as soon as people are aware of these contradictions, they tend to absorb information in order to reduce this dissonance (Rothgerber, 2020). The aim is presumably to use additional information to make informed decisions and thus justify their own meat consumption or reduce the perceived dissonance (Bastian and Loughnan, 2017). The results of this study therefore suggest that, on a conscious level, people expect to be able to deal with the conflicts that arise from contradictions between their own beliefs and the information about pig farming.

The results of the investigation of hypothesis 7 should also be mentioned in this context. In this study, no significant influence of a meat-free diet on the tendency to avoid information was found. These results are interesting because, according to Simons et al. (2019), meat eaters tend to avoid dealing with the topic of animal husbandry. Furthermore, in a study by De Backer and Hudders (2015), vegetarians show a higher level of concern and thus a greater engagement with the topic of animal husbandry. These effects may be masked in our study by the previous explanations of the motives Affect and Cognition. Another possible explanation at this point could also be the education-oriented sample and the resulting overall presumably greater willingness to absorb information.

The analysis of the independent variable of the level of acceptance also provided interesting results. Hypothesis 6, unacceptance and high acceptance of pig farming have a negative influence on information avoidance, cannot be fully confirmed in this study. It was to be expected that critical consumers in particular with a high level of unacceptance would avoid information. This partial assumption of the hypothesis has to be rejected due to the significantly negative coefficients for the unacceptance of pig farming across all specifications of the regression model. This is in line with results of previous studies that have found a higher level of information on animal husbandry among critical consumers (Busch et al., 2013; Kayser et al., 2012a). This in turn suggests a lower level of information avoidance. This could also be due to the clear stance of the respondents. People with such a clear opinion no longer need to protect themselves from potentially unpleasant information about pig farming by avoiding information. Against this background, however, it should be noted that a high level of acceptance had no significant influence on information avoidance. This assumption therefore does not appear to be verifiable for people with a high level of acceptance of pig farming. However, a further significant influence of the level of acceptance on the extent of information avoidance was found. Interestingly, a low level of acceptance shows a significant positive influence on information avoidance across all specifications. This finding is consistent with the concept of the eight acceptance levels according to Sauer (2005), according to which people at this acceptance level are roughly in a dichotomy between acceptance and non-acceptance. According to Sauer (2005), a lack of clear assignment of the object of acceptance, in this case pig farming, is primarily due to insufficient active engagement with the topic.

Contrary to the expectations formulated in hypothesis 8, the analysis of the Big5 personality traits revealed no significant influences on information avoidance, with one exception. By including the Big5 personality traits in the regression analysis, a negative influence on the tendency to avoid information was only found for the Openness trait. This observation is in contrast to the results of Jach and Smillie (2020), who found no clear correlations between the Openness personality trait and triggering of information seeking in their studies. In contrast, Haran et al. (2013) found a correlation in their study between open-mindedness and a greater extent or greater persistence in obtaining information. Howell and Shepperd (2016) were also able to confirm an expected negative correlation of the personality trait openness in their study on information avoidance. The results of this study are also consistent with the basic assumptions of openness, according to which people are interested in different processes and open to new ideas and, in this case, explicitly to new information. People with low openness, i.e. more traditional people, on the other hand, tend to behave conventionally with known information and concrete thought patterns (Tennert, 2019). This suggests that traditional people tend to avoid new information about pig farming in order to avoid having to question previous thought patterns.

5.2 Implications for public relations work of the pig farming sector

In the next step, the possible conclusions from the results for the communication strategies of the pig sector are presented. The independence between information content or information formats and the avoidance of information could be emphasized positively. In this study at least, it can be established that consumers who avoid information do so regardless of the content of the information and the information channels used. This observation offers the advantage that information avoidance is not related to the

information content or the information channel. Irrespective of the tendency to avoid information, the numerous earlier studies on the effect of wording or images (Kayser et al., 2012a; Schulze Walgern and Mergenthaler, 2020) and the suitability of information channels (Berkes et al., 2019; Tesch, 2003) should therefore be taken into account in public relations communication strategies.

According to Härlen et al. (2004), credible communication and the additional provision of information from the agricultural sector are of fundamental importance for creating consumer acceptance. However, the results of this study have shown that information about pig farming tends to be avoided by consumers with low acceptance. This effect can be problematic for the success of public relations work, as people with low acceptance are the most challenging target of information campaigns. The success of the pig sector's educational and public relations work could be limited by the fact that active engagement with information is avoided. Further research would need to be carried out to clarify how these consumers can be successfully targeted. At the same time, it should be noted at this point that Mergenthaler et al. (2016), for example, were unable to confirm a more positive assessment of animal husbandry solely due to a higher level of knowledge in their study. According to Sonntag et al. (2016), the mere transfer of knowledge does not appear to contribute to greater acceptance and a more positive image of the sector. For the pig sector to improve its image, it is important to expand its public relations work with a positive presentation of information (Busch et al., 2013). However, it also appears to be important to address points of criticism from non-accepters in order to understand why a higher level of knowledge often leads to a decline in acceptance and how this effect can be avoided.

The basic interest in information can also be assumed from the overall low tendency to avoid information in this study. Possible recommendations for consumer communication can therefore be derived from the results of the data analysis on the motives for information avoidance with regard to the concept of the meat paradox. As described above, the clear positive influence of the motive Affect indicates a strongly emotionally based decision to avoid information. For example, romanticizing representations (Spiller et al., 2015) or scandals in media coverage (Albersmeier and Spiller, 2010; Kothe et al., 2020) can lead to a stronger emotional evaluation and therefore tend to lead to information avoidance. For public relations work in the pig farming industry, it is therefore advisable to work without highly emotionally charged images, terms or information on animal husbandry. Emotional involvement in the absorption of information appears to be a decisive aspect for avoiding the absorption of information, which in turn could limit the success of consumer communication. At the same time, the negative effect of the motive Cognition on the absorption of information suggests that people have a certain interest in information despite possible contradictions to their own convictions or precisely for this reason. It can therefore be assumed that a factually neutral, intellectually fascinating and comprehensive presentation of information can best reach consumers. In order to reduce the effects of a declining level of acceptance due to a higher level of knowledge, credible and trustworthy information provision is of great importance (Härlen, 2004; Mergenthaler et al., 2016). According to Helmle (2010), for example, a closer relationship or perceived proximity to agriculture leads to a more positive evaluation of agriculture. It can therefore also be assumed that a stronger relationship with the sector and the people or organizations that provide information has a positive effect on trust and the evaluation of the information. While emotional involvement in relation to the content of the information, for example the live pig in direct relation to meat consumption, inhibits the willingness to receive information (Epperson and Gerster, 2021), an emotional connection to the livestock farmers, for example, can possibly promote credibility and the willingness to receive information.

5.3   Further research

This study is exploratory in nature and was conducted with a non-random sample with open online recruitment. For further research, the results should therefore be checked on a larger sample that is more closely oriented to the socio-demographic average of the population. In this way, the distorting effects of a non-representative sample, such as the high proportion of educated or vegetarian participants, can be checked and reduced. The possible effect of a result-distorting self-assessment of information behavior mentioned at the beginning and the basically rather unconscious behavior of information avoidance raise the question of whether a standardized survey is suitable for determining information avoidance behavior. For further research, it would therefore make sense to use supplementary research methods, such as qualitative interviews or other neuroeconomic methods.

The results of the study also point to a need for further research for future studies. For a more detailed interpretation of information avoidance behavior, a closer look at the motives for information avoidance could also be of interest in future research. Exciting aspects would be, for example, whether the motives are determined or influenced by socio-demographics or personality traits – thus if there are indirect effects of socio-demographics and personality through motives on information avoidance. Considering the reasons for information avoidance, exploring information avoidance in relation to the source of

information could be a valuable area for further research. It could be examined whether information from industry representatives, NGOs or state institutions is used or evaluated differently by consumers. Furthermore, in order to adapt communication strategies appropriately, it also needs to be clarified how information-avoidant individuals can best be reached in the context of public relations and press work and how information should be prepared with regard to information avoidance. Against this background, the systematic processing of information about livestock farming, particularly in the case of information avoiders, is also an exciting research aspect for the orientation of public relations work. Overall, it should be noted that the topic of information avoidance in the area of livestock farming still offers great research potential for future work.

6   Conclusions

The aim of this study was to examine information avoidance in relation to pig farming in more detail. In particular, the influence of the three overarching motives of information avoidance, social acceptance of pig farming, socio-demographic characteristics and the Big5 personality traits on information avoidance in pig farming in Germany was analyzed. The observed effects of the motives Affect and Cognition are in line with previous research on the Meat Paradox. From the results, it can be deduced that public relations work to increase the acceptance of pig farming should pay attention to factual and neutral communication when providing and preparing information. Images, formulations or information content that tend to be seen as emotionally charged regarding animals should not be used in public relations work. Suitable target groups for public relations work are primarily intellectually open-minded people who are interested in new information, even if this could create a contradictory image to their previous attitudes. In addition, people who are completely opposed to pig farming are generally interested in information on this topic and could therefore potentially be reached well with factual information and neutral arguments. How people with a low level of acceptance can be successfully reached as a target group for information campaigns, given their tendency to avoid information, should be clarified in further research. In addition, the results of this study should first be tested in a larger sample based more on the socio-demographic average of the population.

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