Risky Business: Follow the Norm or Dare to Impress

The Influence of Impression Motivation on Social Norm Expectations in Risk Information Seeking and Processing Behaviour

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Abstract

To properly convey risk information, risk awareness campaigns need to be designed in such a way that they will prompt people to seek and process the relevant information. This is especially the case when the risk is still unfamiliar such as the risks brought by zoonotic diseases. This study examined the moderating influence of impression motivation on the relation between informational subjective norms and risk information seeking and processing. Additionally, this study explored the effect of self-monitoring and the need to belong on impression motivation. An experiment was conducted with the attempt to influence perceived informational subjective norms. Results showed that the participants (N = 126) were not influenced by the manipulation and subsequently no moderating effect could be found. However, informational subjective norms in general did influenced information seeking and processing. Additionally, impression motivation negatively moderated the positive effect of informational subjective norms on systematic processing when participants had a low or average impression motivation. Moreover, the need to belong and impression motivation seem to be related but further research is needed to analyse this relationship. Future research should consider using a risk topic that is more recognized when attempting to influence informational subjective norms, and social motivators should be included when studying risk information seeking and processing. Impression motivation seems to be an important factor in influencing the effectiveness of informational subjective norms on systematic information processing. Therefore, it should be taken into account when developing risk awareness campaigns.

Introduction

If you ask the people around you about what they think of zoonotic diseases or zoonoses there is a high chance you will be met with a raised eyebrow. Zoonotic diseases are "infections that are naturally transmissible directly or indirectly between animals and humans. Domestic animals, farm animals, wild animals or rodents such as mice and rats, who may or may not be affected themselves, carry zoonotic diseases" (Rijksinstituut voor Volksgezondheid en Milieu, 2022). Examples of zoonotic diseases that are, among others, Q-fever, Malaria, and Lyme disease. However, judging by the raised eyebrows, public knowledge about zoonotic diseases seems to be lacking. Despite this, according to the Dutch National Institute for Public Health and the Environment, zoonoses in the Netherlands are "of major importance because it is a densely populated country with high numbers of livestock and pet animals and human activities in the vicinity of wildlife" (Rijksinstituut voor Volksgezondheid en Milieu, 2022). People are generally aware to check for ticks, as they can carry Lyme disease. The know to take pills to prevent malaria when traveling. In contrast, the possibility of the emergence of zoonoses in livestock is often overlooked, as it is only indirectly connected to the population. This highlights the need to increase awareness and encourage people to become (more) informed about this risk. To develop adequate strategies and campaigns to raise and spread risk information, it is important to know what drives people to be informed.

Research has shown that people are not only likely to seek and process risk information because of an epistemic need, but also because they have a social need (Chaiken et al., 1996; Chen et al., 1996; Dunwoody & Griffin, 2014; Fung et al., 2024; Griffin et al., 2008; Liu et al., 2022). Specifically, the expectations an individual perceives of the people in their social environment to be knowledgeable or informed about specific topics is a large incentive to seek and process risk information (Liu et al., 2022; Ou & Ho, 2022; Yang et al.,

2014). This social expectation is called the “Informational Subjective Norm”. It has become an increasingly important concept in the Risk Information Seeking and Processing model (RISP; Griffin et al., 1999). The RISP model has been used extensively in risk communication research (Liu et al., 2022; Yang et al., 2014). The concept that lies at the centre of the RISP model is a person’s “information sufficiency”. This is the main determinator if someone will seek information and how they process this information. Information sufficiency is an epistemic need to acquire sufficient accurate information to feel confident in one’s judgment. Social motivators such as the motivation to impress others, could also play an important role in the seeking and processing of risk information. This is due to its influence on the selectivity in seeking and processing information (Chaiken et al., 1996; Chen et al., 1996; Giner-Sorolila & Chaiken, 1997; Jonas et al., 2005) Yet, social motivations are not explicitly included in the RISP model, and research into their influence have been scarce.

The influence of social motivators, such as the motivation to impress others, on informational subjective norms could influence the importance a person gives to these norms, and can sensitize its effect on risk information seeking and processing behaviour (Dunwoody & Griffin, 2014). Examining how an individual’s social motivation plays a role in risk information seeking and processing is an important step for understanding the effects it has. As such, this knowledge could then be implemented into the development of adequate risk awareness campaigns.

This research aims to determine if someone's desire to impress others (*Impression Motivation*) influences the effect of the expectations someone perceives from their social circle to be informed (*Informational Subjective Norms*) on their risk information seeking and processing behaviour. This leads to the following research question:

How does impression motivation influence the effect of informational subjective norms on risk information seeking and processing?

Theoretical Framework

Risk Information Seeking and Processing

When faced with a risk, seeking information is often the first step to manage anxiety, uncertainty, and to gain a sense of control about the situation (Liu & Yang, 2023). However, the way risk information is sought, avoided, and processed depends on multiple factors. Some of these include social, psychological and communicative factors (Yang et al., 2014). One of the most comprehensive models in the field of risk-communication research which takes these factors into account is the Risk Information Seeking and Processing (RISP) model (Dunwoody & Griffin, 2014; Griffin et al., 1999, 2013). Griffin, Dunwoody and Neuwirth (1999) initially developed the RISP model to understand how individuals respond to messages about health-risks and health-risk behaviours by using components of the Theory of Planned Behaviour (TPB) and the Heuristic Systematic Model (HSM) (Griffin et al., 1999). However, throughout the years it has been used by various researchers to gain an understanding of how socio-psychological factors influence risk-related information seeking and processing (Liu et al., 2022; Yang et al., 2014; for a broader elaboration of the RISP see Dunwoody & Griffin, 2014).

The RISP model suggest that seeking and processing risk information is highly motivated by informational subjective norms (Liu et al., 2022; Yang et al., 2014). When Griffin et al. (1999) proposed the RISP model, informational subjective norms were merely seen as a factor that would influence Information Sufficiency. However, subsequent research has found that informational subjective norms on their own are a consistent and strong motivator for risk information seeking and processing, and have been amended into the model (Griffin et al., 2013). The need to have sufficient motivation is guided by the HSM's accuracy

motivation. However, the model also denotes two other motivators which are related to a social aspect, defence and impression motivation. Their involvement in the RISP model has been sparingly researched, but suggestions have been made into their possible association with informational subjective norms (Chaiken et al., 1996). Informational subjective norms and the motives of the Heuristic Systematic Model will be further elaborated upon.

Informational Subjective Norms

Informational subjective norms represent the perceived social expectations to have sufficient information or be informed about particular topics (Griffin et al., 1999) and is a concept which has been adapted from the subjective norm from the Theory of Planned Behaviour (Ajzen, 1991). For example, an individual perceives an expectation from their social circle to have knowledge or be informed about a specific topic, as they perceive this to be the norm. In the RISP model, informational subjective norms are used to account for the influence of an individuals' social environment on their risk information seeking and processing behaviour.

A meta-analysis performed by Yang and colleagues (2014) assessed the overall effects of the RISP model. They found that informational subjective norms, together with current knowledge, are the largest contributors of the variance of information seeking and processing. Similarly, a meta-analysis by Ou and Ho (2022) about factors related to health information seeking showed that information seeking-related subjective norms had the strongest effect on information seeking. Based on the 2014 meta-analysis, Liu and colleagues (2022) conducted a new meta-analysis into a reduced form of the RISP, the Reduced Information Seeking (RISK) model. Here the focus was on information seeking solely. In line with the 2014 meta-analysis of Yang and colleague's (2014), informational subjective norms where shown to be the strongest predictor in risk information seeking (Liu et al., 2022). These meta-analyses indicate that an individuals' motivation to seek and process information is not only because they want

to want to minimize their information insufficiency gap, but because they want to meet the expectations of others and acquire the knowledge that an individual's social network expects them to have (Liu et al., 2022; Yang et al., 2014).

Motivations in the Heuristic Systematic Model

Together with the Ajzen's Theory of Planned behaviour (Ajzen, 1985,1991), Griffin et al. (1999) adapted components of the HSM into their RISP model. The HSM focuses on how someone processes information. This happens either heuristically, which is a more superficial manner, or systematically, which is more analytical (Chaiken et al., 1989). The RISP adopts the sufficiency principle of the Heuristic Systematic Model. This denotes that "people will exert whatever effort is required to attain a 'sufficient' degree of confidence that they have satisfactorily accomplished their processing goals" (Eagly & Chaiken, 1993, p. 330). This sufficiency principle was seen as the main incentive to seek and process information (Griffin et al., 1999). When someone is not satisfied with the amount of confidence in the knowledge that they have, they experience a subjective gap, otherwise called information insufficiency gap. Wanting to close this confidence gap serves as the motivational basis for seeking and processing information, and will happen until the sufficiency threshold is reached (Eagly & Chaiken, 1993). To reach a sufficient amount of confidence in their knowledge, a person will first try to achieve this with minimum processing effort by using heuristics. However, if the use of this does not reach sufficiency, heuristic processing will be traded for the systematic processing of information (Chaiken et al., 1989; Eagly & Chaiken, 1993; Griffin et al., 1999, 2013; Neuwirth et al., 2002).

Acquiring enough knowledge to close the information insufficiency gap is driven by epistemic need, which can be referred to as accuracy motivation (Chaiken et al., 1996; Neuwirth et al., 2002). The need to have an accurate amount of information is the main motivator used in the RISP model. Accuracy motivation drives an individual to hold

objectively accurate knowledge about attitudes and beliefs, and motivates them to have an objectively true representation of the world (Chaiken et al., 1996; Chen et al., 1996). If an individual is motivated by accuracy, information sufficiency will be determined by the belief that engaging in information processing will lead to an accurate judgment (Neuwirth et al., 2002). To achieve sufficient confidence in their knowledge to make accurate judgments, an individual will thoroughly and critically seek both supporting and conflicting information on their judgment (Lundgren & Prislin, 1998). By doing so self-confirmation will be minimized (Jonas et al., 2005).

However, a person's desire for information is not always led by the desire to have an accurate view of the world (Chaiken et al., 1989). Liu and Yang (2023) concluded in their study that "when it comes to risks, people are likely to seek information not because they perceive an epistemic need for information, but primarily because they want to meet relevant others' expectations" (Liu & Yang, 2023, p. 803). The social motivation of impression motivation from the Heuristic Systematic Model could explain this social drive which can direct the seeking and processing of risk information.

Impression Motivation. Impression motivation is the desire of an individual to create and maintain a favourable impression, manage other's perception of oneself, and express attitudes and beliefs that addresses a person's specific goals that appear in social contexts (Chaiken et al., 1996; Chen et al., 1996; Fung et al., 2024; Jonas et al., 2005). People who are guided by impression motivation want to meet their immediate social goals and are focused more on the interpersonal consequences when expressing a judgment in a social situation (Chaiken et al., 1996; Chen et al., 1996; Neuwirth et al., 2002).

Impression motivation sufficiency is determined by how the individual's judgment serves their social goals, instead of one's accuracy or self-defending goals (Chaiken et al., 1996; Jonas et al., 2005; Neuwirth et al., 2002). An individual guided by impression

motivation has a selective information processing bias to satisfy their interpersonal social goals (Chen et al., 1996; Jonas et al., 2005). When an individual has the goal to be liked but has little cognitive capacity, or the perceived social consequence is minimal, heuristic processing in the form of simple decision rules is used (Neuwirth et al., 2002). Although the researchers did not specify the degree of impression motivation an individual has when using decision rules, rules that are used when someone's opinion is not known are the "moderate opinions minimize disagreement" heuristic. This makes sure that interaction will follow smoothly. When the other's opinion is known, they might apply the heuristic of "going along to get along" (Chaiken et al., 1996; Neuwirth et al., 2002). If enough cognitive resources are available, and heuristics were not enough to reach a sufficient confidence in judgment, an individual will process information systematically.

The bias in systematic processing occurs due to the individual paying more attention to information that is necessary to attain their interpersonal and situational goal (Chaiken et al., 1996; Jonas et al., 2005; Lundgren & Prislin, 1998). For example, if the goal is to be liked by a particular person, only information will be selected to be processed systematically that is known to be important to the other person. If the personal goals also include appearing knowledgeable, all information will be processed systematically, not just information that is known to be important to the other (Jonas et al., 2005).

What motivates individuals to adapt these social motivations varies from person to person and is based on their individual characteristics. Characteristics that seem to be related to these social motivators are one's self-monitoring and their need to belong. A persons need to belong to a group might drive them to perform more impression management behaviours, as belonging is seen as an important human motivation (Baumeister & Leary, 1995, p. 521). People want to create and maintain a bond to people that are important to them, and want to have a minimum quantity of interpersonal relationships (Baumeister & Leary, 1995; Kovač,

2016; Pillow et al., 2015). Furthermore, they will exert a significant amount of cognitive processing in creating and maintaining bonds with others, and use more favourable ways of information processing for the people that they have a social bond with (Baumeister & Leary, 1995). The degree to which these impression management behaviours are performed also depend on someone's self-monitoring abilities. Self-monitoring occurs when people want to create and maintain a favourable impression of themselves to others, which is done by using strategies to cultivate public appearances and engage in expressive control of their behaviours (Gangestad & Snyder, 2000; Scher & Thompson, 2007; Snyder & Gangestad, 1986). Additionally, research by Griffin et. al (2013) showed that people who are more inclined towards self-monitoring could be more sensitive towards informational subjective norms.

The selectivity in information seeking and processing that can happen when someone is impression motivated, could influence how strongly the expectations of others, the informational subjective norms, are perceived. The possible sensitizing role of impression motivation warrants further research as previous research has mostly focused on accuracy motivation (De Dreu et al., 2008; Griffin et al., 2005; Yang et al., 2014).

Current study

Informational subjective norms explain why people seek and process risk information: they have a social need to meet and adhere to the social norm of being knowledgeable about a certain topic. Impression motivation could explain this relationship on a deeper level, as currently only accuracy motivation has been taken into consideration in the RISP model. Accuracy motivation is related to the epistemic need of closing the information sufficiency gap in the RISP model. Additionally, impression motivation could provide more insight into the extent that the social expectation to seek and process risk information is experienced. Impression motivation has shown to lead to selectivity in the way information is processed. While the way this selectivity happens is dependent on a person's personal social goals, such

as the need to meet expectations, it could also be dependent on the degree to which someone experiences the desire to impress. Impression motivation could potentially explain how much someone experiences the social norm and subsequently influence their risk information seeking and processing behaviour. While the literature suggests that impression motivation could shape informational subjective norms, its role and possible need for adaption into the RISP model has insufficiently been researched up to date.

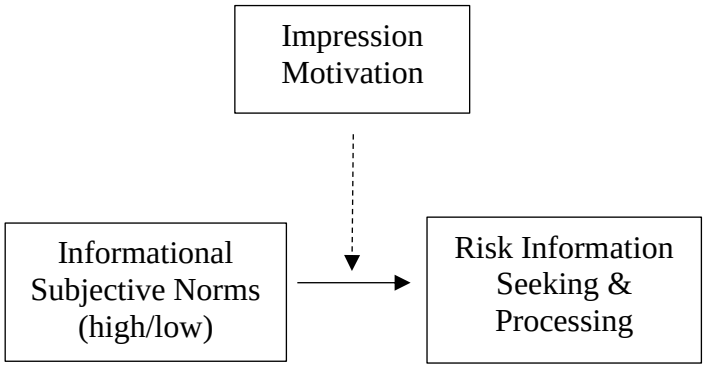
The aim of this study is to determine if one's internal desire to impress others (*impression motivation*) influences the relationship between the expectations they perceive from their social circle to be informed (*perceived informational subjective norms*) on their risk information seeking and processing. This leads to the following hypothesis:

H1: Higher perceived informational subjective norms lead to more information seeking and information processing.

H2: The effect of perceived informational subjective norms on risk information seeking and processing is moderated by impression motivation; specifically, when impression motivation is high, this effect will be stronger than when it is low.

Figure 1

Conceptual model of the moderating effect of Impression Motivation



Methodology

Design and Participants

A 'between-subjects' experimental study was conducted with *risk information seeking* and *heuristic and systematic processing* as the dependent variable, *Perceived Informational Subjective Norms* (high vs. low) as independent variable, and *Impression Motivation* as a moderator variable. Additional independent variables used in this study were *self-monitoring* and the *need to belong*. The research was approved by the BMS Ethics Committee from the University of Twente on the 7th of June 2024. Data was obtained from the 7th until the 17th of June 2024. Participants were obtained through the University of Twente Test Subject Pool System (SONA) where they could obtain credits by participating, and through convenience sampling using social media and personal contacting. A total of 179 responses were obtained. After excluding participants who did not gave consent, 126 valid cases were able to be used for this study. The age ranged from 18 to 72 with a mean age of 26.21 (*SD* = 9.95), further demographics are seen in Table 1. The high Perceived Informational Subjective Norm group consisted of 62 participants, and the low group of 64 participants.

Table 1
Demographics of participants

Variable	*N*	%
Gender		
Female	73	57.9
Male	50	39.7
Non-Binary/Third gender	1	0.8
Prefer not to Say	2	1.6
Nationality		
Dutch	89	70.6
German	11	8.7
Other	26	20.6
Education		
Secondary	30	23.8
Bachelor	50	39.7
Master	41	32.5
PhD	4	3.2
Other	1	0.8
Affiliation UT		
Student	75	59.5
Staff	2	1.6
Alumni	28	22.2
No affiliation	21	16.7

Measures & Materials

To assess the aforementioned factors the following measures were used. A list for corresponding items of each measure can be found in Appendix A.

Impression Motivation

To measure Impression Motivation, the Self-Presentation in Exercise Questionnaire (SPEQ) of Conroy et al (1998, as cited by Gammage et al., 2004) was adapted to suit the current study. The SPEQ consists of 20 items measuring the constructs Impression Motivation and Impression Construction. It is based on the Two-Component model of Self-Presentation of Leary and Kowalski (1990). For the current study, the 10 items measuring the component Impression Motivation were used. These were rephrased to measure Impression Motivation in the context of being informed about zoonotic diseases (M = 37.01, SD = 5.89, α = .83, $\lambda 2$ = .84). Impression Motivation measures a participant's desire to be seen by others as informed through items such as "It is important that others perceive me as being informed" and "I enjoy the praise I often receive for being informed about certain topics."

Perceived Informational Subjective Norms

To check if the manipulation was effective the participants' Perceived Informational Subjective Norm was measured. This was done by using the 5 items from Yang and Kahlor's study (2013) which measured informational subjective norms (M = 9.68, SD = 4.75, α = .94, $\lambda 2$=.94). These were adapted and rephrased to fit the current study. In their study a 6 point-Likert scale was used but this was changed to a 5-point Likert scale, to match the scales used for the other measures (1 = *strongly disagree;* 5 = *strongly agree*). Additionally, the items were adapted to zoonotic related statements. The following is an example item: "Others expect me to seek information about zoonotic diseases."

Information Seeking & Processing

Participant's information seeking and processing was assed using 13-items adapted from Griffin et al. (2008) using a 5-point Likert scale (1 = *strongly disagree;* 5 = *strongly agree*). These items were adapted to Zoonotic Diseases related statements. Four items measured the components "systematic processing" (*M* = 14.64, *SD* = 3.68, α = .53, $\lambda 2$ = .53), e.g. "After I encounter information about this topic, I am likely to stop and think about it.". Furthermore, four items were used to assess "heuristic processing" (*M* = 12.88, *SD* = 2.75, α = .55, $\lambda 2$ = .56) e.g. "If I need to act on this matter, the advice of one expert is enough for me." Lastly, five items were used to measure information seeking (*M* = 16.79, *SD* = 3.68, α = .69, $\lambda 2$ = .71) e.g. "When it comes to the topic of Zoonotic Diseases, I'm likely to go out of my way to get more information."

Need to Belong

The Need to Belong was measured using a 10-item scale adapted from Leary et al. (2013) (*M* = 34.49, *SD* = 41.85, α = .87, $\lambda 2$ = .87) with a 5-point Likert scale (1 = *strongly disagree;* 5 = *strongly agree*). Example items are "It bothers me a great deal when I am not included in other people's plans" and "I do not like being alone".

Self-Monitoring

To measure participants Self-Monitoring a 13-item scale from Lennox & Wolfe (1984) was used. The scale measures two constructs on a 5-point Likert scale (1 = *strongly disagree;* 5 = *strongly agree)*. The first construct is the *ability to modify self-presentation* (*M* = 25.76, *SD* = 4.56, α = .82, $\lambda 2$ =.82) e.g. "In social situations, I have the ability to alter my behaviour if I feel that something else is called for". The second construct is *sensitivity to expressive behaviours of others* (*M* = 21.57, *SD* = 4.65, α = .85, $\lambda 2$ = .87) e.g. "In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with."

Procedure

The experiment was set up using a survey created with Qualtrics. To participate in the experiment the participants had to give their informed consent (see Appendix B) before data collection could start. The consent form also contained a brief explanation about the aim of the study. If consent was given participants were then randomly assigned to the high or low Perceived Informational Subjective Norms group.

First, participant's demographics (age, highest current or achieved educational level, nationality, and affiliation to the University of Twente) were collected. Next participants had to answer questions measuring their impression motivation. Impression motivation was measured before the manipulation occurred and the subsequent measures were presented to minimize social desirability bias.

Next, the manipulation occurred. Participants were asked to carefully read a news article which was made up by the researcher. A participant was randomly presented with the news article inciting low Informational Subjective Norms, or with the news article inciting high Informational Subjective Norms.

Two news articles were created for the manipulation. They were based on an article from the website of *nltimes.nl* and *dutchnews.nl*. The news item mentioned that the zoonotic disease Q-fever was found on a Dutch sheep farm. It contained a paragraph taken from the website of the RIVM which explained what zoonotic diseases and Q-fever are, and a paragraph quoting a doctor from a hospital that there is no harm risk for humans. This was important to clearly state to not possibly cause discomfort and worry in participants reading the article. The part that was supposed to influence the participant was stated in the highlighted section in the news article. This mentioned that the Netherlands Food and Consumer Product Safety Authority (NVWA) collaborated with behavioural scientists from the University of Twente to conduct research among the university's students and staff about

their current perception and need for awareness about zoonotic diseases. In one article the text in the highlighted section was phrased in such a way to nudge readers to adapt *high* Perceived Informational Subjective Norms through enforcing the belief that besides the government, it is the task of all citizens to keep up to date with publicly available information about Q fever and other zoonotic diseases, i.e.

> "…participants also strongly indicated that not only the government, but also they themselves are responsible for the signalling, assessing and controlling of zoonoses, and that it is a task of all citizens keep up to date with publicly available information about Q fever and other zoonotic diseases."

The second article nudged readers to adapt *low* Perceived Informational Subjective Norms, through trying to enforce the believe that it is not task of citizens to be informed about Q fever and other zoonotic diseases, i.e.

> "However, participants also strongly indicated that the government is primarily responsible for the signalling, assessing and controlling of zoonoses, and that it is not the task of citizens to keep up to date with publicly available information about Q fever and other zoonotic diseases."

To determine if participants read the article properly, time spent on the question containing the article was recorded in addition to a multiple-choice question about the article asking which year marked the turning point for the Dutch governments' response to emerging zoonotic diseases. The full articles can be found in Appendix C.

After reading the article, the participant was asked to state how much they agreed with the statements measuring (Perceived) Informational Subjective Norms, information seeking, and information processing. Lastly, questions with a more personal nature were asked regarding how much the participants agreed with the statements measuring self-monitoring and need to belong.

Once the participants were asked all the questions participants they were thanked for their time and debriefed about the full nature of the experiment. Once participants were fully informed they had the option to maintain or withdraw their consent.

Results

Descriptive Statistics and Correlations

For analysis the average score for each participant on variable was computed to be used for analysis. A One-Sample Kolmogorov-Smirnov test showed that the variables Information Seeking ($D(126) = 0.07$, $p = .157$), Self-Monitoring ability ($D(126) = 0.06$, $p = .365$), and Need to Belong ($D(126) = 0.68$, $p = .152$) are normally distributed. A Spearman's Rho correlation analysis was conducted. The correlation analysis included the dependent variables information seeking (IS), systematic information processing (IPS), and heuristic information processing (IPH). It also included the independent variables Informational Subjective Norms (ISN), self-monitoring ability (SMA), self-monitoring sensitivity (SMS), and need to belong (NtB). The demographic variables age, education, and affiliation to the UT (recoded into "Yes affiliated" and "Not affiliated") were also included, together with the Perceived informational subjective norms manipulation group and time spend reading the manipulation article. Affiliation to the UT was included to determine if affiliation to the UT was related to the manipulation.

As shown in Table 2, there was a positive relation between Informational Subjective Norms and information seeking and systematic information processing. There was a negative correlation between Informational Subjective Norms and heuristic information processing. Furthermore, information seeking has a positive correlation to systematic information processing, and a negative correlation to heuristic information processing. Additionally, impression motivation was positively correlated with the need to belong.

Table 2

Descriptive Statistics and Spearman's Rho Correlations

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	26.2	10.0	-												
2. Gender	1.6	0.6	-.15	-											
3. Education	1.5	0.9	**.67****	-.11	-										
4. Aff UT[a]	2.2	0.4	**.41****	.03	**.23***	-									
5. ISN Group[b]	0.5	0.5	.06	-.01	.11	.11	-								
6. Time Man.	2.1	1.7	.16	-.17	.06	.03	.00	-							
7. IM	3.7	0.6	-.04	.09	.03	-.08	.07	**-.18***	-						
8. ISN	1.9	1.0	**.22***	.02	.17	.09	-.04	.02	.11	-					
9. IS	3.4	0.7	**.21***	.07	.12	.11	-.01	.14	.03	**.32****	-				
10. IPS	3.7	0.6	.05	-.09	.07	.12	-.05	.08	-.03	**.21***	**.45****	-			
11. IPH	3.2	0.7	-.04	-.10	.04	-.05	.14	-.13	.06	**-.21***	**-.39****	**-.23****	-		
12. SMA	3.7	0.7	**-.26****	-.08	-.16	**-.19***	.11	-.06	-.02	-.07	-.02	.06	.09	-	
13. SMS	3.6	0.8	-.16	**.21***	-.12	.03	.05	-.06	-.01	.02	.06	-.01	-.11	**.48****	-
14. NtB	3.5	0.7	-.07	.03	-.06	-.16	.10	**-,21***	**,32****	-.11	-.09	-.17	.01	.12	.10

Note. Aff UT=Affiliation with the University of Twente, Time Mn. = Time Manipulaton, IM= Impression motivation, ISN=Informational Subjective Norm, IS=Information Seeking, IPS=Systematic Information Processing, IPH= Heuristic Information Processing, SMA= Self-Monitoring Ability, SMS=Self-Monitoring Sensitivity, NtB=Need to Belong.

[a]1 = Yes Affiliation to UT, 2 = No Affiliation to UT. [b]0 = low ISN, 1 = high ISN.

* p <.05. ** p <.01.

Manipulation check & hypothesis testing

To check if the manipulation was effective and that higher informational subjective norms lead to more information seeking (hypothesis 1), first a Mann-Whitney U test was conducted. This was to determine if a difference between a high Perceived Informational Subjective Norms and a low Perceived Informational Subjective Norms group was created. The Mann-Whitney U test showed no statistically significant difference between the Perceived Informational Subjective Norms score of the of high ISN manipulation group and the low ISN manipulation group (U = 1888.50, z = -.47, p = .64) indicating that the manipulation had no effect.

To test if impression motivation moderated the relationship between the Perceived Informational Subjective Norms and information seeking and processing between the manipulation group (hypothesis 2) a hierarchical analysis was conducted. The analysis was performed with each subscale of information seeking and processing as dependent variable: information seeking, systematic information processing and heuristic information processing. The independent variable was the Perceived Informational Subjective Norms, which were the

manipulated groups (ISN Group). To avoid problems with multicollinearity, ISN Group and the moderator variable Impression Motivation were mean centred first. With the mean-centred variable an interaction term was created between ISN Group and Impression Motivation. To test the main effect, the variables ISN Group and Impression Motivation were included in the first block. To test the interaction, the interaction variable ISN Group*Impression Motivation was included in the second block. The results, as seen in Table 2, show that there was no statistically significant main effect of Perceived Informational Subjective Norm on information seeking and systematic and heuristic processing. Neither a statistically significant interaction effect of Impression Motivation on information seeking and systematic and heuristic processing was found. Therefore, both hypothesis were rejected.

Table 3

Hierarchical Regression Analysis for the Main Effect of ISN Group and the Interaction Effect of Impression Motivation on Information Seeking and Processing

Variable	IS				IPS				IPH			
	B	*t*	*p*	*SE*	*B*	*t*	*p*	*SE*	*B*	*t*	*p*	*SE*
Main												
ISN Group	0.04	0.31	.76	.13	0.03	0.31	.76	.11	0.17	1.35	.18	.12
IM	0.02	0.17	.86	.11	-0.09	-0.95	.35	.09	0.03	0.31	.75	.11
Interaction												
ISN Group	0.04	0.31	.76	.13	0.03	0.31	.76	.11	0.17	1.35	.18	.17
IM	0.02	0.16	.87	.11	-0.09	-0.94	.35	.09	0.03	0.29	.77	.11
ISNGroup*IM	-0.11	-0.49	.63	.23	0.05	0.24	.81	.19	-0.16	-0.78	.44	.21

Note. IM= Impression motivation, ISN=Informational Subjective Norm, IS=Information Seeking, IPS=Systematic Information Processing, IPH= Heuristic Information Processing.

Additional Analysis

Additional analysis was conducted as the correlation analysis showed that Informational Subjective Norms, notwithstanding if the participants score low or high, did show a relation between information seeking and heuristic and systematic processing. An additional multiple hierarchical regression was conducted between the independent variable Informational Subjective Norm and the dependent variables information seeking, systematic processing, and heuristic processing. Informational Subjective Norms was mean-centred, and an interaction variable was created between Informational Subjective Norms and Impression

Motivation (ISN*IM). In the first block the independent variables Informational Subjective Norms and Impression motivation were included to test the main effect. In the second block the interaction variable ISN*IM was included to test the interaction effect.

The analysis showed, as seen in Table 3, Informational Subjective Norms had a positive main effect on Information Seeking and Systematic Information Processing, and a negative effect on Heuristic Information processing. This indicates that Information Seeking and Systematic Information Processing increases when Informational Subjective Norms increases, and Heuristic Information Processing decreases when Informational subjective norm increases. The interaction Informational Subjective Norms*Impression Motivation had a marginally significant effect on Systematic Information Processing.

Table 4

Hierarchical Regression Analysis for the Main Effect of ISN and the Interaction Effect of Impression Motivation on Information Seeking and Information Processing

Variable	IS				IPS				IPH			
	B	*t*	*p*	*SE*	*B*	*t*	*p*	*SE*	*B*	*t*	*p*	*SE*
Main												
ISN	0.26	3.91	< **.001***	.07	0.14	2.54	**.01***	.06	-0.17	-2.71	**.01***	.06
IM	-0.02	-0.19	.85	.11	-0.11	-1.21	.23	.09	0.07	0.73	.47	.10
Interaction												
ISN	0.26	3.93	< **.001***	.07	0.15	-2.61	**.01***	.06	-0.17	-2.70	**.01***	.06
IM	-0.03	-0.03	.77	.11	-0.13	-1.41	.16	.09	0.08	0.73	.47	.10
ISN*IM	-0.10	-0.95	.34	.11	-0.18	-1.95	**.05**†	.09	0.02	0.19	.85	.11

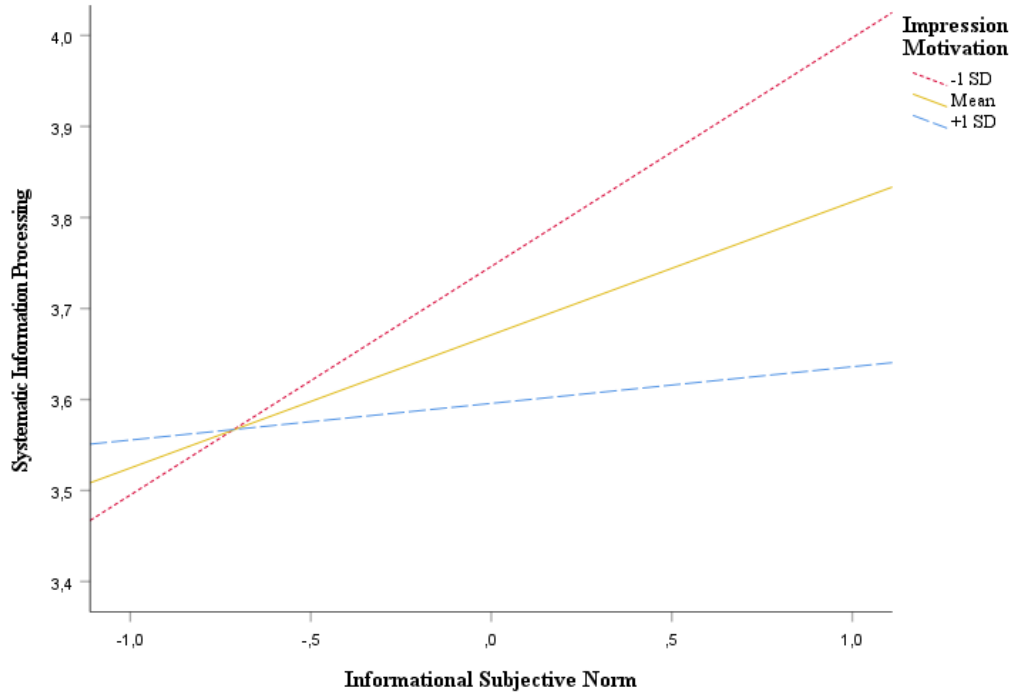
Note. IM= Impression motivation, ISN=Informational Subjective Norm, IS=Information Seeking, IPS=Systematic Information Processing, IPH= Heuristic Information Processing.
†: $p < .10$, *: $p < .05$

To further analyse the interaction effect of Impression Motivation, the interaction was tested again using Hayes' PROCESS macro for SPSS with systematic information seeking as dependent variable. The Informational Subjective Norms and independent variable and impression motivation were used as moderator variables. This shows that the conditional effect of Informational Subjective Norms was significant when having a low Impression Motivation (IM = -1 *SD*, $b = .25$, $SE = .08$, $t(126) = 3.20$, $p = .002$) and when having average Impression Motivation (IM = *M*, $b = .15$, $SE = .06$, $t(126) = 2.61$, $p = .010$). It was not

significant when having high impression motivation (IM = +1 *SD*, *b* = .04, *SE* = .08, *t*(126) = 0.53, *p* = .600). As seen in Figure 2, the interaction line is the steepest in the low impression motivation group and decreases in steepness in the medium and high group. This indicates that with low impression motivation the impact of Informational Subjective Norms on systematic information processing is the strongest. However, the impact weakens when Impression Motivation is average, and the moderating effect is not significant when Impression Motivation is high.

Figure 2

Effect of Informational Subjective Norms on Systematic Information Processing Moderated by Impression Motivation



Note. -1 SD = low Impression Motivation, Mean = Average Impression Motivation, +1 SD = High Impression Motivation.

Discussion

The aim of this study was to determine if someone's desire to impress others influenced the effect that the expectations of other to be informed and their informational subjective norms have on risk information seeking and processing. Research has previously shown that a person's perceived expectations, the informational subjective norms, are an important factor in the RISP model explaining why someone seeks and processes risk information (Griffin et al., 2013; Liu et al., 2022; Ou & Ho, 2022; Yang et al., 2014). Currently the RISP model only takes accuracy motivation into account, however informational subjective norms are socially driven. The HSM denotes impression motivation as one of the social motivators. Research has suggested that someone's desire to impress is a factor that could be associated to informational subjective norms which in turn could influence information seeking and processing (Chaiken et al., 1996; Chen et al., 1996; De Dreu et al., 2008; Griffin et al., 2005; Griffin et al., 2013). However, the exact role of impression motivation is something that required more research.

This study explored the role of impression motivation on the effect of informational subjective norms on information seeking and processing behaviour. This was achieved by measuring impression motivation and creating two different perceived informational subjective norms groups. To incite participants to form either low or high perceived informational subjective norms, participants randomly were given one of two articles to read in which one article incited high norms and the other low norms. First, the main effect which led to the hypothesis "*Higher perceived informational subjective norms lead to more information seeking and information processing*", had to be tested. No difference could be created between the perceived informational subjective norms groups. Both groups scored nearly the same when their perceived informational subjective norms were measured, while the expectation was that one group would score low and the other scored high. Due to no clear

distinction between the groups, the study could not show that people who scored higher on informational subjective norms would in turn score higher on risk information seeking and processing. This meant that the hypothesis had to be rejected.

While there was no main effect of informational subjective norms on information seeking and processing, the possible moderation of impression motivation was still measured as this could cause a cross over interaction. Results showed that impression motivation did not interact with the relationship between the informational subjective norm groups and information seeking and processing. Based on these results, the hypothesis "*The effect of Informational Subjective Norm on Risk Information Seeking and Processing is moderated by Impression Motivation*" was rejected.

While the experiment failed to confirm the hypotheses, informational subjective norms in general did seem to influence risk information seeking and systematic information processing in a positive manner. Heuristic processing was influenced in a negative manner. This indicates that the higher the informational subjective norms are experienced, the more likely participants would be to seek information and process the information systematically. This implies that the participants in general are sensitive to the influence of other's expectations, and it does not seem too dependent on whether they feel a low or high amount of these expectations.

These findings follow the results of previous research which showed that informational subjective norms play a large role in the RISP model (Griffin et al., 2013; Liu et al., 2022; Yang et al., 2014). Research has shown that people not only have an epistemic need and want to acquire enough information to close their information insufficiency gap, but also they want to meet the expectations of others (Liu et al., 2022). For example, people who do not experience a lot of personal concern about a topic, but perceive social pressure from others, might still be persuaded to perform risk information seeking and processing

behaviours because they believe that this is something they should do as it is important to others (Griffin et al., 2013).

Additionally, this study showed that impression motivation negatively moderated the positive effect of informational subjective norms on systematic information processing and was not dependent on whether the participants experienced high or low perceived informational subjective norms. Increasing informational subjective norms lead to more systematic processing when impression motivation was low. However, when impression motivation was average among participants, the need for systematic processing became less. This might be explained by that when someone has a higher desire to impress, they will be more likely to focus more on information from which they know is in line with what others find important, and not process this informational as critically and precisely as when they have a lower need to impress.

These findings support earlier research which suggest that impression motivation influences the direction that information is sought, avoided, and processed depending on a person's interpersonal goals and situation (Chaiken et al., 1996; Chen et al., 1996; Jonas et al., 2005; Lundgren & Prislin, 1998). Additionally, the decrease in systematic processing could indicate that more heuristics are used and individuals use simple decision rules such as "going along to get along" while processing information (Chaiken et al., 1996; Neuwirth et al., 2002). Someone that has the interpersonal goal to impress others might be more inclined to agree more with the judgments of the person who they want to impress, decreasing their need to process the information more systematically. Results of this study show that the influence of impression motivation remains an important factor to be considered to further explain how informational subjective norms operate within the RISP model.

This study furthermore explored whether a participant's need to belong, and their self-monitoring could explain more why someone could have a higher or lower desire to impress.

While self-monitoring did not appear to affect impression motivation, need to belong did appear to be positively related to impression motivation. This is not an unexpected finding as a need to belong is seen as a fundamental human motivation, and people will exert effort to create and maintain social bonds (Baumeister & Leary, 1995; Kovač, 2016; Pillow et al., 2015). The extent to which this occurs could be related to impression motivation, as having a higher need to belong could lead to a higher desire to impress to achieve the belonging goals.

Limitations

To test if informational subjective norms influenced Information Seeking and Processing, a manipulation was created with the purpose of creating a high and a low informational subjective norm. This was attempted by using a news article which the participants had to read with as topic the zoonotic disease Q-fever. The participants were randomly shown the article inciting high informational subjective norms or the article inciting low informational subjective norms.

Unfortunately, the manipulation did not have a significant effect, and participants in both the high and the low perceived informational subjective norms group scored roughly the same. The ineffectiveness of the manipulation could be explained through various reasons. First, whereas the average reading time of the article was around two minutes, there were outliers of participants reading it for less than 30 seconds. It is possible that the participants did not read the article attentively enough, causing the manipulation to be ineffective on them as people had to relate to the story. If a similar manner of manipulation is used in future research, researchers should think of a better way of controlling whether participants read the manipulation properly and more attentively. This study asked one question about the article to prompt the participants to read more attentively. However, the results of these were taken out of consideration as the question was displayed on the same page as the article, giving participants the option to just quickly check what the answer was, diminishing the usefulness of the control question. It would be recommended to ask more questions regarding the article,

and to place them in a new segment where they cannot refer back to the article, to encourage more attentive reading. In addition, participants who were outliers on the time spent concluding the experiment, could be removed from data analysis to improve the reliability and validity of the tests. The exclusion criteria could be determined by, for example, having a range of time in which the study is reasonable to be concluded and data of participants who performed unreasonably short could be removed. This comes with the note that long participation times need to be removed with caution. As the study was conducted through an online questionnaire, people might leave the webpage open to look at it later, resulting in an increase of time. An additional criterion for removal could be the time participants spend on the manipulation. As noted, before, some participants spend less than 30 seconds on reading the article, thus an estimation could be made that they did not read the manipulation properly and it would have no effect on them.

Secondly, the topic in and of itself might be too unfamiliar. While participants might have heard of Q-fever and other zoonotic diseases such as Lyme's disease and Malaria, the term "zoonotic disease" might be something that they were less familiar with. To determine participant's informational subjective norms, questions such as *"People in my life whose opinion I value seek information about zoonotic diseases"* were asked, which participants had to either agree or disagree to. What zoonotic diseases are was explained in the news article that they had to read. However, if a participant only skimmed through the article, they might have missed the explanation causing them to be unsure as what to answer. It is also possible that the participants assumed that, because they do not exactly know what zoonotic diseases are, the people in their life might not know it either. This could lead them to perceive less importance to seek information.

Thirdly, it is possible that even though participants know what zoonotic diseases are, they do not perceive this to be of importance or they know this is not important to the people

around them. This could cause participants to experience a low expectation to know about the subject themselves.

Next, it might be possible that the participants did not experience enough affiliation with the group detailed in the study. The article stated that "behavioural scientists of the *University of Twente* to investigate the current perception among the *universities staff and students.,"* and "Participants strongly indicated that *they themselves* are responsible…/the government is primarily responsible…." If participants did not feel a strong affiliation with the "University of Twente staff and students," the opinion that was stated of this group in the article would not be seen as something they would feel related to.

The limitations of the study overall include the low internal consistency and reliability for the measures of Systematic and Heuristic processing. This is mainly due to the measure being vulnerable to a low number of items (Tavakol & Dennick, 2011) as both Systematic and Heuristic information processing were measures with respectively four items each. Results of the analysis with these variables will have to be taken with caution and future measures will have to be taken to ensure proper consistency and validity of these factors.

A further limitation of this study was the chance for social desirability and personal desirability, especially for the measures which measured a participants impression motivation, self-monitoring and need to belong. These as questions specifically target how a participant perceives themselves, and they might be more inclined to answer in a way that they think would be more desirable, not only to others but also to themselves (Brenner & DeLamater, 2014). Participants might see questions such as *"My feelings are easily hurt when I feel that others do not accept me"* as confronting if these related to aspects of their personal life which they struggle with and might answer in a way that would be preferable to them. While mitigating social desirability remains difficult, there are different manners to reduce the possibility for social desirability on sensitive topics. This could be achieved through

heightening the participants subjective benefit of telling the truth and to assure confidentiality (Krumpal, 2013). Furthermore, the wording of the question could influence the social desirability bias and changing questions to sound more “forgiving” could help to mitigate this bias (Näher & Krumpal, 2012). Additionally, a way to mitigate this limitation is to ensure there is no personal connection between the researcher and the participants. While the experiment was anonymous, participants who personally know the researcher could possibly be more wary about the answers they give and the possibility it could be traced back to them.

Further research

When performing an experiment where informational subjective norms need to be manipulated, future research should choose a risk topic which is more relevant within the general population or with the target group. This will better ensure the effectiveness of the manipulation. However, this needs to be done with caution. Peoples’ ability to be influenced by other’s opinions might be more difficult to prove if their own opinion on the risk topic is already firmly established. For example, a topic of previous consideration for this experiment was the influence of alcohol consumption. Many individuals already have a strongly established opinion on what they think about the consumption of alcohol. Trying to change this would require strong persuasion tactics which is a difficult feat to achieve through a simplistic news article, which was used for this manipulation. There is a fine line between caring a lot about something and wanting others to care about it as well and caring about it so much that one becomes defensive about it. The tendency to become defensive is a social motivation which, next to impression motivation, is included in the Heuristic Systematic Model. Participants who had a defensive motivation were more likely to process information in a way that confirms their beliefs and attitude (Chaiken et al., 1996; Giner-Sorolila & Chaiken, 1997).

Furthermore, studies should further investigate how impression motivation influences informational subjective norms and its subsequent relationship in the RISP model. However, current research only found that impression motivation influenced the effect of informational subjective norms on systematic processing. It would be feasible to believe that impression motivation also could be of influence on the risk information we seek, as this information could fulfil the expectations of the people we would like to impress.

Next, further research could delve further into the antecedents of impression motivation and explore what leads to an individual wanting to impress others. While self-monitoring did not show any relation to impression motivation, the need to belong did. This suggests that having a higher need to belong might lead to a higher desire to impress or vice versa. Its exact relationship is something that would require further research.

Lastly, the Heuristic Systematic Model also includes defence motivation as a reason for heuristic and systematic processing. Further research could include defence motivation and see how it stands in relation to impression motivation, how this could influence informational subjective norms and in turn influence risk information seeking and processing.

Implications

The effect of informational subjective norms on Risk Information Seeking and Processing is important in the domain of risk communication. Risk awareness campaigns can be designed in such a way that they not only focus on the risk and its effects, but also focuses on the relevance of a target group. Informational subjective norms are a significant predictor for someone to seek information, but also to process it more systematically.

The current study did not find a direct connection between impression motivation and informational subjective norms and information seeking and processing. However, it did find that impression motivation moderated the effect of informational subjective norms on systematic processing. Specifically, with the increase of impression motivation, the positive

relationship between informational subjective norms and systematic processing became weaker. This could be explained by an individual's social goals. The higher the need to impress the less likely people would want to systematically process information. This could be due that people are more inclined to readily agree with information that supports the beliefs of the people they want to impress and not look at this information in depth. These finding could help to understand why people sometime seem to readily accept false (risk) information. For example, groups that are more susceptible to the expectations to others, such as adolescents (Ahmed et al., 2020) , might want to follow along with information that is provided to them as they believe that this will impress others. Knowing this, risk information campaigns can design their campaigns in such a way to encourage people to look more thoroughly at information and not accept information just because everyone around you does.

Conclusion

To conclude, this study investigated the role of impression motivation on the relationship between perceived informational subjective norms and risk information seeking and processing within the risk context of the zoonotic disease Q-fever. Ineffective manipulation, possibly due to the unfamiliarity of the topic, failed to create a difference between high and low informational subjective norms groups. When looking at informational subjective norms in its entirety, it did influence risk information seeking and processing, which follows earlier research. Additionally, the study found that the increase of impression motivation weakens the positive effect informational subjective norms has on systematic information processing. People might become less likely to process risk information that others expect them have more analytical, as they will be more likely to accept the information as is to impress others. Future research should choose risk topics which are more known within the population, but that people can still be persuaded to have a certain belief about the topic. Additionally, the role of impression motivation should continue to be further examined, and defence motivation should be included to garner a broader understanding of what

motivates people to want to adhere to the expectations of others. These findings are important to be taken into account in the development and distribution of risk awareness campaigns. Because people's risk information seeking and processing behaviour is guided by their desire to adhere to norm and can differ when wanting to impress those that are important to them. And following a fallacious norm or wanting to impress others with flawed information can lead to some risky business.

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Appendix

During the preparation of this work the author(s) used Open AI (Chat GPT Version 4.0) in order to help understand statistical concepts and for suggesting synonyms of words, Word for text processing and SPSS (V28.0.1.0) for statistical analysis. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the work."

Appendix A

Measures and Items

Concept	Measure
Impression Motivation	I value the attention and praise of others when they regard me as being informed I enjoy the praise I often receive for being informed about certain topics I try to appear informed to others Receiving praise while speaking about a particular topic makes me want to learn more Appearing informed to others is not important to me (R) I want to be thought of as a person who is informed People often form desirable impressions of me when I am informed It is important that others perceive me as being informed I value the attention and praise offered by others in regard to appearing informed I try to be informed so that other people who are informed will like me
Informational Subjective Norm	It is expected of me that I seek information about zoonotic diseases Most people who are important to me think that I should seek information about zoonotic diseases Others expect me to seek information about zoonotic diseases My family/friends expect me to seek information about zoonotic diseases People in my life whose opinion I value seek information about zoonotic diseases
Information Seeking	When it comes to the topic of Zoonotic Diseases, I'm likely to go out of my way to get more information. When the topic comes up, I try to learn more about it. When this topic comes up, I'm likely to tune it out. (R) Gathering a lot of information on zoonotic diseases is a waste of time. (R) Whenever this topic comes up, I go out of my way to avoid learning more about it. (R)
Information Processing	***Systematic*** After I encounter information about this topic, I am likely to stop and think about it. If I need to act on this matter, the more viewpoints I get the better

	After thinking about this topic, I have a broader understanding. When I encounter information about this topic, I read or listen to most of it, even though I may not agree with its perspective. ***Heuristic*** When I see or hear information about this topic, I rarely spend much time thinking about it. When I encounter information about zoonotic diseases, I focus on only a few key points. If I need to act on this matter, the advice of one expert is enough for me. There is far more information on this topic than I personally need.
Need to Belong	If other people don't seem to accept me, I don't let it bother me. (R) I try hard not to do things that will make other people avoid or reject me. I seldom worry about whether other people care about me. (R) I need to feel that there are people I can turn to in times of need. I want other people to accept me. I do not like being alone. Being apart from my friends for long periods of time does not bother me. (R) I have a strong “need to belong.” It bothers me a great deal when I am not included in other people's plans. My feelings are easily hurt when I feel that others do not accept me.
Self-Monitoring	***Ability to modify self-presentation*** In social situations, I have the ability to alter my behaviour if I feel that something else is called for. I have the ability to control the way I come across to people, depending on the impression I wish to give them. When I feel that the image I am portraying isn't working, I can readily change it to something that does. I have trouble changing my behaviour to suit different people and different situations. (R) I have found that I can adjust my behaviour to meet the requirements of any situation I find myself in. Even when it might be to my advantage, I have difficulty putting up a good front. (R) Once I know what the situation calls for, it's easy for me to regulate my actions accordingly, ***Sensitivity to expressive behaviour of others*** I am often able to read people's true emotions correctly through their eyes.

	In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.
	My powers of intuition are quite good when it comes to understanding others' emotions and motives.
	I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.
	I can usually tell when I've said something inappropriate by reading it in the listener's eyes.
	If someone is lying to me, I usually know it at once from that person's manner of expression

Note. Items were scored on a 5-point Likert scale ranging from 1- Strongly Disagree to 5 - Strongly Agree. Measures indicated by an (R) have to be reverse coded

Appendix B

Informed Consent Form

You are being invited to participate in a research study with as aim examining people's opinion regarding zoonotic diseases. This study is being done by Anniek Megens from the Faculty of Behavioural, Management and Social Sciences at the University of Twente as part of an MSc Thesis under the supervision of dr.ir. P.W. de Vries.

The survey will take you approximately 10 minutes to complete.

Your participation in this study is entirely voluntary. You have the right to withdraw at any time or decline the use of your data for the study, without the need for an explanation.
The information given will be anonymized and treated strictly confidential. We do not expect any risks to be associated with this study.

If you have any further questions or comments, please contact the researchers:

Anniek Megens (a.megens@student.utwente.nl)

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by ethicscommittee-bms@utwente.nl .

I understand and consent that:

1. I am at least 18 years old.
2. I understand the content and voluntarily participate in this study.
3. I can refuse to answer questions and withdraw from participation at any time without having to give a reason. I
4. My data will be treated confidentially. All analysis of the given data occurs anonymized.
5. All my data will be handled according to the University of Twente's policies regarding data collection and management.
6. All my data can be evaluated and used for the research in case I do not withdraw or indicate otherwise.

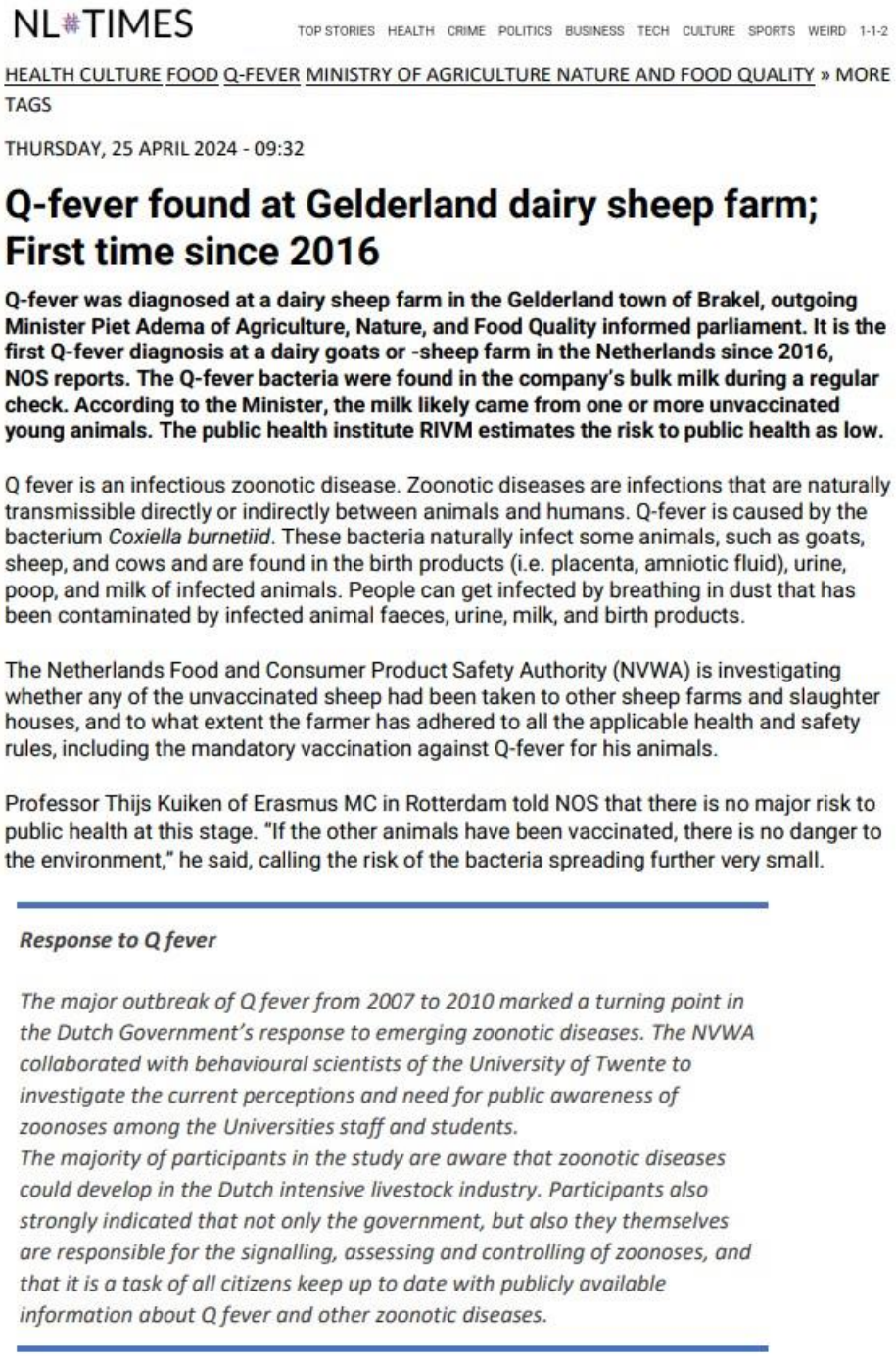
- Yes, I consent
- No, I do not consent

Appendix C

Manipulation Articles Zoonotic diseases

Figure C1

Article High ISN



NL#TIMES

TOP STORIES HEALTH CRIME POLITICS BUSINESS TECH CULTURE SPORTS WEIRD 1-1-2

HEALTH CULTURE FOOD Q-FEVER MINISTRY OF AGRICULTURE NATURE AND FOOD QUALITY » MORE TAGS

THURSDAY, 25 APRIL 2024 - 09:32

Q-fever found at Gelderland dairy sheep farm; First time since 2016

Q-fever was diagnosed at a dairy sheep farm in the Gelderland town of Brakel, outgoing Minister Piet Adema of Agriculture, Nature, and Food Quality informed parliament. It is the first Q-fever diagnosis at a dairy goats or -sheep farm in the Netherlands since 2016, NOS reports. The Q-fever bacteria were found in the company's bulk milk during a regular check. According to the Minister, the milk likely came from one or more unvaccinated young animals. The public health institute RIVM estimates the risk to public health as low.

Q fever is an infectious zoonotic disease. Zoonotic diseases are infections that are naturally transmissible directly or indirectly between animals and humans. Q-fever is caused by the bacterium *Coxiella burnetiid*. These bacteria naturally infect some animals, such as goats, sheep, and cows and are found in the birth products (i.e. placenta, amniotic fluid), urine, poop, and milk of infected animals. People can get infected by breathing in dust that has been contaminated by infected animal faeces, urine, milk, and birth products.

The Netherlands Food and Consumer Product Safety Authority (NVWA) is investigating whether any of the unvaccinated sheep had been taken to other sheep farms and slaughter houses, and to what extent the farmer has adhered to all the applicable health and safety rules, including the mandatory vaccination against Q-fever for his animals.

Professor Thijs Kuiken of Erasmus MC in Rotterdam told NOS that there is no major risk to public health at this stage. "If the other animals have been vaccinated, there is no danger to the environment," he said, calling the risk of the bacteria spreading further very small.

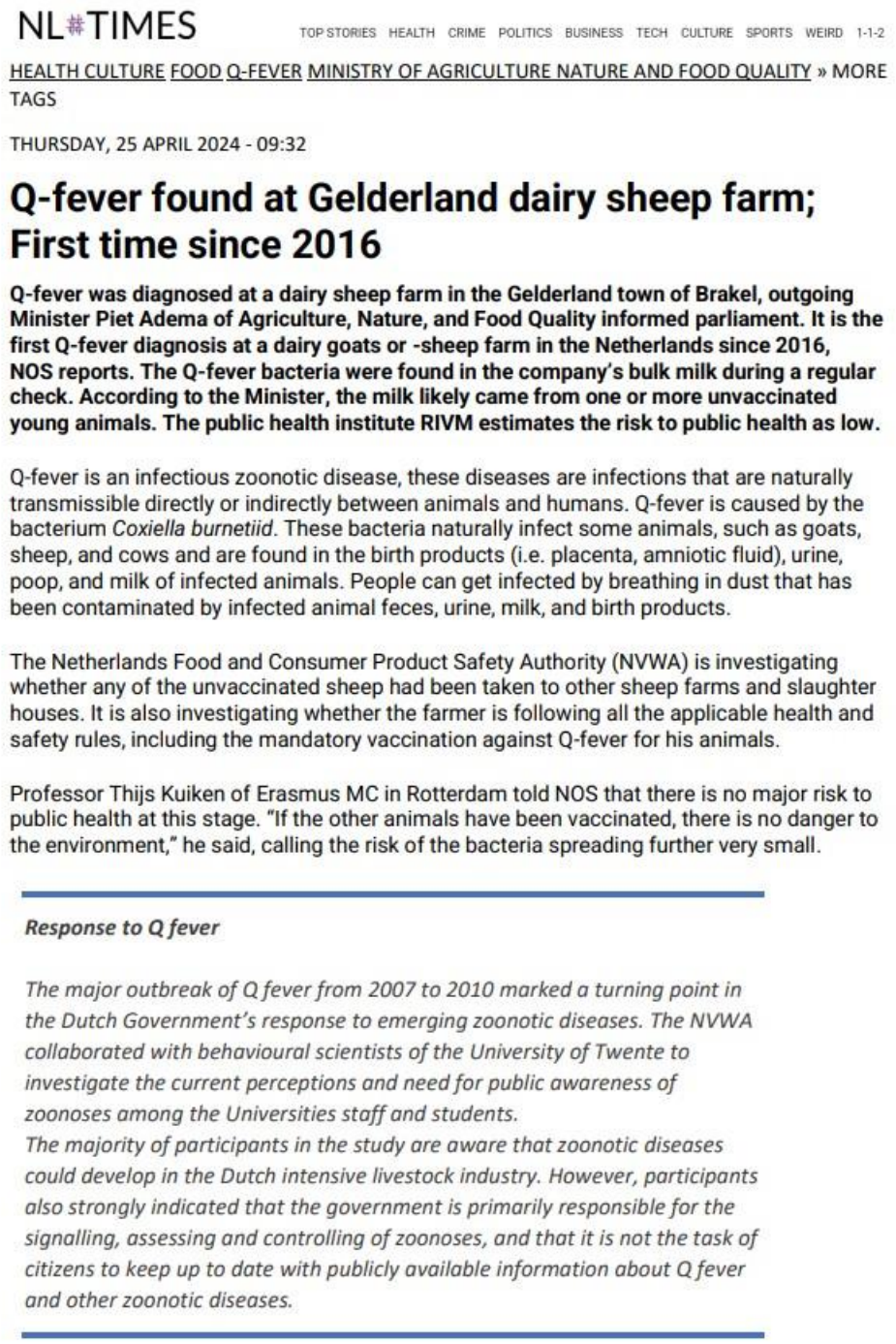
Response to Q fever

The major outbreak of Q fever from 2007 to 2010 marked a turning point in the Dutch Government's response to emerging zoonotic diseases. The NVWA collaborated with behavioural scientists of the University of Twente to investigate the current perceptions and need for public awareness of zoonoses among the Universities staff and students.
The majority of participants in the study are aware that zoonotic diseases could develop in the Dutch intensive livestock industry. Participants also strongly indicated that not only the government, but also they themselves are responsible for the signalling, assessing and controlling of zoonoses, and that it is a task of all citizens keep up to date with publicly available information about Q fever and other zoonotic diseases.

Note. News article containing the high ISN manipulation.

Figure C2

Article Low ISN



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The majority of participants in the study are aware that zoonotic diseases could develop in the Dutch intensive livestock industry. However, participants also strongly indicated that the government is primarily responsible for the signalling, assessing and controlling of zoonoses, and that it is not the task of citizens to keep up to date with publicly available information about Q fever and other zoonotic diseases.

Note. News article containing the low ISN manipulation.