The effect of social proof on people's risk perception and attitudes towards the use of

nanotechnology in food products on Social Network Sites

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Abstract English

In this study we investigated the effect of social proof on a Social Network Site. This study is important because people spend a great amount of time on Social Network Sites these days, which means that many different ideas and beliefs written by people on such sites can influence a person's opinion. In two studies, on a fake Facebook page, we investigated two types of social proof which can be found on a Social Network Site. First of all the people could be influenced by the 'comments' other people have written below a post and secondly we investigated the effect of the 'number of likes' under the comments. The comments reported about nanotechnology in food products, because this topic is quite ambiguous for many people and therefore it was expected that social proof would be most visible. In both studies we investigated the effect of social proof on people's *cognition*, *affect* and *behavioural intent* by manipulating the independent variables: the *comment valance* which is the 'proportion of positive and negative comments' and the *enforcement* which is the 'number of likes' under the comments. In study A, people were presented with only *one comment valance* and either high or low *enforcement* of the comments. In study B there was a mix of *comment valance* and depending upon the condition either the positive comments had high *enforcement* and the negative comments had low *enforcement* of vice versa. In both studies we controlled for the covariates: subjective knowledge, initial attitude on benefits and initial attitude on unknown/dread. The results have shown that the 'comments' in part do function as social proof. In case all comments were in favour of nanotechnology in food products people had less risk perception, an increased benefit perception and a better attitude towards nanotechnology in food products compared to all negative comments. The 'number of likes', however, did not work when it comes to social proof in case of nanotechnology in food products. This study has indicated that people might use a different mental process when they read 'comments' compared to observing the 'number of likes'. In case people read 'comments', the 'number of likes' do not seem to be of any relevance.

Abstract Dutch

In dit onderzoek hebben we het effect van 'social proof' op sociale netwerksites onderzocht. Dit onderzoek is van belang omdat mensen tegenwoordig veel tijd op sociale netwerksites doorbrengen, wat betekent dat veel verschillende ideeën en overtuigingen die door mensen op zo'n site geschreven worden, een persoon's mening kan beïnvloeden. In twee onderzoeken, op een namaak Facebook pagina, hebben we twee soorten 'social proof' onderzocht die te vinden zijn op een sociale netwerksite. Ten eerste kunnen mensen beïnvloed worden door de 'berichten' die andere mensen onder een post hebben geschreven en ten tweede hebben we het effect van het 'aantal likes' onder de berichten onderzocht. De berichten gingen over het gebruik van nanotechnologie in voedingsmiddelen, omdat dit onderwerp voor veel mensen vrij ambigu is en daardoor verwacht werd dat 'social proof' het beste zichtbaar zou zijn. In twee verschillende studies hebben we het effect van 'social proof' op *cognitie*, *affect* en *gedrag intentie* onderzocht door de onafhankelijke variabelen te manipuleren: '*comment valance*' wat de 'proportie van positieve en negatieve berichten' inhoud en de *enforcement*/ *bekrachtiging* van de berichten aan hand van het 'aantal likes' onder de berichten. In studie A werden de respondenten met berichten gepresenteerd die allemaal positief of negatief waren en tegelijkertijd alleen een hoge of lage bekrachtiging van de berichten hadden. In studie B was er een mix van positieve en negatieve berichten en afhankelijk van de conditie werden de positieve berichten veel bekrachtigt en de negatieve berichten laag bekrachtigt of vica versa. In beide studies werd er voor drie verschillende covariaten gecontroleerd: subjectieve kennis, initiële attitude van voordelen en initiële attitude van onbekende/vrezen. De resultaten toonden aan dat de 'berichten' gedeeltelijk 'social proof' lieten zien. In het geval alle berichten voor het gebruik van nanotechnologie in voedingsmiddel waren, hadden mensen minder risico perceptie, meer benefit perceptie en een betere attitude ten opzichte van nanotechnologie in voedingsmiddelen in vergelijking met de condities waar alle berichten negatief waren. Het 'aantal likes' onder de berichten werkte niet als 'social proof' als het om nanotechnologie in voedingsmiddelen ging. Dit onderzoek heeft aangetoond dat mensen wellicht verschillende mentale processen gebruiken als zij berichten lezen in vergelijking met het bekijken van de 'aantal likes'. In het geval mensen 'berichten' lezen, lijken de 'likes' niet relevant.

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Thank you!
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Introduction

Imagine you walk over the Saturday market and you see an informational stand about nanotechnology in food products. You've never heard about nanotechnology and wonder what it is. The man behind the stand gives a few examples and explains that nanotechnology might help to increase the thermal performance in food packaging and that sensors are placed in food products which are used as an informing system to let people know when the food is no longer safe to eat (Sorrentino, Gorrasi, Vittoria, 2007). On the one hand it sounds good that you will not eat products that have gone bad, on the other hand you will be eating chemical substances, and therefore you are still uncertain if it is not damaging for your health. You go home and go to Facebook to read about other people's opinions who discuss their ideas and beliefs about nanotechnology in food products. Based on other people's opinions you also agree that nanotechnology is safe and brings along many positive opportunities. This phenomenon is known as social proof: you were uncertain about the safety of nanotechnology in food products and other people seemed to be positive about it, therefore you decided that this is a good novel technology; you perceive low risk and many benefits. This example shows how social proof works in an online setting, this thesis will investigate the effect of social proof on Social Media; Facebook.

These days, life without Social Media is hard to imagine. According to the CBS 70 percent of all internet users in the Netherlands spend time on Social Media. The Netherlands belongs to the top of the European Union of the number of people who use Social Media (van der Bighelaar & Akkermans, 2013). Social Media contains online interaction between people like placing comments on a platform and chatting with other individuals and groups. Blogs, content communities, Social Network Sites, Virtual Game worlds and Virtual social worlds are examples of Social Media platforms (Kaplan & Haenlein, 2010).

On the internet people, for example, can place: messages, reviews, narratives, testimonials and comments. These are story likes texts which talk about personal experiences which are often written in the perspective of the first or third person (Betch, Ulshöfer, Renkewitz and Betsch, 2011). People place comments on Social Network Sites like Facebook where they have the ability to give their opinion about different subjects. These comments written by regular people are usually perceived as more believable and trustworthy in comparison with other information sources (Brown & Reinigen, 1987). People believe that companies only share information that they want the public to know and exclude all the other

important aspects. In addition, comments on Facebook for example, is easy accessible for people. This could implicate, that comments on Facebook are seen as more trustworthy as they are not written by a food industry itself.

Because Social Media is easy accessible and people can post and like any comment they want, providing either correct or incorrect information, it is important to investigate the effects these comments and likes have on people's perception. To find out what it is that influences their opinions. In this study our aim was to investigate social proof on Social Media. Facebook is the Social Media platform we used. On Facebook people can write comments and like the comments they agree with. Here two types of social proof are thinkable. These are through 'the comments' people write and 'the likes' under the comments.

It is expected that social proof will be most visible in case people are presented with an ambiguous topic in the presented comments. Research states that people do not have a lot of knowledge about nanotechnology (Cobb & Macoubrie, 2004). Nanotechnology in food products is a topic where a lot of people are not that aware off and are still uncertain about the effect it can have on people's health. Therefore it has been chosen to use the topic of nanotechnology in food products.

We will investigate people's *cognition*, *affect* and *behavioural intent* when it comes to nanotechnology in food products. By presenting participants with different *comment valances*, these are the 'proportion of positive and negative formulated comments' people write on Facebook, and manipulating the *enforcement* which are the 'number of likes' under the comments in either high or low, we will examine the participants risk perception and other attitudes towards nanotechnology. This leads to the research question: To what extent does social proof influence people's risk perception and attitudes towards nanotechnology?

Theoretical framework

Social Proof

People can use judgmental heuristics. Social proof is an example of a judgmental heuristic, where people tend to conform to the group norm (Festinger, 1954). The phenomenon of social proof states that other people's behaviour is found to be correct (Lun , Sinclair, Witchurch, 2007). The phenomenon of social proof is best visible when people are uncertain. Uncertainty can arise when people are unfamiliar with a situation. In uncertain circumstances people wish to acquire more information about correct behaviour. They rely on other people (Cialdini, 2001). When acting as other people, the chance of making a mistake is smaller than when

acting in a different manner (Cialdini, 2001). In addition, people tend to take over other people's behaviour because it saves time and it costs little cognitive energy (Cialdini, 2001). Both the larger the number of people acting in a same way and the degree of similarity between the other person and one-self determines what behaviour we find correct (Cialdini, 2001). For example, when a person goes to Facebook to obtain information about nanotechnology in food products, the likelihood of that person being in favour or against nanotechnology in food products afterwards could depend upon the number of people and type of person who is in favour or against it.

Word of mouth (WoM) refers to any statement consumers share via the internet, including Social Network Sites (Kietzmann & Canhoto, 2013). WoM takes various forms such as information exchange, sharing of thoughts, conversation between people and recommendations of products among people (Amblee & Bui, 2011). WoM communications have been shown to influence awareness, expectations, perceptions, attitudes, behavioural intentions and behaviour (Ha, 2004).

In this study we will focus on two aspects of social proof: the *comment valance* and the *enforcement* of the comments. This means the 'proportion of positive and negative comments' and the 'number of likes' under the comments will be altered.

Elaboration likelihood model

The elaboration likelihood model of persuasion is a cognitive response approach and tries to explain how attitudes are formed and how they are changed. Elaboration means to what extent a person thinks about the issue-relevant arguments contained in a message. There are two different routes people can follow when being exposed to a message: the central route and the peripheral route. People take the central route when their 'elaboration likelihood' is said to be high, which means they are motivated in issue-relevant thinking (Petty & Cacioppo, 1986). Having a high 'elaboration likelihood' means that people think about the message such as experiences they have had or they make relevant associations. In case a person has no interest to think about the message or does not have the ability to think about its content, they tend to take the peripheral route, they then have a low 'elaboration likelihood' (Petty & Cacioppo, 1986).

The study of Lee, Park and Hun (2008) investigated, using the elaboration likelihood model, the effects of negative online consumer reviews on consumer product attitude. The results showed when the proportion of negative online consumer reviews increased, the low-involved consumers, tended to conform to the perspective of reviewers, in spite of the quality

of argumentation, of the negative online consumer reviews. The high-involved consumers tended to conform to the perspective of the reviewers, depending upon the quality of argumentation, of the negative online consumer reviews. In our investigation, we will control for subjective knowledge and initial attitude towards nanotechnology in food products as a proxy of involvement.

Comment valance

Positive and negative comments have different effects on a person's perception. Positive WoM gives direct or indirect recommendations why one should buy a product and therefore the consumer's attitude towards a product becomes more positive. Negative WoM involves belittling, rumour and complaining about a product, which reduces the consumer's likelihood of buying it (Liu, 2006). When a person decides he wants more information about nanotechnology in food products and goes to Facebook to obtain that information, he will be confronted with positive as well as negative information.

Positive messages create a positive attitude and negative information creates a more negative attitude towards a product (Vermeulen & Seegers, 2009). The study by Vermeulen et al. (2009) found that both negative as well as positive hotel reviews increased the consumer's awareness of hotels. The difference between the positive and the negative reviews they found was that the positive reviews also improved attitudes towards hotels, which was not the case for the negative reviewed hotels. These effects were stronger in case the hotel was not well-known. Vermeulen et al. (2009) explain that even though negative reviews lower consumer's attitudes towards certain hotels, the hotel awareness obtained through these reviews compensated for this effect. This lead consumers to consider booking these negative reviewed hotels anyway. In our study we expect when people are faced with a higher proportion of negative Facebook comments they will see it as a high health risk and therefore avoid eating these products, even though participants might create more awareness about nanotechnology in food products.

The proportion of positive and negative comments has an influential effect on people's perception. In the study conducted by Ubel, Jebson and Baron (2001) participants were given testimonials written by former patients about their experience with angioplasty and bypass surgery. There were two types of testimonials; the proportionate and the disproportionate. All participants received one testimonial from a patient who had benefited from an angioplasty and one patient who had not benefited from this treatment. Participants in the proportionate questionnaire group were also given three testimonials by patients who had benefited from a

bypass surgery and one by a patient who did not benefit. The testimonial of the person who did not benefit from the surgery also contained statistical information about bypass surgeries success rate in general. In the disproportionate questionnaire participants were only given one testimonial that had benefited and one testimonial that had not benefited from the surgery. Ubel et al. (2001) found statistical significantly that 44 percent of the participants who received the proportionate questionnaire and only 30 percent of the participants who received the disproportionate questionnaire chose to do the bypass surgery.

In addition the study by Betsch et al. (2011) presented participants with 10 narratives about vaccinating. These consisted of 1, 2 or 4 narratives which reported adverse events due to vaccinating. Their study showed that when there was an increase in narratives which reported adverse events due to vaccinations, it led to a decrease in vaccinating intentions.

In our study it is expected that, when participants are presented with negative comments about nanotechnology, they will perceive consuming food which contains nanotechnology as a high risk. However, when the comments are in favour of nanotechnology, it creates a positive attitude in the participants' perception towards nanotechnology which will result in a low risk perception.

Enforcement

The principle of social proof states that the larger the number of people who find something correct, the more a given individual will perceive this to be correct as well (Cialdini 2001). When many people act in the same behaviour it decreases the perceived risk of making the wrong choice (Lee, et al., 2008). So when a large number of people think nanotechnology in food is safe to eat, another person will probably conform to their opinion and have a positive attitude and a low risk perception towards nanotechnology in food products.

Different studies have shown that the number of people who like a product has a strong influential effect on a person's perception to like the same products. The study carried out by Amblee et al. (2011) studied the effect of electronic WoM communication among a closed community of book readers. They found a statistically significant effect between the sales ranks and volume. They defined volume as: the number of messages that friends send to each other. Another study, conducted by Duan, Gu and Whinston (2008), looked at the persuasive and awareness effect of online user reviews on movies' daily box office performance. The results suggested that the number of online user reviews could be a good indicator of the power of underlying WoM effect and an increase in awareness among potential moviegoers. Both studies suggest that messages and reviews do influence people's

interest in a certain product.

In our study we predict that in the *mixed condition* where the participants are presented with an equal number of positive as well as negative comments about nanotechnology (50:50 ratio) they will conform to the *comment valance*, either to the positive or negative formulated comments, which have the most *enforcement*, high 'number of likes' under the comments. It is expected that when the positive comments are enforced, people become a more positive attitude and less risk perception towards nanotechnology in food products. The opposite is expected when the negative comments are enforced.

Risk perception

The protection motivation theory

The protection motivation theory by Rogers (1975) can be used to explain why people do not buy food products containing nanotechnology when they perceive this to be high in risk. This theory describes two types of responses; the adaptive response and the maladaptive response. The adaptive response focuses on the behaviour which stresses the protection of a person's health and the maladaptive response looks at the behaviour that is bad for the person's health. This theory also holds two processes. The first process focuses on the estimated threat and the second process focuses on the coping strategies a person has. In case of a health threat Brug, van Assema and Lechner (2007) describe severity and vulnerability to be important factors. As soon as the risk perception of the threat increases the motivation to protect oneself against this threat will increase as well. The coping strategies people use are based on the expectation that the recommended response will lead to a threat decrease as well as the expectation that the individual is able to carry out this response (Brug et al., 2007). Brug et al. (2007) state that in case the individual estimates that his response will lower the perceived threat and that his ability to deal with this threat is high, his adaptive response becomes higher. Also at the same time the costs that come along with behaving this way will be limited. In this study it is expected that, when people perceive nanotechnology in food products to be highly risky, people will choose to avoid eating these food products as this is perceived to be better for their health. This will lead to people not willing to buy food products containing nanotechnology.

Different factors have an influence on people's risk perception on products. Mou and Lin's (2014) study looked at the Chinese public's use of a microblog platform and their cognitive, affective and behavioural responses to the continuing food safety crisis in China. Their results showed that the higher the degree of incident and factual awareness of the crisis,

the higher the level of risk perception and preventive behaviour was. Another finding showed that negative emotions towards food safety were a strong predictor for food safety perception and people's willingness to spend more money on safe food. They also concluded that the main reason why the public used the microblog platform was to gain more information about food safety. They found that people trust information provided by other platform users more than information distributed by the government, industry or institutional sources.

When people do not have specific knowledge about certain products or situations they rely on processes such as heuristics and they tend to rely on other people's opinions (Siegrist & cvetkovich, 2000). Trust is a heuristic they might use to analyse the benefits and risks of a novel technology. When there is an increase of just one negative online consumer review, in the minds of consumers, the riskiness of a product increases immediately (Chatterjee, 2001; Chen & Xie. 2008). In our study it is expected that when people are presented with only negative comments about nanotechnology in food products, or when they see both negative and positive comments about nanotechnology in food products but only the negative comments are highly *enforced* it will lead to a high risk perception and less trust in the supermarkets.

Perceptions of Nanotechnology

People perceive various nanotechnology applications differently. Siegrist, Stampfli, Kastenholz and Keller (2008) identified food applications that are more likely to be accepted as well as food applications that are less likely to be accepted by the public. The results suggest that affect and perceived control are important factors which influence the risk and benefit perception of nanotechnology. Also, consumers are more likely to accept nanotechnology in packaging rather than in foods. Furthermore, participants who perceived numerous benefits regarding nanotechnology food applications also perceived fewer risks in comparison with people who perceived just a few benefits with nanotechnology. Other data showed that in case nanotechnology in food products was seen as more natural it decreased the risk perception and increased the benefit perception of nanotechnology in food or its packaging. The study also states that increased trust in the food industry may be an important factor for the acceptance of nanotechnology, as trust came out to be a significant predictor for perceived risks and benefits of nanotechnology.

Getting familiar with the term nanotechnology decreases its risk perception. Cobb and Macoubrie (2004) concluded that most Americans are unfamiliar with nanotechnology. In spite of most participants having limited knowledge about nanotechnology, the results showed

that participants perceived nanotechnology to bring forward more benefits than risks. These results can be explained that knowing about nanotechnology did not matter as much, what did matter is how much the participants said they heard about nanotechnology. Cobb et al. (2004) showed that when people get familiar with a product the amount of trust increased. When people had low trust in nanotechnology this went together with feeling angry about it. This is the reason why we control for subjective knowledge in our two studies.

This study

This study will investigate two types of social proof on a fake Facebook site (see figure 1). The *comment valance* will be altered. This means that the 'proportion of the positive and negative comments' will be varied. Secondly there will be different gradations of *enforcement.* This will be done by altering the 'number of likes' under the comments. The comments people will be presented with will report people's opinions, regarding topics of: emotion, health, safety and behaviour towards nanotechnology in food products. As many people are still quite unfamiliar with the topic of nanotechnology in food products, we hope that the effects of social proof will be most visible.

Social proof will be investigated by analysing the dependent variables: *cognition*, *affect and behavioural intent*. The dependent variables which belong to *cognition* are: risk perception, benefit perception, attitude and trust in the supermarkets. The dependent variables which belong to *affect* are: positive affect and negative affect. Finally, the dependent variables which belong to *behavioural intent* are: information need and willingness to buy food products containing nanotechnology. In addition this study will control for covariates: subjective knowledge, initial attitude on benefits and initial attitude on unknown/dread (see figure 1).

This study is set up as two studies: study A and study B (see figure 2 and table 2). In study A there will only be one *comment valance*. This means that either all comments are positively formulated, being in favour of nanotechnology in food products, or all comments are negatively formulated, being against the use of nanotechnology in food products. At the same time, all comments will have a high *enforcement*, high 'number of likes' under the comments, or the all comments will have a low *enforcement*, low 'number of likes' under the comments. In study B there will be a mix of *comment valence*. Here an equal number of comments will be positively formulated as well as negatively formulated. In addition there will be a mix of *enforcement* gradation. Here, the positive comments will have a high 'number of likes' and the negative comments have a low 'number of likes' or vice versa.
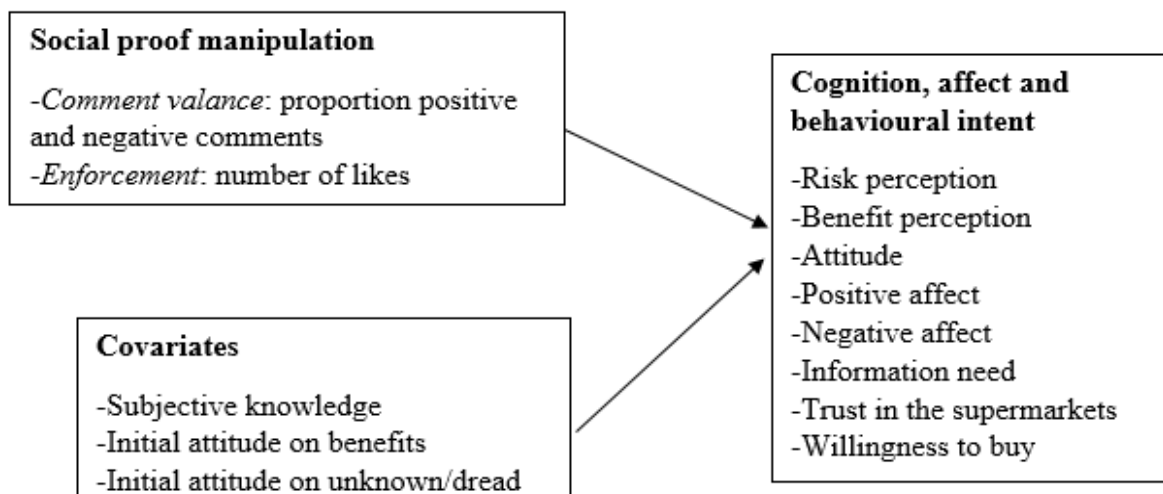
Figure 1 Conceptual model

Hypotheses

Study A

Main effect for comment valance- 'proportion positive and negative comments'
Ubel et al. (2001) showed that in case there are more positive testimonials than negative testimonials people are likely to conform to the positive testimonials. In addition Betsch et al. (2011) found when there was an increase in adverse event narratives about vaccinating, people's intention to vaccinate decreased. We expect when people are presented with more comments on positive information about nanotechnology they will be more likely to perceive the use of nanotechnology as a positive thing as this side is most represented. Vermeulen et al. (2009) found that both positive and negative reviews lead to awareness but only positive reviews lead to a positive attitude (Vermeulen et al. 2009). This means that in case of nanotechnology, when people read positive comments about this subject, we expect that they will perceive more benefits than risks.

H1 When there are only positive comments it leads to a more positive *cognition*, more positive *affect* and a more positive *behavioural intent* compared to only negative comments.

Main effect for enforcement- 'number of likes'
It is expected that there is no main effect of the 'number of likes'. The 'number of likes' will only be of importance when people can look at the comments to which the likes belong. Without linking the likes to the comments it is unclear which statements, either being in

favour or against nanotechnology in food products is enforced. The likes without referring to the comments will show no effect on people's: cognition, affect and behavioural intent.

 H2 There is no main effect of the 'number of likes'

Interaction effect of 'comment valance' X 'enforcement'

Amblee et al. (2011) investigated the effect of the number of messages friends send to each other, and referred to it with `volume`. Duan et al. (2008) investigated the effect of the number of online user reviews on movies. Both studies investigated the effect quantities have on people. Both studies concluded that the quantity of messages send to each other or the quantity of online user reviews on movies have an effect on people's perception to like products (Amblee et al., 2011; Duan et al., 2008). The former investigation found a statistical significant regression between sales ranks and volume and the latter concluded that the number of online user reviews could be a good indicator for the awareness among potential moviegoers. In this study people will see the number of likes as enforcement of the comments. The more likes a comment has, the more believable the comments will be perceived by people.

H3 The higher the 'number of likes' the more likely participants will take over the ideas of the comments.

   a) High number of likes under negative comments leads to a negative *cognition*, negative *affect* and a negative *behavioural intent*

   b) High number of likes under positive comments leads to a positive *cognition*, positive *affect* and a positive *behavioural intent*

Study B

Main effect for mixed conditions

Lee, Park & Hun (2008) found that when many people act in the same behaviour it decreases the perceived risk of making the wrong decision. When the distribution between positive and negative comments about nanotechnology is equal, people will see the number of likes as enforcement. It is expected that they will disregard the comments and will conform to the *comment valence* which is most *enforced*. The more likes below a comment the more believable it will be perceived by people thus increase or decrease risk perception. In case there are 'positive comments about nanotechnology with a high number of likes and negative comments with a low number of likes', people will see many benefits concerning nanotechnology. When they, however, see 'negative comments with high numbers of likes

and positive comments with low numbers of likes' they will perceive nanotechnology as high in risk.

H4 High number of likes under positive comments (and a low number of likes under negative comments) leads to a more positive *cognition*, more positive *affect* and a more positive *behavioural intent* towards nanotechnology in comparison with a high number of likes under negative comments (and low number of likes under positive comments), which leads to a more negative *cognition*, more negative *affect* and a more negative *behavioural intent*

| Condition | Study A | | | Study B |
	H1	H2	H3	H4
1	Positive comments	High number of likes	Positive comments with high number of likes	/
2	Positive comments	Low number of likes	Positive comments with low number of likes	/
3	Negative comments	High number of likes	Negative comments with high number of likes	/
4	Negative comments	Low number of likes	Negative comments with low number of likes	/
5	/	/		High number of likes on positive comments and low number of likes on negative comments
6	/	/		High number of likes on negative comments and low number of likes on positive comments

Figure 2 Visualisation of condition usage over the hypotheses

Method

Respondents

The respondents were recruited using an extern research agency and they were compensated for entering the study. This group of people is a representative sample of the internet users in the Netherlands. A total of 363 people, divided over study A and B, joined, with the ages between 18 and 77 years old. As demanded, all of the respondents had experience with Facebook, and most respondents, 62%, use Facebook on a daily basis and only 11% use

Facebook less than once a month.

This study represents a representable group of the Dutch internet users. To give a wider picture of the Dutch internet users, a description of their sociodemographic data will be given. Out of the sample 81% are responsible for grocery shopping in their household and 95% of the respondents went grocery shopping the last month. Only 19% said another person in their household was responsible for grocery shopping and 5% claimed they never went grocery shopping at all (for more sociodemographic data, divided up into study A and B see table 1).

Table 1

respondent's sociodemographic data

Demographics in years, numbers or percentages	Study A	Study B	Total
Age (years)			
min	18	18	18
Max	76	77	77
Mean	46	47	46
Gender (N)			
Male	117	64	181
Female	124	58	182
Educational level (%)			
Basic	2	1	2
Secondary	25	17	22
Vocational	38	42	39
Higher profession	27	30	28
University	8	10	9
Daily occupation (%)			
Full time payed job	49	49	49
Housewife/man	17	14	16
Retired	15	12	14
Out of a job/on a break	12	18	14
Student	7	7	7
Resident (%)			
Village	30	35	32
Small city	32	26	30
Large city	25	25	25
Border of a large city	12	14	13

Experimental design

This investigation was an experimental study. Two factors were manipulated: the *comment valance*-'proportion of the positive and negative comments' and the *enforcement* of the comments- 'number of likes'. The experiment is divided up into two studies (see table 2). Study A is set up as a 2 (comment proportion: all positive and none negative vs all negative and none positive) x2 (enforcement: high number of likes vs low number of likes) between subject design. The effect of the 'proportion of the positive and negative comments' versus the 'number of likes' was investigated. In this study there was always one *comment valence*, this means that all comments were either positive or negative. In addition, there were only high or low 'number of likes' under the comments. Study B will be elaborated on after study A has been discussed.

Table 2

The different conditions in the investigation

		Enforcement (number of likes)					
		Study A				Study B	
		High number of likes	Low number of likes	High number of likes	Low number of likes	High number of likes on positive comments and low number of likes on negative comments	High number of likes on negative comments and low number of likes on positive comments
Proportion of the positive and negative comments	All positive comments	N = 49	N = 53				
	All negative comments			N = 58	N = 50		
	Mixed (half positive and half negative comments)					N = 60	N = 62

Study A

      Facebook comments

In this experiment participants were shown a Facebook discussion which included comments being in favour, the positive comments, or against, being the negative comments, the use of nanotechnology in food products with either a high or low 'number of likes' under the comments to *enforce* the comments in their opinion of the use of nanotechnology in food products. The comments used in this study were selected by doing a pre-study. This pre-study

made it possible to select eight comments which consisted of messages regarding emotion, danger, health and people's behaviour towards nanotechnology. Of every positive formulated comment a similar negative formulated analogue was constructed. For all comments see appendix A.

Manipulation: comment valance

The participants were always presented with four comments. The 'proportion of the positive and negative comments' varied in the conditions. In the *positive conditions* the participants were given four positive comments to read and no negative comments. In the *negative conditions* there were only four negative comments and no positive comments.

In case of the *positive condition* 85% of the respondents identified the comments correctly to be positive. In 89% of the *negative condition* the respondents identified the comments correctly to be negative (see table 3). In this study it was chosen to only use the respondents who identified correctly if the comments were positive or negative. Over 80% of the respondents identified correctly if the comments were either positive or negative, therefore a large number of respondents were admitted. When only using respondents who identified the *comment valance* correctly will show a cleaner and clearer effect of the 'proportion of positive and negative comments' on the dependent variables.

Table 3

Manipulation check answers positive or negative formulated comments

		Conditions		
		Positive	Negative	Total
	All comments in favour of nanotechnology	102 85%	2 2%	104
Manipulation check answers	All comments against nanotechnology	6 5%	108 89%	114
	Half of the comments in favour and half against nanotechnology	12 10%	11 9%	23
Total		120	121	241

Manipulation: enforcement

In the *high number of likes conditions* there were only high 'number of likes' under the comments. In the *low number of likes conditions* there were only low 'number of likes' under the comments. To make sure the experiment was realistic, not exactly the same 'number of likes' were presented. The high 'numbers of likes' varied between 252 and 286 and the low 'numbers of likes' varied between 12 and 17. To provide a context, a short text above the Facebook discussion was added which stated how many people joined this Facebook page, which the respondents could use as a reference.

Only 30% of the respondents identified the *low number of likes condition* correctly and 42% of the respondents thought that there were high number of likes instead of low 'number of likes'. In the *high number of likes condition,* 72% of the respondents identified correctly that there were high number of likes (see table 4). When only using the respondents who answered correctly if there were a high or low 'number of likes', only a small sample of respondents would be left. For this reason no respondents were filtered out.

Table 4

Manipulation check answers high or low 'number of likes'

| | | Conditions | | |
		Not many	A lot	Total
Manipulation check answers	Not many	36 30%	13 11%	49
	A lot	51 42%	86 72%	137
	Mix	12 10%	1 1%	13
	I don't know	22 18%	20 17%	42
Total		121	120	241

Instruments

Dependent variables

Participants had to answer on a 7-point-likert-scale to what extent they agree with statements that measured: *cognition*, *affect* and *behavioural intent*. These dependent variables were: risk perception, benefit perception, positive affect, negative affect, information need, trust in the supermarkets and willingness to buy food products containing nanotechnology. The answer possibilities were: strongly disagree, disagree, somewhat disagree, undecided, somewhat agree, agree and strongly agree (see appendix B).Only by the dependent variable attitude, participants had to select a dot on a line which represented their opinion the most. Participants also had to answer on a 7-point-likert-scale with the same answer possibilities as the dependent variables, to what extent they agree with statements that measured the covariates: subjective knowledge, initial attitude on benefits and initial attitude on unknown/dread.

Risk and benefit perception

Risk perception measured to what extent the participants perceive nanotechnology as a risk and was measured using 4 items. This construct had a Cronbach's alpha of 0.95.

Benefit perception measured to what extent the participants perceive the use of nanotechnology to be beneficial. There were a total of 4 items and this construct had a Cronbach's alpha of 0.94.

Attitude

Attitude measured the way people view the use of nanotechnology in food products. This construct consisted of three items and had a Cronbach's alpha of 0.93.

Affect

Affect measured emotions people feel when they think about food products containing nanotechnology. There were a total of eight emotions of which four were positive emotions towards nanotechnology in food products and the other four were negative emotions towards nanotechnology in food products. The positive emotions had a Cronbach alpha of 0.96 and the negative emotions had a Cronbach alpha of 0.94.

Information need

Information need measured to what extent people feel they want to gain more information about the use of nanotechnology in food products and the effects it can have on people. This construct was also measured using 4 items and it had a Cronbach's alpha of 0.95.

Trust in supermarkets

Trust was measured using three items and it measured to what extent the participants think that supermarkets are able to deal correctly with the risks which are linked to food products. These items had a Cronbach's alpha of 0.94.

Willingness to buy

Willingness to buy measured to what extent the participants were willing to buy food products containing nanotechnology. There were a total of seven items and had a Cronbach's alpha of 0.94.

Covariates

Subjective knowledge

Subjective knowledge measured to what extent people feel they have enough understanding about nanotechnology in food products. This construct consisted of three items and had a Cronbach's alpha of 0.91.

Initial attitude

Initial attitude measured people's feelings towards nanotechnology in food products. This construct was measured using nine items and it covered items of dread, unknown and benefits. A factor analysis was conducted. It was found that the items loaded on two factors: benefit and unknown/dread. Therefore two constructs were created: initial attitude on benefits consisted of four items and had a Cronbach's alpha of 0.91 and the other factor being initial attitude on unknown/dread which consisted of five items and had a Cronbach's alpha of 0.85.

Procedure

Only participants who had experience with a Facebook account were allowed to participate in this study. Both men and women with a minimum age of 18 years old were asked to participate for the rest there was no age limit nor were educational level or ethnicity important for this study.

As soon as participants received the link for the study they were told that the data will be used anonymously and that they can stop the study if they do not feel like continuing. Also the approximate amount of time (10-15 Minutes) was indicated. In case they agreed, they had to give their informed consent and also answer the screener question, whether they have ever used Facebook. When they were familiar with Facebook they were asked to continue to complete the investigation.

Before the manipulations were introduced the participants were asked about their attitude towards and knowledge about nanotechnology in food products.

All participants were presented with a fake Facebook site. All of them were given four comments they were asked to read, about nanotechnology in food products. In each condition there was a different 'proportion of positive and negative comments' and the 'number of likes' by the comments varied to be either high or low (see table 2). All the participants were only presented with one condition and then they were asked questions about their: risk perception, benefit perception, attitude, positive and negative affect, information need, trust in the supermarkets and willingness to buy. Finally, sociodemographic data such as age, ethnicity and educational level were asked. As soon as the participants finished the experiment they were debriefed, by giving them information about the experiment and explained what we measured.

Analysis procedure

This study was analysed doing a general linear model using multivariate tests. This is because this test corrects for when the dependent variables are related to each other. It was also chosen to do a two-tailed test, even though hypothesis one and three are formulated as one-tailed tests. The reason for this is to get as accurate and believable results as possible.

Comment valance

A factor had to be created to represent either positive or negative formulated comments. The *positive conditions* were added together and labelled with 1 and the *negative conditions* were added together and labelled with 2. This factor was put in the independent variable section. In the dependent variable section the variables: risk perception, benefit perception, attitude, positive affect, negative affect, information need, trust in the supermarkets and willingness to buy were put. Subjective knowledge and initial attitude on benefits and initial attitude on unknown/dread were used as covariates.

Enforcement

Another factor had to be made, to show if there were high or low 'number of likes'. Therefore the *high number of likes conditions* were added together which were labelled with 1 and the *low number of likes conditions* were added together which were labelled with 2. This factor 'high or low number of likes' was put in the independent variable section together with the previous factor 'positive or negative comments' whilst doing a general linear model. In the dependent variable section the variables: risk perception, benefit perception, attitude, positive

affect, negative affect, information need, trust in the supermarkets and willingness to buy were put. Subjective knowledge and initial attitude on benefits and initial attitude on unknown/dread were measured as covariates.

General findings

Some general findings show that people score quite high on the 7-point-likert scale in all constructs (see table 5). There are two constructs which stand out, these are information need and risk perception. Information need stands out the most (M = 5.1; SD = 1.34). People had a high score on this construct which could indicate that people have too less knowledge about the use of nanotechnology and therefore this subject is ambiguous. The second construct is risk perception (M = 4.18 ; SD = 1.11). This suggests that the respondents thought the use of nanotechnology in food products to be high in risk.

The table also shows that there are interdependencies between the constructs. The correlations above r = 0.60 will be listed. There is a high negative correlation between attitude and risk perception (r = -0.67) and an even higher positive correlation between attitude and benefit perception (r = 0.76). This means that in case people have a more positive attitude towards nanotechnology the risk perception decreases and the benefit perception increases. In addition there is a high positive correlation between positive affect and benefit perception (r = 0.65) and between positive affect and attitude (r = 0.69). This means when people have a more positive affect the more benefit perception and the more positive attitude they have. Willingness to buy is highly positive correlated to benefit perception, attitude and positive affect (respectively r = 0.62, r = 0.63 and r = 0.64). This means that when people have a high benefit perception, a positive attitude or a positive affect people are more willing to buy food products containing nanotechnology. Finally the covariate initial attitude on benefits is highly positively correlated with benefit perception (r = 0.64). This suggests that the more initial attitude on benefits people have on nanotechnology in food products the more benefit perception they have towards nanotechnology in food products (for more correlations see table 5).

Table 5

Pearson's correlations between constructs, M, SD and α

	M	SD	α	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Risk perception	4.18	1.11	0.95	1										
2. Benefit perception	3.67	1.11	0.94	-0.59**	1									
3. Attitude	3.61	1.24	0.93	-0.67**	0.76**	1								
4. Positive affect	3.07	1.37	0.96	-0.50**	0.65**	0.69**	1							
5. Negative affect	3.62	1.51	0.94	0.52**	-0.48**	-0.46**	-0.16**	1						
6. Information need	5.1	1.34	0.95	0.05	-0.01	0.00	0.00	0.11*	1					
7. Trust	4.45	1.34	0.94	-0.30**	0.40**	0.40**	0.31**	-0.30**	0.08	1				
8. Willingness to buy	3.09	1.51	0.94	-0.43**	0.62**	0.63**	0.64**	-0.29**	-0.01	0.41**	1			
9. Subjective knowledge	2.3	1.32	0.91	-0.13*	0.25**	0.24**	0.28**	-0.10	-0.08	0.02	0.20**	1		
10. Initial attitude on benefits	4.12	1.03	0.91	-0.48**	0.64**	0.59**	0.50**	-0.38**	0.14**	0.36**	0.44**	0.25**	1	
11. Initial attitude on unknown/dread	4.45	0.97	0.85	0.53**	-0.42**	-0.44**	-0.35**	0.31**	-0.23**	-0.22**	-0.32**	-0.06	-0.12*	1

Note * $p < .05$, ** $p < .01$

Results study A

A multivariate test has been conducted where the independent variables were: 'proportion of the positive and negative comments', 'number of likes' and 'proportion of the positive and negative comments X number of likes' , the dependent variables were: risk perception, benefit perception, attitude, positive affect, negative affect, information need, trust in the supermarkets and willingness to buy. The variables, subjective knowledge, initial attitude on benefits and initial attitude on unknown/dread are the covariates which have been controlled for.

Comment valance

The results have indicated that 'proportion of the positive and negative comments' does have a significant effect on the dependent variables: (Wilk's $\lambda = 0.90$; $F_{(8;196)} = 2.59$; $p < 0.05$). When looking closer at the data one can see that 'the proportion of the positive and negative comments' has 3 main effects on the dependent variables: 'risk perception', 'attitude' and 'benefit perception'. Positively formulated comments can be associated with a statistically significant lower risk perception than negatively formulated comments ($F_{(1,203)} = 6.94$; $p < 0.05$). These results indicate that when the comments were all formulated positively the perceived risk perception decreased.

'The proportion of the positive and negative comments' also had a main effect on people's attitude towards nanotechnology ($F_{(1,203)} = 15.42$; $p < 0.05$). When the comments were positive towards nanotechnology, people's attitude towards nanotechnology was also more positive in comparison to when the comments were all negative. 'The proportion of the positive and negative comments' also had a main effect on benefit perception ($F_{(1,203)} = 8.25$; $p < 0.05$). This means people's benefit perception increased when all comments were positive in comparison to when all comment were negative.

Willingness to buy is marginal significant, ($F_{(1,203)} = 3.23$; $p = 0.07$). This means that there is some evidence that the more positive the comments about nanotechnology in food products were the more people are willing to buy food products containing nanotechnology. There was no significant effect of 'the proportion of the positive and negative comments' and the other dependent variables. Therefore hypothesis 1 can only partially be accepted (see table 6).

Enforcement

When looking at the multivariate analyses it shows that 'the number of likes' do not have a significant effect: (Wilk's $\lambda = 0.95$; $F_{(8;196)} = 1.36$; $p = 0.22$). Therefore it can be concluded that there is no main effect of 'the number of likes'. Because no main effect of 'the number of likes' has been found there is proof for hypothesis 2, which means hypothesis 2 can be accepted (see table 6).

Interaction between comment valance and enforcement

In addition there seems to be no interaction effect between 'proportion of the positive and negative comments' and the 'number of likes': (Wilk's $\lambda = 0.97$; $F_{(8;196)} = 0.83$; $p = 0.58$). These results indicate that a combination of a high `number of likes` to the comments does not lead to more social proof. Therefore hypothesis 3 has to be rejected (see table 6).

Subjective knowledge

There seems to be no relationship between subjective knowledge and the dependent variables: (Wilk's $\lambda = 0.98$; $F_{(8;196)} = 0.56$; $p < 0.81$). This means that subjective knowledge does not relate to the dependent variables: risk perception, benefit perception, attitude, positive affect, negative affect, information need, trust in the supermarkets and willingness to buy (see table 6).

Initial attitude on benefits

Initial attitude on benefits is related to most of the dependent variables: (Wilk's $\lambda = 0.56$; $F_{(8;196)} = 19.52$; $p < 0.05$). It is related to all dependent variables except for information need. It is related to risk perception: ($F_{(1,203)} = 89.89$; $p < 0.05$), benefit perception: ($F_{(1,203)} = 123.64$; $p < 0.05$), attitude: ($F_{(1,203)} = 112.28$; $p < 0.05$), positive affect: ($F_{(1,203)} = 50.10$; $p < 0.05$), negative affect: ($F_{(1,203)} = 17.20$; $p < 0.05$), trust in the supermarkets: ($F_{(1,203)} = 20.28$; $p < 0.05$) and willingness to buy food containing nanotechnology: ($F_{(1,203)} = 30.57$; $p < 0.05$). This means that the higher the initial attitude on benefits is the higher the positive affect, perceived benefit, attitude, trust in the supermarkets and willingness to buy food products containing nanotechnology is. As well as, the lower the negative affect and the perceived risk perception towards nanotechnology in food products is (see table 6).

Initial attitude on unknown/dread

Initial attitude on unknown/dread is related to all of the dependent variables: (Wilk's $\lambda = 0.67$; $F_{(8;196)} = 11.91$; $p < 0.05$). It is related to risk perception: ($F_{(1,203)} = 42.28$; $p < 0.05$), benefit perception: ($F_{(1,203)} = 48.38$; $p < 0.05$), attitude: ($F_{(1,203)} = 52.12$; $p < 0.05$), positive affect: ($F_{(1,203)} = 39.20$; $p < 0.05$), negative affect: ($F_{(1,203)} = 21.02$; $p < 0.05$), information need:

$(F_{(1,203)} = 13.48$; $p < 0.05$), trust in the supermarkets: $(F_{(1,203)} = 25.45$; $p < 0.05$) and willingness to buy food products containing nanotechnology: $(F_{(1,203)} = 36.54$; $p < 0.05$). This means that the higher the initial attitude on unknown/dread is the lower the positive affect, perceived benefit, attitude, trust in the supermarkets and the less willing people are to buy food containing nanotechnology. Also the higher the initial attitude on unknown/dread the higher the negative affect, perceived risk perception and the more information need people have (see table 6).

Table 6

Comment valance, enforcement, the interaction between comment valance and enforcement and the relation of subjective knowledge and initial attitude (N = 210)

	M1 Positive comments	M2 Negative comments	M3 High likes	M4 Low likes	H1		H2		H3		Subjective knowledge		Initial attitude on benefits		Initial attitude on unknown/dread	
					F	P	F	P	F	P	F	P	F	P	F	P
Risk perception	4.08	4.36	4.28	4.17	6.94**	0.01	0.12	0.73	0.82	0.37	1.51	0.22	89.89**	0.00	42.28**	0.00
Benefit perception	3.78	3.49	3.57	3.69	8.25**	0.01	0.18	0.67	0.19	0.66	2.21	0.14	123.64**	0.00	48.38**	0.00
Attitude	3.76	3.30	3.58	3.47	15.42**	0.00	2.53	0.11	0.08	0.78	1.49	0.22	112.28**	0.00	52.12**	0.00
Positive affect	3.08	2.93	2.93	3.08	1.48	0.23	0.04	0.85	2.02	0.16	1.68	0.20	50.10**	0.00	39.20**	0.00
Negative affect	3.55	3.77	3.62	3.71	1.53	0.22	0.98	0.32	0.06	0.80	0.29	0.59	17.20**	0.00	21.02**	0.00
Information need	5.28	5.03	5.27	5.04	1.11	0.29	0.68	0.41	0.01	0.93	0.11	0.75	4.48	0.35	13.48**	0.00
Trust	4.40	4.50	4.54	4.37	0.24	0.63	2.61	0.11	0.06	0.81	0.18	0.67	20.28**	0.00	25.45**	0.00
Willingness to buy	3.14	2.87	2.97	3.03	3.23	0.07	0.05	0.82	0.19	0.67	0.00	1.00	30.57**	0.00	36.54**	0.00

Method Study B

Procedure

The same instruments regarding Facebook comments, likes, dependent variables and covariates were used as in experiment A. Also did the respondents follow the same procedure as in study A. The data was analysed doing a general linear model using multivariate test ANOVA.

Experimental design

Study B was set up as two conditions. Here, the *comment valance*- 'proportion of the positive and negative comments' was equal and the *enforcement* of the comments- 'number of likes' was altered. There were always two positive and two negative comments and the 'number of likes' were either high by the positive comments and low by the negative comments or vice versa (see table 2).

Manipulation: comment valance

In the *mixed conditions* there was a mix of the positive and negative comments. Here two comments were in favour of nanotechnology and two comments were against nanotechnology. To make sure the participants did not get influenced by the way the comments were presented the order of the positive and negative comments was randomized.

In the *mixed conditions*, 66% of the respondents identified correctly that there were both positive and negative formulated comments. And less than 20% of the respondents thought the comments were all positive or all negative. Here all respondents were used, to minimize respondent loss.

Manipulation: enforcement

In the *mixed conditions* there was an even number of comments with a high 'number of likes' as well as low 'number of likes' under the comments. In the *high number of likes on the positive and low number of likes on the negative condition* the positive comments had a high 'number of likes' and the negative comments had a low 'number of likes' under the comments. In the *high number of likes on the negative and low number of likes on the positive condition* the negative comments had a high 'number of likes' and the positive comments had a low 'number of likes' under the comments. Like study A, the high 'number of likes' varied between 252 and 286 and the low numbers of likes varied between 12 and 17. In addition a short text above the Facebook discussion was added which stated how many people joined this Facebook page, which the respondents could use as a reference.

In the *mixed condition*, 74% of the respondents identified correctly that there were both high and low 'number of likes' below the comments. 15% answered incorrectly that many comments had a high 'number of likes', and only 4% stated incorrectly that there were low 'number of likes'. For study B all respondents were used, to minimize respondent loss.

Analysis procedure

A factor had to be made regarding the *mixed conditions*. Here the *high number of likes on the positive and low number of likes on the negative condition* was labelled 1 and the *high number of likes on the negative and low number of likes on the positive condition* was labelled with 2. This factor was put in the independent variable section whilst doing a general linear model. In the dependent variable section the variables: risk perception, benefit perception, attitude, positive affect, negative affect, information need, trust in the supermarkets and willingness to buy were put. Subjective knowledge and initial attitude on benefits and initial attitude on unknown/dread were used as covariates.

Results study B

Mixed comment valance and high/low enforcement of the comments

There is no proof for the fourth hypothesis: (Wilk's $\lambda = 0.95$; $F_{(8;110)} = 0.77$; $p = 0.63$). 'High number of likes under positive comments and low number of likes under negative comments' does not lead to: less risk perception, more benefit perception, a better attitude, more positive affect, less negative affect, more information need, more trust in the supermarket and more willingness to buy food products containing nanotechnology, in comparison to 'high number of likes under negative comments and a low number of likes under positive comments'. Therefore hypothesis 4 cannot be accepted (see table 7).

Subjective knowledge

The covariate subjective knowledge is not significant: (Wilk's $\lambda = 0.90$; $F_{(8;110)} = 1.51$; $p = 0.16$). This means there seems to be no relationship between subjective knowledge and the dependent variables (see table 7).

Initial attitude on benefits

Initial attitude on benefits is significant: (Wilk's $\lambda = 0.46$; $F_{(8;110)} = 16$; $p < 0.05$). It is related to all of the dependent variables. It is related to risk perception: ($F_{(1,117)} = 49.18$; $p < 0.05$), benefit perception: ($F_{(1,117)} = 65.20$; $p < 0.05$), attitude: ($F_{(1,117)} = 69.26$; $p < 0.05$), positive affect: ($F_{(1,117)} = 39.13$; $p < 0.05$), negative affect: ($F_{(1,117)} = 19.70$; $p < 0.05$), information

need: ($F_{(1,117)} = 13.48$; $p < 0.05$), trust in the supermarkets: ($F_{(1,117)} = 8.78$; $p < 0.05$) and willingness to buy food products containing nanotechnology: ($F_{(1,117)} = 24.09$; $p < 0.05$). This means that the higher the initial attitude on benefits is the higher the positive affect, perceived benefit, attitude, trust in the supermarkets, willingness to buy food products containing nanotechnology and information need about nanotechnology is. As well as, the lower the negative affect and the perceived risk perception towards nanotechnology in food products is (see table 7).

Initial attitude on unknown/dread

Initial attitude on unknown/dread is significant: (Wilk's $\lambda = 0.54$; $F_{(8;110)} = 11.94$; $p < 0.05$) and related to most dependent variables, except for trust in the supermarkets. It is related to risk perception: ($F_{(1,117)} = 78.40$; $p < 0.05$), benefit perception: ($F_{(1,117)} = 13.26$; $p < 0.05$), attitude: ($F_{(1,117)} = 43.10$; $p < 0.05$), positive affect: ($F_{(1,117)} = 10.56$; $p < 0.05$), negative affect: ($F_{(1,117)} = 14.61$; $p < 0.05$), information need: ($F_{(1,117)} = 5.60$; $p < 0.05$) and willingness to buy food products containing nanotechnology: ($F_{(1,117)} = 10.79$; $p < 0.05$). This means that the higher the initial attitude on unknown/dread the lower the positive affect, perceived benefit, attitude and the less willing people are to buy food containing nanotechnology. Also the higher the initial attitude on unknown/dread the higher the negative affect, perceived risk perception and the more information need people have (see table 7).

Table 7

High enforcement on positive comments/ low enforcement on negative comments versus high enforcement on negative comments/ low enforcement on positive comments and the relation of subjective knowledge and initial attitude (N = 122)

	M5 High likes on positive comments	M6 High likes on negative comments	H4		Subjective knowledge		Initial attitude on benefits		Initial attitude on unknown/dread	
			F	P	F	P	F	P	F	P
Risk perception	4.13	4.15	0.01	0.93	0.98	0.32	49.18**	0.00	78.40**	0.00
Benefit perception	3.66	3.74	0.33	0.57	0.61	0.44	65.20**	0.00	13.26**	0.00
Attitude	3.72	3.67	0.14	0.71	0.45	0.50	69.26**	0.00	43.10**	0.00
Positive affect	3.29	3.04	1.71	0.19	2.63	0.11	39.13**	0.00	10.56**	0.00
Negative affect	3.69	3.37	1.79	0.18	0.07	0.79	19.70**	0.00	14.61**	0.00
Information need	5.31	5.21	0.24	0.63	7.04	0.01	9.77*	0.02	5.60*	0.02
Trust	4.61	4.37	0.96	0.33	0.35	0.56	8.78**	0.00	2.79	0.10
Willingness to buy	3.30	3.10	0.79	0.38	1.96	0.17	24.09**	0.00	10.79**	0.00

Discussion

This study investigated the effect of Facebook *comment valance* and the *enforcement* of the comments on the opinions of Dutch internet users regarding the topic of nanotechnology in food products. Due to the fact that a large number of people spent a great amount of time surfing the internet and using platforms such as Facebook, on a daily basis, this study is of relevance. The respondents who entered this study were a representative group of the Dutch internet users. This means that people of all ages, educational levels and occupations as well as an even distribution of gender entered this study. The results of this study show that people do pay some attention towards the 'comments' themselves, and they even get influenced by them. The 'number of likes' do seem to be of no relevance. To answer the research question: to what extent does social proof influence people's risk perception and attitudes towards nanotechnology? The results suggest that there seems to be a mild case of social proof when it comes to risk perception, benefit perception and attitude when people read the comments.

Comment valance, meaning the 'proportion of the positive and negative comments', was the first type of social proof which was introduced in the two studies. The results have shown that there were three main effects on risk perception, benefit perception and attitude in study A.

This means that when all comments were in favour of nanotechnology in food products, the risk perception decreased and the benefit perception and attitude towards nanotechnology in food products increased. Previous studies, from Lui (2006) and Vermeulen et al. (2009) also found that positive WoM leads to a more positive attitude towards a product. In addition Betsch et al. (2011) found that when more narratives talked about adverse events people had less intentions to get vaccinated. Furthermore Ubel et al. (2001) found similar results to our study. They discovered that people who received three testimonials who benefitted from bypass surgery and only one testimonial, with statistical information, who did not benefit from this surgery, people were more likely to go through with this surgery. Like in our study the respondent's attitude towards nanotechnology in food products became more positive when all comments were in favour of nanotechnology in food products.

The 'proportion of positive and negative comments', in study A, did not have any effect on the other independent variables such as: positive affect, negative affect, information need, trust in the supermarkets and willingness to buy food products containing nanotechnology. Therefore hypothesis 1 can only partially be accepted. It is unclear why no effect on affect was found for these variables. One reason could be that the respondents did not feel strong emotions towards the subject of nanotechnology in food products. Or that the affective responses presented in our study, were not the right affective responses which described their feelings. Perhaps for future research it would be good to investigate in a pre-study which affective responses would be applicable when it comes to nanotechnology in food products.

For the other constructs a reason could be that people got familiar with the term nanotechnology throughout the experiment. Cobb et al. (2004) state in their study that when people get familiar with a certain term, like nanotechnology, it decreases people their risk perception and increases their trust. The questions about information need about nanotechnology, trust in the supermarkets and willingness to buy food products containing nanotechnology were the last questions to be asked in our questionnaire. This could have had an effect on people's opinion. It could have been that people's opinion became more neutral towards the end of the questionnaire and therefore no effect was found on these constructs. Another reason could have been that towards the end of the questionnaire people became less motivated to answer the questions and therefore answered the questions without giving it real thought. This means that a response bias appeared. For future research the design of the experiment could be improved. It would be good to investigate if the order of the questions in the questionnaire has an effect on the results. Randomizing the questions of the dependent

variables, might eliminate response bias or people getting familiar with the term nanotechnology always by the same constructs.

The second type of social proof was *enforcement*, which was presented by the 'number of likes'. Like expected there was no main effect of the 'number of likes'. The reason for this is that the likes by itself do not show an effect without being in reference to the comments.

Finally study A looked at an interaction effect between 'the proportion of the positive and negative comments' and 'the number of likes' and study B looked at main effects of a 'mix of an even number of positive and negative comments with either a high number of likes on the positive and low number of likes on the negative comments' or vice versa. No interaction effect was found in study A and no main effects were found in study B. The reason for this could be that in a health risk subject like nanotechnology in food products people might just not consider the number of likes to be relevant. Like the study from Ubel et al. (2001) shows, that the statistical information presented next to the one testimonial who did not benefit from a bypass surgery did not influence people's opinions when they could read three more testimonials who did benefit from the bypass surgery. In their study it seems that people pay less attention to the statistical information. In our study the respondents could also always read comments, and therefore might not have found the likes to be of any relevance.

Cialdini (2001) stated that the greater the number of people who find something correct, the more a person will also find this to be correct. In addition the studies conducted by Amblee et al. (2011) and Duan et al. (2008) found that high quantities of messages and online user reviews did have a positive statistical effect on people's interest in a certain product. In study A, the reason why no effect was found could have been that only a small number of respondents observed correctly if there was a high or low number of likes under the comments. This means that they might not have been aware that in fact not many people did agree with the comments, and in addition they thought that many people did agree.

When only regarding the people who did answer correctly if there were a high or low 'number of likes' under the comments also did not give an effect. When bearing in mind the manipulation check of study A, the number of respondents who identified correctly if there was a high or low number of likes under the comments was scarce. This could indicate that people did not look closely at the reference text above the comments. When the respondents would have considered the given information in the text above the comments they might have answered the manipulation check question correctly and it might as well have influenced their opinions towards nanotechnology in food products.

In study A many people thought there were a high 'number of likes' under the comments even though there were only a low 'number of likes' and in study B most people identified correctly that there were both high and low 'number of likes', and still no effects were found. Therefore the question arises if people really do not focus on the 'number of likes'. These two studies suggest that because the perception of the 'number of likes' is a subjective process, meaning when people themselves think that x number of likes is high, even though the reference text or the likes under the other comments suggest otherwise, people do not pay attention or do not get influenced by the given information. Future research could investigate to what extent the 'number of likes' show the effect of social proof. This could be done by investigating an even lower 'number of likes', for example 0 to 5 likes or by grouping the groups of people together who identified the likes under the comments to be high, instead of just selecting the group of people who identified correctly if the 'number of likes' were high.

Our two studies controlled for three covariates: initial attitude on benefits, initial attitude on unknown/dread and subjective knowledge. We controlled for if the covariates had an effect on the dependent variables: risk perception, benefit perception, attitude, positive affect, negative affect, information need, trust in the supermarkets and willingness to buy. In both studies the covariates initial attitude on benefits and on unknown/dread do influence the dependent variables in most cases. In study A they influence all dependent variables except initial attitude on benefits did not influence information need. In study B they influence all dependent variables only initial attitude on unknown/dread did not influence trust. Subjective knowledge does not influence the dependent variables in study A nor study B. It seems people are quite high involved when it comes to initial attitude on benefits and initial attitude on unknown/dread in both studies. They don't seem to be high involved when it comes to subjective knowledge.

The question which arises from our study, is why people do get influenced by the text in the 'comments' but not by the 'number of likes' below the comments. This suggests that a different mental process could be in place when a person reads the comments compared to when a person sees the likes. Another explanation could be that they did not observe the likes. A theoretical strong point of this study is that it seems that we have more insight on how people behave on Facebook. Until now the effect of Facebook posts including 'comments' and 'likes' has not yet greatly been investigated. This study shows that it seems that the text in the comments themselves do have an effect on people's opinions but that people do not seem

to get influenced by the likes under the comments. This finding, that people mainly focus on the comments and ignore the likes, is interesting for further investigation.

One thought I would like to pass on is: when you are uncertain about whether eating food products containing nanotechnology is healthy, and you therefore examine other people's ideas and beliefs about this topic on a Social Network Site, don't forget that many people present their opinion by liking the comments they agree with instead of placing a comment themselves. Take this into account before deciding which ideas and beliefs are represented the most.

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Appendix A

	Positief	Negatief
Emotie	Ik zag laatst op tv hoe we nano kunnen gebruiken en ik ben zeer tevreden over de toepassing van nanotechnologie in voeding!☺	Ik zag laatst op tv hoe we nano kunnen gebruiken en ik ben zeer ontevreden over de toepassing van nanotechnologie in voeding!☹
Gevaar	Ik denk doordat nanotechnologie in voedsel zit, mensen minder vaak ziek worden, daarom is het veilig!	Ik denk doordat nanotechnologie in voedsel zit, mensen vaker ziek worden, daarom is het gevaarlijk!
Gezondheid	Ik ben er sterk van overtuigd dat Nanotechnologie in voedsel voor gezonder eten zorgt	Ik ben er sterk van overtuigd dat Nanotechnologie in voedsel voor ongezonder eten zorgt
Gedrag	Voor zover ik begrijp kan nanotechnologie in voedingsmiddelen geen kwaad en daarom eet ik het gewoon wel!!	Voor zover ik begrijp kan nanotechnologie in voedingsmiddelen wel kwaad en daarom eet ik het gewoon niet!!

Appendix B

Vragenlijst NANOTECHNOLOGIE

Pagina 1: Introductie

Fijn dat u mee wilt werken aan dit onderzoek. De laatste tijd zie je regelmatig vernieuwde levensmiddelen in de winkel. Een voorbeeld van vernieuwde producten zijn voedingsmiddelen waarbij gebruik is gemaakt van nanotechnologie. Met nanotechnologie kunnen stoffen op moleculair of atomair niveau gewijzigd worden om ze zo nieuwe eigenschappen te geven. Nanotechnologie is in meer of mindere mate al te vinden in onze levensmiddelen of in de verpakkingen hiervan. Dit kan ons eten bijvoorbeeld langer houdbaar maken, de opname van vitaminen verbeteren, of voor een betere afweer tegen ziektekiemen zorgen. Over de lange termijn effecten van het gebruik van nanotechnologie is nog weinig bekend.

Het onderzoek zal ongeveer 10-15 minuten duren. In dit onderzoek willen we weten hoe u op basis van informatie op Facebook een advies zou geven over het wel of niet eten van voedingsmiddelen waar nanotechnologie aan te pas is gekomen. We willen weten wat u van de informatie en van deze producten vindt.

Uiteraard gaan we zorgvuldig met uw gegevens om en zullen we ze vertrouwelijk behandelen.

Pagina 2: Screener

Heeft u wel eens gebruik gemaakt van Facebook?

- Ja
- Nee

Pagina 3: Informed consent

De gegevens uit dit onderzoek zullen vertrouwelijk behandeld worden en anoniem worden verwerkt. Indien u niet verder met het onderzoek wilt gaan, kunt u dit onderzoek ieder moment stopzetten en uw toestemming intrekken.

Ik heb bovenstaande informatie gelezen en ik stem toe om deel te nemen aan dit onderzoek

- Ja
- Nee

Pagina 4: Uw achtergrond en eetpatroon

We willen u eerst enkele achtergrondvragen stellen over uw huishouden en eetpatroon.

Vraag 1:

Wie was er in uw huishouden in de afgelopen maand voornamelijk verantwoordelijk voor het doen van de boodschappen?

- Ik
- Iemand anders

Vraag 2:

Heeft u in de afgelopen maand wel eens zelf de boodschappen gedaan?

- Ja
- Nee

Vraag 3:

Hoeveel keer per week was u in afgelopen maand gemiddeld verantwoordelijk voor het koken van de hoofdmaaltijd van de dag?

0, 1, 2, 3, 4, 5, 6, 7 keer per week

Vraag 4:

Bent u goed geïnformeerd over de voedingsmiddelen die u koopt? Geef hieronder aan in welke mate u het eens bent met de volgende stellingen

- Ik geloof dat ik goed ingelicht ben over de producten die ik koop
- Ik heb er vertrouwen in goed geïnformeerd te zijn over de voedingsmiddelen die te koop zijn
- Ik denk dat ik voldoende informatie ter beschikking heb over de voeding die ik koop
- Ik ben in staat goed geïnformeerd mijn voedingsmiddelen te kiezen
- Ik denk dat ik in staat ben om bewuste keuzes te nemen over welke producten ik koop
- Ik heb het gevoel dat ik voldoende op de hoogte ben om te beslissen welke voedingsmiddelen ik koop

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

Vraag 5:

Hoe vaak eet u producten waar nanotechnologie aan te pas is gekomen?

Als u niet weet of u deze voedingsmiddelen eet, selecteer dan het antwoord "*weet ik niet*".

1. Nooit
2. Bijna nooit
3. Zelden
4. Af en toe
5. Vaak
6. Bijna altijd
7. Weet ik niet

Pagina 5: Wat weet u van nanotechnologie?

De volgende vragen gaan over wat u al weet over nanotechnologie en hoe u hierover denkt.

<u>Vraag 1:</u>

Waar denkt u aan bij nanotechnologie? Omschrijf hieronder kort de gedachten die u heeft over de toepassing van nanotechnologie in voedingsmiddelen

(open vraag)

<u>Vraag 2:</u>

In hoeverre vindt u dat u kennis heeft van nanotechnologie in voeding? Geef hieronder aan in welke mate u het eens bent met de volgende stellingen

- Ik heb voldoende kennis over nanotechnologie in voedingsmiddelen
- Ik ben voldoende op de hoogte van de voor- en nadelen van nanotechnologie in voedingsmiddelen
- Ik ben tevreden over wat ik weet van nanotechnologie in voedingsmiddelen

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

<u>Vraag 3:</u>

Wat vindt u van het toepassen van nanotechnologie in voeding? Geef hieronder aan in welke mate u het eens bent met de volgende stellingen

- Volgens mij zijn de risico's van nanotechnologie nog vrij onbekend bij wetenschappers die er onderzoek naar doen
- Ik ben bang dat het toepassen van nanotechnologie in voedingsmiddelen negatieve gevolgen heeft
- Ik denk dat nanotechnologie in voeding kan zorgen voor betere producten
- Ik vrees dat we onvrijwillig zullen worden blootgesteld aan de risico's van voedingsmiddelen waarin nanotechnologie is toegepast
- Ik ben ervan overtuigd dat nanotechnologie in voeding veel mogelijkheden biedt

- Ik ben bang dat we bij het toepassen van nanotechnologie niet op tijd kunnen ingrijpen indien er iets fout gaat

- Ik denk dat de risico's van nanotechnologie in voeding niet waarneembaar zijn

- Ik denk dat veel mensen kunnen profiteren van het toepassen van nanotechnologie in voedingsmiddelen

- Het toepassen van nanotechnologie in voedingsmiddelen betekent wetenschappelijke vooruitgang

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

Vraag 4:

Hoe denkt u dat de voordelen en nadelen van het toepassen van nanotechnologie in voeding zich verhouden?

- Meer voordelen
- Evenveel voor- als nadelen
- Meer nadelen

Pagina 6: Facebook

In dit onderzoek willen we graag weten wat u een vriend zou adviseren over het eten van voedingsmiddelen waarbij er nanotechnologie aan te pas is gekomen. Om u op weg te helpen krijgt u straks een screenshot van een Facebookpagina te zien. Facebook geeft mensen de mogelijkheid om hun ideeën te delen via het posten van berichten. Andere mensen kunnen hier dan op reageren. Ze kunnen een reactie plaatsen of laten weten dat zij het eens zijn met het geposte bericht of de reactie door het te "liken" door op het symbool dat eruit ziet als een duimpje te klikken. Op de volgende pagina ziet u een screenshot van een deel van een discussie op Facebook. Graag willen wij u vragen om de berichten zorgvuldig te bekijken.

Pagina 7: FACEBOOK PLAATJE (zie andere bestand voor plaatjes)

Hieronder ziet u een screenshot van een het begin van een Facebook-discussie. Op de Facebookpagina waar dit screenshot vandaan komt gaan mensen met elkaar in discussie over de nieuwste ontwikkelingen op gebied van voeding en de pagina heeft 378 leden.
Graag willen wij u vragen om de screenshot zorgvuldig te bekijken.

PLAATJE

Graag willen wij u een aantal vragen stellen over deze Facebookberichten.

Vraag 1:

Wat vindt u van de Facebookpagina?
- Ik denk dat de reacties belangrijke aspecten van nanotechnologie in voedingsmiddelen bespreken
- Ik vind de standpunten in de reacties duidelijk

- Ik vind de reacties emotioneel geladen
- Ik kan deze reacties gebruiken om een vriend over dit onderwerp te adviseren
- Ik vind dat de reacties eenzijdig overkomen

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

Vraag 2:

Zijn de meeste reacties *voor* nanotechnologie of zijn de meeste reacties *tegen* nanotechnologie?

- De meerderheid van de reacties is **voor** nanotechnologie
- De meerderheid van de reacties is **tegen** nanotechnologie
- Er zijn ongeveer evenveel reacties voor nanotechnologie als tegen nanotechnologie

Vraag 3:

In hoeverre sluiten de reacties aan bij uw ideeën over de toepassing van nanotechnologie in voeding? Geef aan in hoeverre u het eens bent met de reacties.

- Reactie 1
- Reactie 2
- Reactie 3
- Reactie 4

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

Vraag 4: manipulatie likes

Vindt u dat er veel "likes" bij de reacties staan?

- Nee, bij alle reacties staan weinig likes
- Ja, bij alle reacties staan veel likes
- Dat is heel verschillend, bij sommige reacties staan er veel likes en bij andere weinig
- Ik weet niet

Vraag 5:

In hoeverre heeft de screenshot van de Facebookpagina u mening bevestigd of u doen twijfelen aan uw mening? Geef hieronder aan in welke mate u het eens bent met de volgende stellingen

- De screenshot heeft me in verwarring gebracht

- Na het bekijken van de screenshot twijfel ik aan mijn eigen mening

- De screenshot bevestigt mijn eigen ideeën over nanotechnologie

- De informatie uit de screenshot heeft me onzeker gemaakt over mijn ideeën over nanotechnologie

- Na het bekijken van de screenshot ben ik een stuk zekerder van mijn eigen mening

- De informatie uit de screenshot sluit goed aan bij mijn ideeën over nanotechnologie

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

Pagina 8: Hoe denkt u over nanotechnologie in voeding?

We willen graag weten hoe u nu over levensmiddelen waarin nanotechnologie is gebruikt, denkt.

<u>Vraag 1:</u>

Hoe denkt u over levensmiddelen waarin nanotechnologie is gebruikt? Geef hieronder aan in welke mate u het eens bent met de volgende stellingen

- Ik denk dat levensmiddelen waarin nanotechnologie is gebruikt veel voordelen hebben

- Ik denk dat levensmiddelen waarin nanotechnologie is gebruikt slecht zijn voor mijn gezondheid

- Ik denk dat er aan levensmiddelen waarin nanotechnologie is gebruikt veel risico's kleven

- Ik denk dat levensmiddelen waarin nanotechnologie is gebruikt goed zijn voor mijn gezondheid

- Ik denk dat levensmiddelen waarin nanotechnologie is gebruikt veel nadelen hebben

- Ik denk dat levensmiddelen waarin nanotechnologie is gebruikt bevorderend zijn voor mijn gezondheid

- Ik denk dat er aan levensmiddelen waarin nanotechnologie is gebruikt veel voordelen zitten.

- Ik denk dat levensmiddelen waarin nanotechnologie is gebruikt gevaarlijk zijn voor mijn gezondheid

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

<u>Vraag 2: neg/pos affect</u>

Hoe voelt u zich als u denkt aan het eten van levensmiddelen waarin nanotechnologie is gebruikt? Geef hieronder aan in welke mate u het eens bent met de volgende stellingen

Als ik aan het eten van levensmiddelen denk waarin nanotechnologie is gebruikt denk, voel ik me…

- Angstig
- Tevreden
- Positief

- Ongerust
- Vrolijk
- Bang
- Optimistisch
- Bezorgd

Schaal: Helemaal niet, 2, 3, 4, 5, 6, Zeer sterk

Vraag 3: Attitude

Denk zowel aan de voordelen als aan de nadelen van de toepassing van nanotechnologie in voeding. Alles bij elkaar genomen, hoe kijkt u dan tegen deze toepassing aan?

Kies het punt dat het meest uw mening weergeeft

- Negatief .... Positief

- Slecht .... Goed

- Nadelig voor mijn gezondheid .... Voordelig voor mijn gezondheid

Pagina 9: Koopintentie

Vraag 1:

Stel dat je de volgende producten zou willen kopen. Hoe geneigd zou u zijn om de variant te kopen die verbeterd is door het gebruik van nanotechnologie?

- Een appel met extra vitamines

- Chips die langer knapperig blijven

- Melk die langer houdbaar is

- Mayonaise met weinig calorieën, maar dezelfde smaak

- Sinaasappelsap met extra vitamine C

- Brood met extra Omega-3

- Koffiemelkpoeder dat niet klontert

Helemaal niet --- heel erg

Pagina 10: Behoefte aan informatie

Vraag:

Na het lezen van de discussie op Facebook, wilt u nu meer weten over levensmiddelen waarin nanotechnologie is gebruikt? Geef hieronder aan in welke mate u het eens bent met de volgende stellingen

Ik zou meer willen weten over…

- de voor- en nadelen van nanotechnologie in voeding
- de belangrijkste verschillen tussen voeding die bereid is met nanotechnologie en voeding waarbij dat niet zo is
- de manier waarop ik een product waarin nanotechnologie is gebruikt kan herkennen
- de wetten die op produceren van nanotechnologie in voeding van toepassing zijn

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

Pagina 11: Producten in de supermarkt

Vraag:

In hoeverre denkt u dat de supermarkten in staat zijn om goed om te gaan met de risico's die verbonden zijn aan voedingsmiddelen? Geef hieronder aan in welke mate u het eens bent met de volgende stellingen

- Ik kan ervan uit gaan dat alle voedingsmiddelen die verkocht worden in de supermarkt goed gecontroleerd zijn
- Ik heb het volste vertrouwen in de veiligheid van de voedingsmiddelen die te koop zijn
- Voedingsmiddelen die in de winkel verkocht worden, kunnen veilig gegeten worden

Schaal: Heel erg oneens, Oneens, Enigszins oneens, 'Noch eens, noch oneens', Enigszins eens, Eens, Heel erg eens

Pagina 12: Advies

Vraag:

Aan het begin vroegen we u voor te stellen dat een vriend van u advies nodig heeft over het wel of niet kopen van voedingsmiddelen waar nanotechnologie aan te pas is gekomen. Wat zou u uw vriend adviseren? Sleep de slider/het pijltje naar het punt dat het beste uw advies weergeeft.

Ik zou adviseren om voedingsmiddelen waarin nanotechnologie is gebruikt….

niet te eten………………………………………………………. *wel* te eten

Pagina 13: Tot slot

Graag willen we u nog wat vragen stellen over uzelf.

1. Hoe oud bent u?

… jaar

2. Wat is uw geslacht?

Man/vrouw

3. Wat is uw hoogste opleidingsniveau?
- Basisonderwijs

- Voortgezet onderwijs/Middelbare school

- MBO of andere beroepsopleiding

- HBO/Bachelor

- WO/Master/doctor

4. Wat is de beste omschrijving van uw dagelijkse bezigheden?
- Betaald werk (24 uur per week of meer)
- Huisvrouw/huisman
- Student
- Gepensioneerd
- Werkloos of met verlof

5. Hoe zou u het gebied omschrijven waarin u woont?
- Een grote stad
- De randgemeente of voorstad van een grote stad
- Een stad of een kleine stad
- Een dorp
- Weet het niet

6. Hoe vaak gebruikt u onderstaande online media?
- Email
- Facebook
- Twitter
- Skype
- Forum of blogs

  Schaal: Minder dan eens per maand, Eens per maand, Eens per twee weken, Eens per week, Een paar keer per week, (Bijna) elke dag, Meerdere keren per dag

7. Uit hoeveel personen bestaat uw huishouden (uzelf meegeteld)?

- 1
- 2
- 3
- 4
- 5
- 6

- 7 of meer

8. Hoeveel personen in uw huishouden (uzelf meegerekend) behoren tot de volgende leeftijdscategorieën?

- 0
- 1
- 2
- 3 of meer

Categorieën

- 0-3 jaar
- 4-6 jaar
- 7-9 jaar
- 10-12 jaar
- 13-17 jaar
- 18-64 jaar
- 65 jaar of ouder

9. Welke van de volgende uitspraken omschrijft het best wat u vindt van uw huidige gezinsinkomen?

- Kan heel comfortabel leven met het huidige inkomen
- Kan comfortabel leven met het huidige inkomen
- Kan rondkomen met het huidige inkomen
- Kan moeilijk rondkomen met het huidige inkomen
- Kan heel moeilijk rondkomen met het huidige inkomen
- Weet het niet

Vraag 10:

Heeft u, of iemand anders in uw huishouden, momenteel werk dat te maken heeft met voeding? Denk bijvoorbeeld aan werken in de voedselproductie of het verkopen van voedingsmiddelen, of aan onderzoekers die met voeding bezig zijn.

- Ja

- Nee

Pagina 14: Einde

U heeft net een screenshot van een Facebookpagina bekeken. Omdat we dit onderzoek gedurende enige tijd afnemen, hebben we zelf een Facebookpagina gemaakt met berichten. De pagina die u heeft gezien was dus geen echte Facebookpagina.

Hartelijk bedankt voor uw deelname!