Consumer attitudes towards edible insects

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Introduction

Current situation

The world population is growing rapidly; according to the FAO (Food and Agriculture Organization of the United Nations) the world population will reach over nine billion in 2050. Most of this increase will occur in developing countries, which goes hand in hand with urbanization in those countries. In order to feed these numbers, our food production needs to increase by up to 70% (FAO, 2009). However, our land and energy resources are too limited to produce enough food to meet the growing demand. In order to fulfil this demand, alternatives food sources have to be found. One of these alternatives is entomophagy, which is the consumption of insects as food. Insects are a good alternative because they contain protein, good fats and are high in calcium, iron and zinc (van Huis, 2012). Furthermore, insects have a high food conversion rate which means that they need relatively less food to produce the same amount of protein, than for example cattle (van Huis, 2012). Another benefit of eating insects as opposed to livestock is that the production emits considerably fewer greenhouse gases than most livestock (van Huis, 2012).

Over the last few years there has been a growing interest in entomophagy. Entomophagy can be defined as the consumption of insects for human food (Town & Tranter, 2013). Conferences and meetings have been organised all over the world about the fact that we seriously have to seriously consider other sources of protein. Articles have been published and insect books have been written to try to change the western attitudes towards this food source, however most western people have a negative attitude about edible insects. ''The main attitude towards insect as food in the westernized society is either one of fear and abhorrence, or one of curiosity'' (Yen, 2009). This feeling of disgust contributes to the common perception in the western society that entomophagy is associated with starvation and is merely a survival mechanism (FAO, 2013). While in other parts of the world, insects have been widely accepted and viewed as a delicacy. The edible insects are easily available on local food markets and consumed during daily life. Though in these countries where edible insects are part of their diet, the shift towards the western diet has threatened entomophagy. This might be prevented if the western attitudes towards edible insects changes.

Barriers

To ensure that western society will start eating insects as an alternative source of their protein intake, several barriers should be analysed. The major barrier will be the acceptance of western people to implement insects into their diet (Yen, 2009). If there is no acceptance, western people will not start eating insects on a regular basis. This major barrier can be divided into two separate areas.

The first barrier is predominantly caused by cultural factors. Children learn from a young age what to eat and what not to eat. Most people have already established their

food preference by the age of five or six (Town & Tranter, 2013). Because edible insects do not or hardly exist in the western diet, children will not be taught that these creatures contains a large amount of protein, which is good for you. Western people, including parents, associate insects with diseases and consider them as food only for the primitive and desperate (Looy, Dunkel, & Wood, 2013). The introduction of edible insect at an early age will be an appropriate suggestion to introduce insects into the Western diet. Taste buds require time to develop and will not be shaped in a short period of time. If edible insects are introduced at a young age, taste buds will have time to adjust to the flavour and texture of insects. Changing taste of a new generation is a long-term goal. To start achieving this, the first thing that has to be done if to convince adults to adopt insects into their daily diet. Therefore, adults should be educated of the value of entomophagy, so they are able to influence the next generation in adding insect as food into their daily diet. The first barrier that occurs is that there is a lack of exposure of edible insects in the western society.

The second barrier that occurs is that insects are not even considered to be edible. Before people can be exposed to edible insects, their view on entomophagy has to change. When a new food product is introduced in a culture, it generally induces feelings of fear and rejection called neophobia (Pliner & Salvy, 2006). Van Huis et al. states "insects are still viewed as pests by a large majority of people, despite the increasing literature pointing to their valuable role in the diets of humans and animals" (FAO, 2013). Consumer are not willing to see insects as edible if the assumption remains that insects are viewed as pests. Insects are not seen as an exotic food, but rather as inedible (Looy et al., 2013). If consumers see insects as inedible, it will be difficult to influence their behaviour and make them accept insects into their daily diet. Much has to be done to change the perception of the consumer, but there have been similar cases. Food that was once considered inedible, for example raw fish in sushi, is nowadays considered a delicacy. As long as consumers already consider insects as food, there is a chance people will adept their attitude toward entomophagy.

Problem

These two barriers prevent western consumers to start the process of accepting insects into their diets. People may know the current situation where we do not have an infinite supply of protein for the growing population. But the main problem is that insects are not seen as attractive to eat. People have an aversion towards edible insects, because they have a lack of exposure and are disgusted of the thought of eating insects. Furthermore, some people do not even consider insects as food at all.

Goal

The goal of this paper is to find a way to improve the attractiveness of insects among consumers. So that consumers will be more positive about entomophagy and start

introducing insects into their daily diet. There will be a focus on improving the appearance of the product towards consumers and several aspects of the product will be approached on the basis of the use of some marketing tools.

Theory

In this chapter, several marketing tools, which are potentially relevant for the introduction of edible insects, will be explained. From this theoretical framework, hypotheses are derived about the acceptance of entomophagy. First of all, the principles of branding will be explained and how they can have a positive effect on products that contain insects. Secondly, the use of analogy will be explained and how this concept can help to create an acceptable product name.

Branding

Brands can have a positive effect on products or services by using the power of the brand, this is called branding. A brand can be defined as "as a name, term, sign, symbol, or design, or a combination of these, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors''(Kotler, Keller, Ancarani & Costabile, 2014). It helps consumers to recognize certain products and form an attitude towards them. Branding can be used to create differences between products and services in your favour. It can create brand equity, which means that in terms of the marketing effects uniquely attributable to the brand (Keller, 1993). For example, when the marketing of a product results in a certain outcome because of its brand name, that outcome would not have occurred if the same product or service had a different name.

Branding tells us something about the way consumers feel, think and act with respect to a certain brand. This attitude formed by consumers is created by what they have heard, learned and felt about the brand over time. Companies need to create a positive customer-based brand equity, which tells us that consumers react more positively towards a product and the way it is marketed when the brand is identified, than when it is not identified (Kotler, Keller, Ancarani & Costabile, 2014). According to Gill and Dubé (1998) the importance of brand effects on product evaluation vary primarily as a function of the level of fit between the branded product and the product category in which it is positioned. They state that research has shown that when a brand is positioned in the correct product category, this product is evaluated more positively. When producers bring new products to the market, they have to choose the correct product category, which fits with the new product. When consumers are introduced with these new products they rely on signals such as brands to evaluate the product (Price & Dawar, 2002). Brand therefore plays an important role in the acceptance of new products.

In this paper there is a focus on such a new product, edible insects. When edible insects were introduced in the western market, most of the producers created a new brand. These brands are unknown among the consumers. Research has shown that consumers react more positively towards a product and the way it is marketed when the brand is identified, than when it is not identified (Kotler, Keller, Ancarani & Costabile, 2014). To

create a more positive attitude towards edible insects, consumers have to identify the brand and the way it is marketed. Therefore, a well-known brand can help the acceptance of edible insect. However, it can be argued that what is more important is the level of fit between the branded product and the product category (Gill, T., & Dubé, 1998). This suggests that the brand of the edible insects should be placed in the correct product category to create and reinforce a positive attitude towards edible insects. The brand should, for example, be related towards eastern food products, because that is where many people consume edible insects. This leads to the following hypothesis.

> H1: Consumers evaluate edible insects as more positively when the brand of edible insects has a fit within the product category than when the brand of edible insects has a misfit within the product category.

Analogy

Analogy can be defined as an inductive mechanism based on structured comparison of mental representation (Holyoak & Morrison, 2012). These mental representations can be described as two different situations where a pattern is shared of a particular element. Most of the times one situation, called the source, is better understood than the other situation, called the target. By comparing the knowledge of the source with the unknown target, the target can be better understood. An example of one of the earliest scientific analogies is the comparison of sound (target) with water waves (source). By comparing these two situations with each other, scientists got a deeper understanding of sound. Analogies can provide a new clarification of why certain phenomena occur, by transferring knowledge about casual relations (Holyoak & Morrison, 2012). It can also help people to accept certain things, by comparing them with something they have already accepted. In terms of consumption, someone can use the prior knowledge about a particular product to better understand an unknown product. The learning that occurs by using analogy can be broken down into three stages: access, mapping and transfer (El Houssi, Morel, & Hultink, 2005). In the first face, a consumers needs to think of a relevant source to serve a source of information about the target. Access is likely to occur spontaneously when the source and target share certain characteristics, for example visible attributes. Secondly, in the mapping stage, the content and the structure of the source and the target will be compared. Lastly, the source and the target are aligned based on the shared characteristics found in the mappings stage. It is in the last stage where the learning process takes place. The knowledge of the source is transferred to the target along the mappings that have been identified in the second stage.

The framework of analogy can help really new products, because it enables consumers to learn and develop a representation of a new product (El Houssi et al., 2005). Gregan-Paxton et al. (2002) has done research towards these really new products and showed that learning often occurs through a category-based process. Consumers rely on the knowledge of a product category closely related to understand and evaluate a really new product. The really new product becomes a target and the use of an analogy provides the

structural knowledge needed to elaborate on new product information. This is best illustrated with an example. Nike teamed up with Apple a few years ago to introduce a new product called Nike+ Ipod Sport Kit (Feiereisen, Wong, & Broderick, 2008). This device gives runners feedback on their workout session. In this case the device was the target. Nike and Apple used the analogy of a personal coach, which underlines that there are certain similarities between the device and a personal coach. The analogy provides the structural knowledge needed to elaborate on new product information.

In this paper there is a similar focus on such a new product, edible insects. Some people associate insects with something inedible (Looy et al., 2013). To change this attitude towards edible insects, an analogy should be introduced. The source of this analogy should share some characteristics with the target to enhance a more spontaneously access between the two, visible attributes for example. Literature has already suggested using the analogy 'land shrimp' for insects (Anthes, 2014). This suggests that consumers will evaluate edible insects more positively, when a relevant analogy is used. This leads to the following hypothesis.

> H2: Consumers evaluate edible insects as more positively when a relevant analogy of edible insects is used than when there is no analogy of edible insects used.

In this paper there is a focus on how brands and analogies can influence the attractiveness of edible insects on consumers in the western society. Both the hypotheses are linked towards edible insects. This can lead to very specific results, which cannot be used with other really new products. Therefore, there will be a focus on the relationship between a brand and an analogy. This leads to the following research question.

> RQ: Does the fitting brand have a more positive effect on the attitude of consumers towards a product which contains edible insects when the product is promoted with a relevant analogy than when the product is promoted without a relevant analogy?

Method

Participants

The study was conducted among 120 participants who completed an online questionnaire. The respondents were all Dutch, ranged in age from 17 to 76 years old and the sample consisted of 54% males and 46% females. Respondents were randomly assigned to one of the four experimental groups as shown in table 1.

Table 1: Respondent data

Experimental group	N
Relevant analogy and brand with correct fit	29
Relevant analogy and brand with misfit	31
No analogy and brand with correct fit	31
No analogy and brand with misfit	29
Total	120

Data was collected from an online survey, which was circulated via social media during the period of May 2015.

Design

The hypotheses were tested by means of an experiment with a 2 x 2 between participants design. The experiment consisted of two variables. The first variable was an analogy. On the one hand there is a relevant analogy used and on the other hand there is not an analogy used. The second variable is a brand. On the one hand there is a brand used which fits within the product category and on the other hand there is a brand used which does not fit within the product category. All these conditions were given with the same product line, to focus on the differences of the analogies and the brands. Participants were asked to evaluate this product based on their attitude and their willingness to buy towards to product.

Stimuli

To perform this research, a product or product line is needed. To prevent the focus on one single new product, a whole new product line is used. This will give the participants some view of the products that can be used to consume edible insects. The following two products will be used as examples:

- 'Krekelkroket'
- 'Sprinkhanenloempia'

The products will not be further explained, to prevent participants from focussing on the products themselves instead of on the brand and the analogy. By using this method, both the external and the internal validity will be protected.

A pre-test was used to decide which brands were used in the experiment. Six brands were chosen to be evaluated in this pre-test, as displayed in table 2. Ten Dutch people were asked to rate the brands on the degree of fit with application to the new product line. The items were measured on a 5-point scale. Conimex was chosen as the brand with the best fit. Although Conimex and Go-Tan were rated the same, I chose to use, because this brand has a bigger market share than Go-Tan. Grand'Italia was chosen as the brand with the worst fit, as it had the lowest result in the pre-test.

Table 2: Results pre-test

Brand	Result	SD
Conimex	4.6	0.48
Honig	2.3	0.75
Grand'Italia	1.8	0.75
Go-Tan	4.6	0.48
Knorr	2.2	0.87
Baktat	4.2	0.83

One of the hypotheses stated that consumers evaluate edible insects as more positive when a relevant analogy of edible insects is used than when there is no analogy of edible insects used. A relevant analogy is needed to test this hypothesis. The analogy 'garnaal van het land' was chosen to be the relevant analogy in this research, which means 'shrimp of the land' in English (Anthes, 2014). In the other condition no analogy was mentioned.

Respondents were asked to evaluate the product based on the information provided. The information provided was in every one of the four identical scenarios, excluding the brand and the analogy. This was randomly assigned to the participants.

Measures

The measures of this experiment included attitude, willingness to buy and some background questions. All questions can be found in the Appendix. All three measures are described below.

The attitudes of the participants were measured through a 7-point semantic differential scale. The questions included affective, cognitive and general items (Crites, Fabrigar, & Petty, 1994). Affect was measured with eight item pairs, which indicated their feeling towards the product (love/hateful, delighted/sad, happy/annoyed, calm/tense, excited/bored, relaxed/angry, acceptance/disgusted, joy/sorrow). Cognition was measured with seven other item pairs (useful/useless, wise/foolish, safe/unsafe, beneficial/harmful, valuable/worthless, perfect/imperfect, wholesome/unhealthy). General attitude was measured with three items (positive/negative, like/dislike, good/bad). These measures were translated to Dutch.

To measure the participants' willingness to buy edible insects, they were first asked whether they would be willing to buy a product that contains edible insects if the price of one product would be the same as the product, which contains meat. For example, are you willing to buy one 'spinkhaanloempia' at the same price as a 'vleesloempia'? If their answer was no, then they were asked at what price they would be willing to buy the product which contained edible insects. There would be a range from €0.00 to the price of the product which contained meat. If their answer was yes, then they were asked at what price they would be willing to buy the product that contained edible insects. There would be a range from the price of the product which contained meat to €5.00, assuming that consumers would not be willing to pay more for one of these products.

The end of the survey included several background questions. This included some general questions like their age and their gender, but also about their level of neophobia (Pliner & Hobden, 1992), translated to Dutch as used by 'Het landelijke Kenniscentrum Kinder- en Jeugdpsychiatrie' (Landelijk Kenniscentrum Kinder- en Jeugdpsychiatrie, 2014). This was measured to find out whether their level of neophobia has an effect on their attitude towards edible insects. The participants' level of neophobia was measured through 7-point semantic differential scale. Participants were also asked to give their experience with edible insects. The participants were asked what their experience was with eating edible insects in the last year. They could choose between never; once or twice; monthly; weekly or daily. This was asked to receive some background information about the participants and to check whether this had a significant effect on their attitude towards edible insects.

Procedure

The participants were asked to follow a hyperlink, which they received through social media or e-mail. This hyperlink led them to an online survey. Participants received some information depending on their condition they were in about their new product line. The participant continued the survey, by answering questions about their attitude. These questions included affective, cognitive and general items. Secondly, participants were asked about their willingness to buy this product, which contained edible insects compared to a product, which contained meat. Furthermore, some general background questions were asked like their age and gender, but also about their level of neophobia. Participants were also asked to give their experience with edible insects. When all the questions were answered, participants were thanked and then exited the survey.

Results

Scale consistency

Reliability scorers were calculated by using Cronbach's alpha to determine whether the constructs that were used in the survey were homogenous. The different statements could be combined in case the Cronbach's alpha is higher than 0.7. All the attitude measures, which included the affective, cognitive and general measures, can be combined into one general attitude measure (Cronbach's alpha = 0.94).

The attributes that measured the level of neophobia were also checked on their homogeneity. Negative items were decoded. All the neophobia measures can be combined into one general neophobia measure (Cronbach's alpha = 0.81).

Attitude

An independent factorial Anova with brand, analogy and the interaction as factor was used to predict the attitude towards edible insects of consumers. Neophobia and frequency of eating insects were used as covariates. The model was tested and the analyses showed that the model did have a significant effect on respondent's attitude on the new product line $F(5,114) = 3.35$, $p = 0.01$.

As hypotheses one states, consumers evaluate edible insects as more positively when the brand of edible insects has a fit within a product category than when the brand of edible insects has a misfit within a product category. An independent factorial Anova showed that the effect of brand did not have a significant effect on the attitude towards the specific product line, $F(1,114) = 0.15$, $p = 0.70$. This does not prove the first hypothesis, as the respondents did not evaluate the new product line significantly higher with a fitting brand compared to a brand which misfits. The attitude towards the new product line with a brand which fits was evaluated with a mean of 4.84 and the attitude towards the new product line with a brand which misfits was evaluated with a mean of 4.90.

According to the second hypothesis, consumers will evaluate edible insects as more positive when a relevant analogy of edible insects is used than when there is no analogy of edible insects used. An independent factorial Anova showed that the effect of this analogy did not have a significant effect on the attitude towards the specific product line, $F(1,114) = 0.07$, $p=0.78$. This is does not correspond with the second hypothesis, as the respondents did not evaluate the new product line significantly higher when an analogy was used than when no analogy was used. The attitude towards the new product line when an analogy was used was evaluated with a mean of 4.89 and the attitude towards the new product line when no analogy was used was evaluated with a mean of 4.85. These items were measured through 7-point semantic differential scale.

The research question states, does the brand have a more positive effect on the attitude of consumers towards a product of edible insects when the product is promoted with a relevant analogy? An independent factorial Anova showed that the brand does not have a significantly effect on the attitude of consumers towards the specific product line when the product is promoted with a relevant analogy F (1,114) = 0.89, p = 0.35. This shows that the brand does not have a positive or a negative effect on the attitude of consumers towards a product of edible insects when the product is promoted with a relevant analogy. The mean attitudes of the four groups are displayed in table 3.

Table 3: Mean attitude towards edible insects.

	Brand with fit	**Brand with misfit**
Analogy	4.93	4.85
No analogy	4.75	4.95

The covariate neophobia had a significant negative effect on respondents' attitude on the new product line F (1,114) = 9.638, p = 0.00, B = -0.26. Apparently consumers with a higher level of neophobia have a more negative attitude towards edible insects. Therefore neophobia was included in the model as covariate. The same analyses showed that the frequency of eating edible insects had a significant positive effect on respondents' attitude on the new product line F (1,114) = 4.28, p = 0.04, b = 0.28. Respondents who eat edible insects more frequently have a more positive attitude towards edible insects. Therefore frequency was also included in the model as covariate.

Willingness to buy

To test the participants' willingness to buy edible insects, they were asked whether they would be willing to buy a product that contains edible insects at the same, at a higher or at a lower price of one similar product which contains meat. A linear regression analysis showed that respondents' attitude had a significant positive effect on the willingness to buy products containing edible insects F (1,119) = 16.62, p = 0.00, b = 0.15, R^2 = 0.12. Respondents who have a more positive attitude towards edible insects are more willing to buy them.

Neophobia was added to check whether this had an additional significant effect beyond attitude on the willingness to buy. A linear regression analysis showed that neophobia did not have an additional significant effect beyond attitude on the willingness to buy F Change (2,117) = 2.57, p change = 0.11, b = 0.06, R^2 change = 0.01. The level of neophobia has an influence on the willingness to buy products containing edible insects.

Age and gender

Continuing measurements of the model, results can show whether gender has a significant influence on the way consumers evaluate the new product line. An independent factorial Anova showed that the effect of gender on attitude was not significant $F(1,116) = 0.01$, $p = 0.92$. Gender does not have a large influence on the respondents' evaluations. The same can be seen with age. An independent factorial Anova showed the effect of gender on attitude was also not significant $F(1,115) = 1.56$, $p = 0.22$. Age also had no significant influence on the evaluations of the new product line of the respondents.

Discussion

This study addresses the problem that edible insects are not seen as attractive to eat by consumers. People have an aversion towards eating insects, because they have a lack of exposure and are disgusted of the thought of eating insects. The goal of this paper was to research more about how to improve the attractiveness of insects among consumers. This is done by measuring the attitude of consumers in different situations. Results imply that consumers do not evaluate products containing edible insects higher when they are promoted with a brand which fits than when they are promoted with a brand which misfits. Furthermore, consumers do not evaluate products containing edible insects higher when they are promoted with a relevant analogy than when they are promoted without an analogy. The results also implied that the fitting brand does not have a more positive effect on the attitude of consumers towards a product which contains edible insects when the product is promoted with a relevant analogy than when the product is promoted without a relevant analogy, which is the answer on the research question.

The results have shown that the effect of a brand did not have a significant effect on the participants' attitude towards the specific product line. The pre-test had shown that the brand Conimex has a better fit regarding products that are containing insects than the brand GrandItalia. This pre-test suggested that we used relevant brands in the survey. According to Gill and Dubé (1998) the importance of brand effects on product evaluation vary primarily as a function of the level of fit between the branded product and the product category in which it is positioned. They state that research has shown that when a brand is positioned in the correct product category, this product is evaluated more positively. The results of this paper do not correspond with this theory, because the difference in brand did not have a significant effect on the evaluation of the product. The first thing that might explain this is the way participants were manipulated. The image of the brand was only shown once, at the beginning of the survey. The participants might have missed the brand or did not consider it as relevant and were therefore not manipulated strongly enough. Participants were also not given any further information about the brand. The manipulation could have gotten stronger when the survey included a short explanation about the brand image and why this brand has relevance towards insects eating. Another reason why the results were not in line with the theory could be that participants' attitude towards edible insects are simply not affected by the brand. It might not matter to them whether products containing insects are promoted with a brand which fits or with a brand which misfits. In this case no brand would be strong or relevant enough to market insects.

The results have also shown that the effect of an analogy did not have a significant effect on the participants' attitude towards the specific product line. Analogies can provide a new clarification of why certain phenomena occur, by transferring knowledge about casual relations (Holyoak & Morrison, 2012). It can also help people to accept certain

things, by comparing them with something they have already accepted. In terms of consumption, someone can use the prior knowledge about a particular product to better understand and evaluate a rather unknown product. The unknown product in this instance was edible insects. With the use of the analogy 'landgarnaal', it was tested whether participants evaluated edible insects more positively when they were told to compare them with shrimps. The results of this paper are not in line with this theory, because the use of an analogy did not have a significant effect on the evaluation of the product. There could be some explanations for this. First of all, the analogy 'landgarnaal' was chosen only on the basis of literature and because of the common characteristics of the two products. There was no pre-test used to test whether the analogy 'landgarnaal' was a relevant analogy. Furthermore, the analogy was only named once, at the beginning of the survey. The participants might have missed it or did not consider it as relevant. Therefore the manipulation of the analogy could have been too weak. The results might have been different if the analogy 'landgarnaal' was mentioned more often, for example in every question. Another explanation why the results were not in line with the theory could be that participants' attitude towards edible insects are simply not affected by the use of an analogy. It might not matter to them whether products containing insects are promoted with an analogy or without one. However, introduction of an analogy might take some time before consumers notice it. The attitude of consumers might be different in the long-term, when consumers have heard the analogy more often.

Results did show that the level of neophobia had a significant negative effect on the participants' attitude towards the specific product line. Participants with a higher level of neophobia evaluate edible insects more negatively. The measures of Pliner and Hobden (1992) were used to measure the level of neophobia, because these are well-known items to test the level of neophobia. These questions were asked at the end of the test, where participants have already answered some questions about edible insects, this could have influenced their answers on the level of neophobia. When participants were asked how they felt about new, foreign food, they might have thought about edible insects too much. Results did also show that the level of frequency of eating insects had a significant positive effect on the attitude towards the specific product line. Participants with a higher frequency of eating insects were more positive about edible insects. However, these measures were made up and were not measured with an existing scale. This could have influenced the participants' answers.

Willingness to buy had a significant positive effect on the participants' attitude towards the specific product line. Participants with a higher willingness to buy edible insects have a more positive attitude towards them. However, this was measured with the understanding that one similar product which contained meat cost one euro. This could have influenced participants as they might have thought this amount was incorrect for a certain product. Another thing that must be kept in mind is that there were only two products measured, which were made up. The participants were not given any information about the product besides the name of the product. This could also have

influenced their answers, as they might not have got the correct impression or adequate information on the products.

The choice to mention only two products was made to protect the external validity of the survey. The focus of the participants should not have been on a specific product. This was avoided by mentioning two products only briefly. Another reason why these two products were chosen was to protect the internal validity. If the participants were not given any examples of products containing edible insects, they might not have known how insects could be eaten.

This study presents new pathways for further research. The results of this paper did not confirm the ideas about the effect of brands and analogies. Therefore I would recommend finding out whether these ideas are as universal as sometimes claimed or if they only work when consumers have not had any impressions on the new product. Furthermore, this study has used cognitive, affective and general items to measure the attitude. Further research could also focus on whether affective items have a different effect on the attitude towards edible insects than cognitive or general items. More research could also be done on whether the analogy 'landgarnaal' is considered as a relevant analogy. If not, the research can find out whether another analogy would be relevant and how this should best be used to gather a more positive attitude towards entomophagy. More research can show whether the analogy 'landgarnaal' might be more effective in the long-term, when people have heard the term more often. In any case, the current research shows that insects are a product that require substantial marketing attention, as obvious candidates for promoting insects, branding and analogy, seem not to work straight forwardly.

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Appendix

Wat beschrijft het best uw gevoelens bij deze nieuwe productlijn van X?

Haten	○	○	○	○	○	○	○	Houden van
Bedroefd	○	○	○	○	○	○	○	Opgetogen
Geirriteerd	○	○	○	○	○	○	○	Blij
Gespannen	○	○	○	○	○	○	○	Kalm
Verveeld	○	○	○	○	○	○	○	Opgewonden
Boos	○	○	○	○	○	○	○	Ontspannen
Walging	○	○	○	○	○	○	○	Goedkeuring
Somber	○	○	○	○	○	○	○	Vreugde

Wat denkt u van de nieuwe productlijn van X?

Nutteloos	○	○	○	○	○	○	○	Nuttig
Onverstandig	○	○	○	○	○	○	○	Verstandig
Gevaarlijk	○	○	○	○	○	○	○	Veilig
Schadelijk	○	○	○	○	○	○	○	Heilzaam
Waardeloss	○	○	○	○	○	○	○	Waardevol
Onvolmaakt	○	○	○	○	○	○	○	Perfect
Ongezond	○	○	○	○	○	○	○	Gezond

Wat vindt u van de nieuwe productlijn van X?

Negatief	○	○	○	○	○	○	○	Positief
Niet leuk	○	○	○	○	○	○	○	Leuk
Slecht	○	○	○	○	○	○	○	Goed

Als één gewone 'vleesloempia' 1 Euro kost, hoeveel zou u dan voor één 'sprinkhanenloempia' van X willen betalen?

- ○ Minder dan 1 euro
- ○ 1 euro
- ○ Meer dan 1 euro

Als één gewone 'vleesloempia' 1 Euro kost, hoeveel zou u dan voor één 'sprinkhanenloempia' van X willen betalen?

1  5

Euro

Als één gewone 'vleeskroket' 1 Euro kost, hoeveel zou u dan voor één 'krekelkroket' van X willen betalen?

- Minder dan 1 euro
- 1 euro
- Meer dan 1 euro

Als één gewone 'vleeskroket' 1 Euro kost, hoeveel zou u dan voor één 'krekelkroket' van Conimex willen betalen?

1  5

Euro

Hoeveel insecten heeft u het afgelopen jaar gegeten?

- Ik heb dit jaar helemaal geen insecten gegeten
- Ik heb dit jaar 1 of 2 keer insecten gegeten
- Ik eet maandelijks insecten
- Ik eet wekelijks insecten
- Ik eet dagelijks insecten

Ik probeer constant nieuw en verschillend voedsel.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Ik vertrouw geen nieuw voedsel.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Als ik niet weet uit welk voedsel de maaltijd bestaat, probeer ik het niet.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Ik hou van voedsel uit diverse landen.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Buitenlands voedsel ziet er te vreemd uit om te eten.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Tijdens feestjes probeer ik nieuw voedsel.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Ik ben bang om voedsel te eten, dat ik nooit eerder heb gehad.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Ik ben erg kieskeurig over het voedsel dat ik eet.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Ik eet bijna alles.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Ik probeer graag nieuwe buitenlandse restaurants.

Helemaal oneens ○ ○ ○ ○ ○ ○ ○ Helemaal eens

Wat is uw geslacht?

- ○ Man
- ○ Vrouw

Wat is uw leeftijd?

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