Radboud Universiteit

Thesis

International Business Communication

Radboud University, Nijmegen

Dr. Laura Speed

Manu Maste, s1054432

Effect of Language on Food Perception: ‘’How does type of language use in Instagram descriptions of plant-based and meat-based food products affect consumer behavior?’’

Abstract

This study aimed to examine the effect of language on consumers' perception of plant-based and meat-based products in an Instagram context. In this study, various Instagram advertisements were created with different food products, manipulating the descriptions with either taste-focused, health-focused or neutral language. A total of 194 participants completed a questionnaire with questions about their perception of the food products. The results showed there was no effect of type of language or type of food on perceived attractiveness and purchase intention. However, there was an effect of type of food on product recall. The findings raise questions about whether text is important in Instagram advertisements. Consequently, further research on manipulating language in descriptions is needed in different contexts, to determine whether consumers' perceptions of food products can be affected by language.

Keywords: vegan, plant-based, Instagram, effect of language, food perception, consumer behavior

Introduction

Over the recent years, there is an increase in the number of people who adopt a vegan lifestyle; they stop consuming meat and animal products. Currently, the number of vegans amounts to around 79 million people (Djordjevic, 2022). Veganism comes with several benefits. Firstly, it is proven to be better for your health. A vegetarian diet generally leads to lower blood pressure, lower blood glucose, and lower serum cholesterol than an omnivorous diet (Melina et al., 2016). Moreover, research has shown that a plant-based diet reduces the chance of developing non-communicable diseases, as well as the rate of mortality from cardiovascular diseases (Dinu et al., 2016). Furthermore, veganism is also beneficial for the environment. Weber and Mattews (2008) state that the production of food is even the most powerful factor in impacting the environment. In particular, animal food production requires greater use of resources such as water, land, and energy, while also producing more pollutants such as chemical residues from agriculture and manure, compared to plant-based food production (Baroni et al., 2018). Therefore, it is important to promote the consumption of plant-based food and determine the most effective ways for companies to encourage consumers to opt for plant-based food. Changing consumers' eating habits could be a fast and cheap approach to improving health and the environment.

Bryant (2019) aimed to get a view on the consumption of meat and animal products as well as the beliefs about vegetarian and vegan diets. A survey was conducted with 1000 meat-eaters from the UK. The results showed that most of the participants thought that vegetarian and vegan diets are better for animal welfare, the environment, and personal health. However, only about 16% were willing to reduce consuming meat and 14% were willing to reduce consumption of animal products. The reason for this were several negative beliefs about vegetarianism and veganism. The participants responded that they think those types of diets are difficult to follow, that they are expensive, and that they are not enjoyable. Therefore, it is crucial to convince them that vegan products can be enjoyable and improve people's perception of plant-based foods.

It seems that in general, there is a necessity to increase desire for vegan food. One way in which this could be achieved is by mental simulation, which could be described by a sensory experience or the ability to imagine an action and its consequences before acting. Muñoz-Vilches et al. (2020) investigated the effects of mental simulation on desire and food choice. They divided their participants into a group of process simulation, in which people were asked about their feelings during consuming the food, and a group of outcome simulation, in which

people were asked about their feelings after consuming the food. The results showed that under process simulation, more people chose the unhealthier product over the healthier one. Yet, under outcome simulation, more people chose the healthier product. This study shows that you can manipulate people's desires by making them think of a situation. If we look at the results from Bryant (2019), most participants indicated that the main reason to continue eating meat is that they think the process of eating plant-based food is not enjoyable, although they were aware of the beneficial outcome for the environment and animal welfare. Therefore, it is crucial to investigate whether people's beliefs and attitudes towards a plant-based food product can be changed by making them believe the process of eating it is enjoyable. As Muñoz-Vilchez et al. (2020) asked their participants to imagine something explicitly (E.g.: ''which specific emotions do you feel while after having consumed the cereal bar?''), it is important to see whether people's desires can also be manipulated by for example using certain words in descriptions for the product.

Based on the grounded cognition theory of desire, one could assume that specific words stimulate certain areas in the brain (Papies et al., 2017). The grounded cognition theory supposes that processing an object, event, or concept in real life, results in storing and integrating conceptual knowledge in the brain (Papies et al., 2017). For instance, if one eats an apple, they will remember the color, texture, and taste, which will be stored in the visual, somatosensory, and gustatory neural systems in the brain. Similarly, actions such as swallowing and grasping the apple are stored and integrated into the motor system. If the action of consuming an apple is repeated several times, this information will become rooted in the brain. Later on, when conceptual inferences about the concept (the apple) are required, for instance when one sees the word or a picture of it, the knowledge that is rooted in the neural system about that concept becomes active. In this way, the color, texture, taste, etc. is simulated in such a way that the consumption of an apple is re-experienced (Papies et al., 2017).

González et al. (2006) showed that smell-related words produced more activity in olfactory areas of the brain when compared to control words. Similarly, tempting food-related words activate simulations of consuming the food including sensory experiences such as taste and texture of the food, simulations of eating situations, and simulations of hedonic enjoyment (Papies, 2013). In Papies' (2013) study, the participants were asked to list features for a food word they were shown. Eating simulation features were mentioned more frequently for tempting food words (e.g. ''chips'', ''cookies'') than for neutral food words (e.g. ''apple'',

‘’rice’’). This finding is in line with the grounded cognition theory because it suggests that our experiences with consuming tempting foods can influence our mental representations of the food-related word. This knowledge can be used for investigating whether the use of certain words could affect people’s desires. It has served as the base for multiple researches into manipulating descriptions.

Turnwald et al. (2017) manipulated descriptions of vegetables on a university’s food menu, to see whether it would affect food choice. There were 4 types of descriptions: indulgent, basic, healthy restrictive, and healthy positive. For the vegetable corn, these would be the descriptions: indulgent - ‘rich buttery roasted sweet corn’; basic - ‘corn’; healthy restrictive - ‘reduced-sodium corn’ - healthy positive - ‘vitamin-rich corn’. The results showed that using indulgent labelling of vegetables lead to more people choosing vegetables and an increase in the amount of vegetables consumed, when compared to using a basic, healthy restrictive or healthy positive description. Further research is necessary to see whether these effects are generalizable to other settings. Moreover, Turnwald et al. (2017) have only analyzed how many times the participants selected vegetables at that moment and they did not measure the perceived attractiveness or opinions over the long term.

Therefore, Turnwald and Crum (2019) investigated the effect of labeling healthy food on consumers’ preference over the long term. They indicate that healthy food descriptions predominantly emphasize health attributes such as reductions in sugar or low calories (Turnwald and Crum, 2019). However, people tend to associate healthy food with a bad taste (Raghunathan et al., 2006). Several laboratory studies have demonstrated that people tend to perceive food with health-focused labels as less appealing and less tasty (Fenko et al., 2016; Lähteenmäki et al., 2010). Therefore, Turnwald and Crum (2019) decided to label healthy food as tasty and emphasize satisfaction, to see whether people’s preference would change over the long term for healthy food such as vegetables, salads, and vegetable wraps. Furthermore, they looked if it would also change their purchase behaviour and if it would improve both the perceived taste and the mindset. An example of health-focused labeling in their study is ‘’healthy choice vegetable wrap’’ and for taste-focused labeling an example is ‘’mouthwatering grilled vegetable wrap’’. The results found that taste-focused labeling increased choice of healthy food compared to health-focused labeling. Moreover, health-focused labeling caused a 45.1% decrease in purchases of vegetarian food, while taste-focused labeling sustained the same amount of purchases. Lastly, when taste-focused labeling was used, healthy food was perceived as more delicious post-consumption and mindsets about

deliciousness were improved, compared to health-focused labeling. To conclude, their findings suggest that taste-focused, instead of health-focused labeling, is a cheap and effective strategy to increase healthy food selection. However, it is still unclear whether this effect will generalize to plant-based food products.

Papies et al. (2020) aimed to find out how vegan foods should be described to increase the perceived attractiveness. They based their study on the grounded cognition theory of desire, which implies that descriptions that people tend to associate with simulations or experiences of consuming a food product will increase its appeal. First, they investigated the labels of meals in four supermarkets from the United Kingdom. They found out that the descriptions of meat products consisted of more words related to eating simulations than vegetarian and vegan food. Then, they conducted an experiment in which they changed the labels of vegan and meat food products to either containing words associated to eating simulation or not. They did not find support for sensory or eating context words increasing the perceived attractiveness. However, support was found for simulation-based words including sensory, context, and hedonic words increasing the perceived attractiveness. Moreover, the participants who consumed meat on a regular basis, found vegan food products less attractive, although this effect was reduced when they were labeled with language using simulation-inducing words. However, only already existing labels from supermarkets were used, which is a limitation because the results might not applicable to other settings; there are more types of labels that could be used for investigating the perception of vegan food.

Demartini et al. (2022) examined the effect of vegan labelling and meat-sounding labelling on the perception of plant-based products. The difference between the absence and presence of vegan labelling was ‘soy’ (absent) and ‘vegan’ (present). The difference between the absence and presence of meat-sounding labelling was ‘product’ (absent) or ‘meatballs’ (present). This formed four conditions: ‘soy product’, ‘vegan product’, ‘soy meatballs’ and ‘vegan meatballs’. In their first experiment, the findings show that meat-sounding labelling caused the participants to perceive the food as more healthy, but there were no effects for perceived tastiness. They conducted a second experiment with other food products and a within-subjects design to see if the results from Experiment 1 would be the same. The results of Experiment 2 showed that vegan labelling had a negative effect on the perception of the tastiness and healthiness and the participants were also less willing to buy the plant-based food. This negative effect became stronger as the people showed a stronger preference for eating meat. So, vegan labelling might not be effective for promoting plant-based foods. However, in

experiment 1 meat-labelling only affected the perceived healthiness, but not tastiness or attractiveness and willingness to buy. Moreover, it is questionable whether it is appropriate to use meat-sounding names for food products that do not contain meat.

So, what is already known is that taste-focused labelling leads to higher perceived tastiness and more purchases of healthy food (Turnwald and Crum, 2019). Since it is still unclear whether there truly is a difference in perceived tastiness between vegan-labelling and meat-labelling of plant-based products (Demartini et al. 2022), further research is crucial. What has not been investigated yet, is whether the effect of taste-focused labelling compared to health-focused labelling is also applicable to plant-based products.

One way through which food products are advertised is via social media platforms. Over the years, the use of social media has increased rapidly. One of these platforms is Instagram, where people can share photos and videos with the rest of the world. It is the fourth most popular social media platform in the world (Dixon, 2023). From 2010 to 2021, Instagram gained 1.21 billion users. Respectively, Instagram's audience consists of young adults; the largest proportion of users are between the age of 18 and 34 years old. Because of the popularity of Instagram, organizations decide to advertise their products and services on this platform, including food products. As a result, Instagram users are every day exposed to these food advertisements, which makes it an efficient way to promote one's products. The already existing literature about labelling plant-based food products should be expanded by doing research on this topic in Instagram advertisements.

So far, only health-focused labelling and taste-focused labelling were matched in length when being compared to each other. Papies et al. (2020) did include neutral labelling in their experiment, but they were shorter than the health-focused and taste-focused ones. Therefore, it cannot be assumed that length was not an influencing factor. Therefore, there should be added a third type of description called ''neutral'' that does not emphasize any characteristic of the product in the description, of the same length. In this way, it is possible to determine whether health-focused language use also has a negative effect compared to neutral language use and if taste-focused language use also has a positive effect compared to neutral language use. Furthermore, by adding product recall as a dependent variable it is possible to see whether a certain type of language use will affect the participants' product recall in a positive or negative way. Organizations could benefit from this knowledge because high product recall can lead to increased purchase intention (Till & Busler, 2000).

This leads to the research question:
‘’How does type of language use in descriptions of plant-based and meat-based food in Instagram advertisements affect perceived attractiveness, purchase intention and product recall?’’

Hypotheses:

H1: Taste-focused language use will lead to higher perceived attractiveness, purchase intention and product recall, compared to neutral language use and health-focused language use.
H2: Health-focused language use will lead to lower perceived attractiveness, purchase intention and product recall, compared to neutral language use and taste-focused language use.

H3: The hypothesized effects of taste-focused language and health-focused language will be greater for plant-based food products than for meat-based food products.

H1 and H2 would be in line with the grounded cognition theory of desire and previous literature. Moreover, in H3 it is hypothesized that the effects will be greater for plant-based product than meat-based products, because the meat-based products selected in this study are expected to be more well-known and better perceived in general, possibly regardless of how it is described.

Methodology

Materials

The independent variables of this study are type of language use and type of food. Type of language use consists of three conditions: neutral language use, health-focused language use and taste-focused language use. Type of food consists of two conditions: plant-based vs meat-based. A questionnaire was created with 6 versions of Instagram advertisements in Dutch with each of the conditions. Each version consists of 3 advertisements; a burger, nuggets and meatballs. Therefore, in total, there are 6 type of foods advertised: a plant-based burger, plant-based nuggets, plant-based balls, a meat-based burger, meat-based nuggets, and meat-based meatballs. The questions in the survey are the same for each version, as well as the lay-out of the Instagram post. Each post has roughly the same amount of likes and comments as other posts.

The taste-focused descriptions are based on the data set created by Speed and Brysbaert (2022). In this dataset can be found a set of Dutch words and how much they are related to hearing, seeing, smelling, tasting, feeling and sensation in the mind of people. To find words that can be used for the taste-focused descriptions, words were picked that score at least 4 on a scale of 0 to 5 on 'proeven' which translates to 'to taste'. These are: 'zoet', 'pikant', 'kruidig', 'sappig', 'vers', 'lekker' and 'culinair'. So, an example of a taste-focused description is: 'een lekkere en culinaire groenteburger' for a plant-based burger and 'een lekkere en culinaire hamburger' for a meat-based burger.

The health-focused descriptions are based on the descriptions used by Turnwald et al. (2017). Examples are: 'vitamin-rich', 'low-carb', 'nutritious', 'wholesome', 'cholesterol-free', 'light'. So, an example of a health-focused description is: 'een vitaminerijk en gezonde groenteburger' for a plant-based burger and 'een vitaminerijk en gezonde hamburger' for a meat-based burger.

The neutral descriptions consists of these words: 'classic', 'traditional', 'popular', 'easy', 'authentic', 'stylish', as these words do not emphasize the taste or the health properties of the food product. So, an example of a neutral description is: 'een klassieke en traditionele groenteburger' for a plant-based burger and 'een klassieke en traditionele hamburger' for a meat-based burger.

The description of each food product is approximately the same length and contains the same amount of adjectives.

See Appendix 1 for all Instagram advertisements created for the questionnaire.

Participants

The participants were recruited by asking acquaintances to participate in the study. The goal was to collect 180 participants, as for the outcome to be reliable, at least 30 participants per condition are needed (30x6=180). Of the 238 people that started the questionnaire, 204 completed it. However, 8 participants were excluded because they indicated they never eat meat. Another participant was removed because Dutch was not his mother tongue. Another participant was excluded because he indicated he could not see the pictures. Therefore, the number of participants amounted to 194, of which 66 were male (34%) and 128 were female (66%). The youngest participant was 17 years old and the oldest participant was 71 years old,

with an average of 29 years old (M = 29.90, SD = 15.06). Most of the participants' level of education was HBO (42.1%), WO (35.9%) and MBO (10.8%).

The participants were randomly distributed across the 6 conditions. A chi-square test showed no significant relation between gender and condition ($\chi 2$ (5) = 9.72, p = .083)'.. Another chi-square test showed no significant relation between level of education and condition ($\chi 2$ (30) = 28.35, p = .552)'. A one-way analysis of variance did not show a significant effect between age and condition (*F* (5, 153) = .689, *p* = .632. This means that it can be assumed that the results were not influenced by the division of age, gender or level of education across the conditions.

Design

The 194 participants were divided into 6 groups. In this study, a between-subjects design is used. Each group was exposed to one of the 6 conditions. The independent variables are type of language and type of food.

Instruments

A questionnaire was created to measure the following dependent variables: perceived attractiveness, product recall and purchase intention. Perceived attractiveness was measured using a 7-point Likert scale with the following questions: 'How much would you want to eat the product now?' and 'How much would you like to taste this product?', 1 being 'volledig mee oneens' (do not agree at all) and 7 being 'volledig mee eens' (fully agree). These are questions from a set of Muñoz-Vilches et al.'s study (2020). Purchase intention was measured through a 7-point Likert scale with the following questions: 'I would like to buy this product next time I go shopping' and 'I would make a special effort to buy this product', 1 being 'volledig mee oneens' (do not agree at all) and 7 being 'volledig mee eens' (fully agree) These are sentences from a set of Zeng, Y's study (2008). Product recall was measured by performing two recall tasks. The participants were asked to name the food products they had seen. After that, they were asked the following: 'What food products do you remember seeing in the questionnaire? Please tick only the boxes that correspond to food products you clearly remember seeing.' The amount of correct answers were counted. The reliability of 'purchase intention' comprising two items was good: $\alpha = .874$. The reliability of 'perceived attractiveness' comprising two items was also good: $\alpha = .862$.

Procedure

The participants received a link to the online Qualtrics survey. To ensure that they did not lose motivation to participate, they were told that the questionnaire would not last more than 5 minutes. First, they were told they are taking part in a study anonymously and they were asked for their consent. This, to guarantee confidentiality and anonymity. They were not told the purpose of the study beforehand. Then, each group of participants were shown an Instagram advertisement of their version, after which questions about perceived attractiveness and purchase intention were asked. After answering those, they had to continue to the next page, where it was repeated with the next Instagram advertisement. In total, they were shown 3 Instagram advertisements. Then, they had to answer demographic questions about their age, gender (male/female/other/prefer not to say), mother tongue and level of education. On the last page of the questionnaire, the participants had to perform a recall task in which they were asked to name all the products that they had seen.

Statistical treatment

As the research question consists of two independent variables and three dependent variables, three two-way univariate analyses of variance were conducted.

Results

Purchase intention

A two-way univariate analysis of variance with food type (vegan or non-vegan) and language (taste-focused, health-focused, neutral) as factors did not show a significant main effect of food type on purchase intention (F (1, 188) = .04, p = .842). There was also no significant main effect of language on purchase intention (F (2, 188) = .88, p = .417). The interaction effect between food type and language was not statistically significant (F (2, 188) = 2.63, p = .075). See Table 1 for the means and standard deviations for purchase intention.

	Taste-focused	Health-focused	Neutral
Plant-based	2.72 (1.26)	2.90 (1.13)	3.08 (.96)
Meat-based	2.90 (.10)	3.16 (1.25)	2.54 (.89)

Table 1: Means and standard deviations for purchase intention

Perceived attractiveness

A two-way univariate analysis of variance with food type (vegan or non-vegan) and language (taste-focused, health-focused, neutral) as factors did not show a significant main effect of food type on perceived attractiveness (F (1, 188) = .22, p = .638). There was also no significant main effect of language on perceived attractiveness(F (2, 188) = .67, p = .511). The interaction effect between food type and language was not statistically significant (F (2, 188) = .51, p = .602). See Table 2 for the means and standard deviations for perceived attractiveness.

	Taste-focused	Health-focused	Neutral
Plant-based	3.80 (1.31)	3.90 (1.26)	3.96 (1.10)
Meat-based	3.64 (1.39)	4.07 (1.35)	3.69 (1.30)

Table 2: Means and standard deviations for perceived attractiveness

Product recall

A two-way univariate analysis of variance with food type (vegan or non-vegan) and language (taste-focused, health-focused, neutral) as factors showed a significant main effect of food type on recall (F (1, 188) = 24.30, p <.001). Advertisements with meat-based products led to higher recall (M = 2.98, SD = .10) than plant-based products (M = 2.72, SD = .50). There was no significant main effect of language on recall (F (2, 188) = .76, p = .472). The interaction effect between food type and language was not statistically significant (F (2, 188) = .57, p = .568). See Table 3 for the means and standard deviations for recall.

	Taste-focused	Health-focused	Neutral
Plant-based	2.74 (.46)	2.63 (.54)	2.77 (.51)
Meat-based	2.98 (.10)	2.97 (.11)	2.98 (.09)

Table 3: Means and standard deviations for recall

Conclusion

This research aimed to find out whether type of language (taste-focused, health-focused, neutral) affects consumers' purchase intention, perceived attractiveness, and product recall, and if that effect differed per food type (plant-based or meat-based). The results showed that taste-focused language did not lead to a higher purchase intention, perceived attractiveness

and product recall, regardless of food type. Health-focused language did also not lead to lower purchase intention, perceived attractiveness and product recall, regardless of food type. In other words: this study did not provide evidence for type of language affecting consumer behaviour. However, the results did show that product recall was significantly higher for meat-based food products than for plant-based food products.

H1, H2 and H3 have all been rejected.

Discussion

The grounded cognition theory of desire, as described by Papies et al. (2017), would have predicted significant effects for type of language on consumer behavior. However, the results of this study are not in line with those predictions and other previous literature. According to Turnwald et al. (2017), indulgent labelling of vegetables resulted in higher vegetable selection and consumption. According to Turnwald and Crum (2019), health-focused labeling led to a decrease in purchases of vegetarian food and taste-focused labeling caused healthy food to be perceived as more attractive. Therefore, it was expected that taste-focused language would positively influence consumers' perception in terms of purchase intention and perceived attractiveness. Moreover, it was also expected that health-focused language would lead to lower purchase intention and perceived attractiveness than neutral or taste-focused language. However, both were not the case for this study. A difference is that this study used plant-based substitutes of meat products, while Turnwald et al. (2017) used vegetables and Turnwald and Crum (2019) used vegetarian dishes. As mentioned in the previous literature, Papies et al. (2020) indicated that participants who regularly consumed meat perceived vegan food products as less attractive in general. This could explain why type of language did not affect the perceived attractiveness in this study; 44.8% of the participants indicated they eat meat almost every day of the week.

Product recall was included as a dependent variable because this had not been included in previous literature. This study hypothesized that taste-focused language would also lead to higher product recall, and healthy-focused language would lead to lower product recall. However, type of language did not affect product recall in any way. Nonetheless, type of food did; meat-based products were better recalled than plant-based products. This could be because meat-based products are very well-known: a hotdog, a hamburger and chicken nuggets. The plant-based versions of these products are less known and therefore may be

more difficult to describe in detail: a carrot-based hotdog, a burger made of beets and cauliflower nuggets.

There were some limitations to this study, which could explain the fact none of the hypotheses have been confirmed. Firstly, it could be that the text in the created advertisements was too small in relation to the picture. This may have lead the participants' attention to the image rather than the text. In addition, the Instagram layout might have been distracting. In this study, it is important to look at the text as that was what was manipulated. If the participants focused more on the images, the attractiveness of the picture itself might have had more influence which means the goal of the study is not fully achieved. This suggests language might not be as important as images on Instagram. Therefore, in future studies, the used descriptions should be tested in a different context.

Moreover, it could be that the selected words for the three types of language do not differ in consumers' minds as much as expected. Although previous literature has shown that the used taste-focused language is indeed related to ''taste'' by consumers (Speed & Brysbaert (2022), it might be that the health-focused language and neutral language in this study are perceived as positive as taste-focused language.

Furthermore, although people who indicated that they never meat eat have been excluded from the data analysis, people who do eat meat a lot have been included. This, because it was assumed that people who do eat meat can still be persuaded to consume plant-based products. Nonetheless, there might be a possibility that they are negatively biased towards these type of foods, which could lead to them scoring low on perceived attractiveness and purchase intention regardless of the type of language used in the descriptions. However, the meat-based food products also scored low. It could be that the chosen food products (hotdog, hamburger, chicken nuggets) are not perceived as attractive because it is fast food. Therefore, this study should be replicated with full meals and dishes instead.

Another limitation is that a convenience sampling strategy was used. Participants were recruited by asking acquaintances to participate in the research. Therefore, it could be that they only wanted to help out and did not pay much attention to the task. Lastly, the product recall task might have been too easy, as the participants only had seen 3 advertisements. This means they only had to remember 3 products, which could be the reason for the high scores for product recall.

Future research should replicate the study, but put more emphasis on the text by for example making it larger in the picture and avoiding using a layout around the picture. Furthermore, different pictures could be used of which is shown that they are all equally attractive. To avoid biased effects because of people who never eat meat or eat meat a lot, it could be important to do research with people that only sometimes eat meat. They can probably be persuaded to consume both plant-based and meat-based products. Future research should also investigate whether taste-focused language as described by previous literature is indeed related to ‘’tasty’’ by consumers. The same goes for health-focused language and neutral language. Future research should also measure whether taste-focused language, health-focused language and neutral language differ in terms of positive valence, meaning whether consumers experience the same amount of arousal when reading these words. Also, it might be better to only use words in deficit for health-focused language, such as ‘calorie-arm’ (low-calorie), instead of: ‘vitaminerijk’ (vitamin-rich), which was used in this study. Words in deficit might lead to less positive valence experienced, which is crucial to ensure that health-focused language is not perceived as positive as taste-focused and neutral language.

In short, this study aimed to find out whether type of language affects consumers’ perception of plant-based and meat-based products. A significant outcome would have been beneficial for organizations in terms of which type of language to use in their advertisements. However, since the outcome is contradictory to previous literature, it can be concluded that language might not be that important in Instagram advertisements. So, organizations should focus on images more than on text on Instagram. Furthermore, more research should be conducted in different contexts to investigate the effect of type of language.

Reference list

Baroni, L., Filippin, D. & Goggi, S. (2018). Helping the planet with healthy eating habits. *Open Information Science*, *2*(1), 156-167. https://doi.org/10.1515/opis-2018-0012

Bryant, Christopher J. (2019). "We can’t keep meating like this: Attitudes towards vegetarian and vegan diets in the united kingdom" *Sustainability* 11, no. 23: 6844. https://doi.org/10.3390/su11236844

Demartini, E., Vecchiato, D., Finos, L., Mattavelli, S., & Gaviglio, A. (2022). Would you buy vegan meatballs? the policy issues around vegan and meat-sounding labelling of plant-

based meat alternatives. *Food Policy*, *111*. https://doi.org/10.1016/j.foodpol.2022.102310

Dinu, M., Abbate, R., Gensini, G.F., Casini, A., Sofi, F. (2017). Vegetarian, vegan diets and multiple health outcomes: A systematic review with meta-analysis of observational studies. *Critical Reviews Food Science Nutrition*, 57(17):3640-3649. doi: 10.1080/10408398.2016.1138447

Dixon, S. (2023). *Instagram: distribution of global audiences 2023, by age and gender.* https://www.statista.com/statistics/248769/age-distribution-of-worldwide-instagram-users/

Djordjevic, M. (2022). *General Vegan Statistics for 2022 – What Vegans fight for.* https://dealsonhealth.net/vegan-statistics/

Fenko, A., Kersten, L., Bialkova, S. (2016). Overcoming consumer scepticism toward food labels: the role of multisensory experience. *Food Quality and Preference*, 48 (2016), pp. 81-92

González, J., Barros-Loscertales, A., Pulvermüller, F., Meseguer, V., Sanjuán, A., Belloch, A., & Ávila, C. (2006). Reading *cinnamon* activates olfactory brain regions. *NeuroImage, 32,* 906–912. doi:10.1016/j.neuroimage.2006.03.037

Lähteenmäki, L., Lampila P., Grunert, K., Boztug, Y., Ueland, Ø., Åström A., Martinsdóttir, E. (2010) Impact of health-related claims on the perception of other product attributes. *Food Policy*, 35 (3) (2010), pp. 230-239

Malik, R., & Jindal, T. (2022). Customers' attitude towards vegan products consumption and its impact on purchase intension: an indian perspective. *Vision*: *The Journal of Business Perspective*. https://doi.org/10.1177/09722629221087361

Melina, V., Craig, W., Levin, S. (2016). Position of the academy of nutrition and dietetics: Vegetarian diets. *Journal of the Academy of Nutrition and Dietetics*. 116(12):1970-1980. doi: 10.1016/j.jand.2016.09.025

Miguel, I., Coelho, A., & Maia Bairrada, C. (2020). Modelling attitude towards consumption of vegan products, *Sustainability*, *13*(9), 9–9. https://doi.org/10.3390/su13010009

Muñoz-Vilches, N. C., van Trijp, H. C. M., & Piqueras-Fiszman, B. (2020). Tell me what you imagine and I will tell you what you want: the effects of mental simulation on desire and food choice. *Food Quality and Preference*, *83*, art. no. 103892.

Papies, E. K. , Best, M., Gelibter, E. and Barsalou, L. W. (2017) The role of simulations in consumer experiences and behavior: insights from the grounded cognition theory of desire. *Journal of the Association for Consumer Research*, (doi:10.1086/693110)

Papies, E. K., Johannes, N., Daneva, T., Semyte, G., & Kauhanen, L.-L. (2020). Using consumption and reward simulations to increase the appeal of plant-based foods. *Appetite*, *155*, 104812–104812. https://doi.org/10.1016/j.appet.2020.104812

Papies, E. K., Social-cognitive, and interpersonal determinants of behaviour, Leerstoel, B., & Afd Sociale-, gezondheids- en organ.psych. (2013). Tempting food words activate eating simulations. *Frontiers in Psychology*, *4*.

Raghunathan, R., Naylor, R.W., Hoyer, W.D. (2006). The unhealthy = tasty intuition and its effects on taste inferences, enjoyment, and choice of food products. *Journal of Marketing*, 70 (4) (2006), pp. 170-184

Speed, L. J., & Brybaert, M. (2021). Dutch sensory modality norms. *Behavior Research Methods, 54*(3), 1306–1318. https://doi.org/10.3758/s13428-021-01656-9

Till, B. D., & Busler, M. (2000). The match-up hypothesis: Physical attractiveness, expertise, and the role of fit on brand attitude, purchase intent and brand beliefs. *Journal of Advertising*, 29(3), 1-13.

Turnwald, B., Boles D., Crum A. (2017). Association between indulgent descriptions and vegetable consumption: Twisted carrots and dynamite Beets. *JAMA Internal Medicine,* 177(8):1216–1218. doi:10.1001/jamainternmed.2017.1637

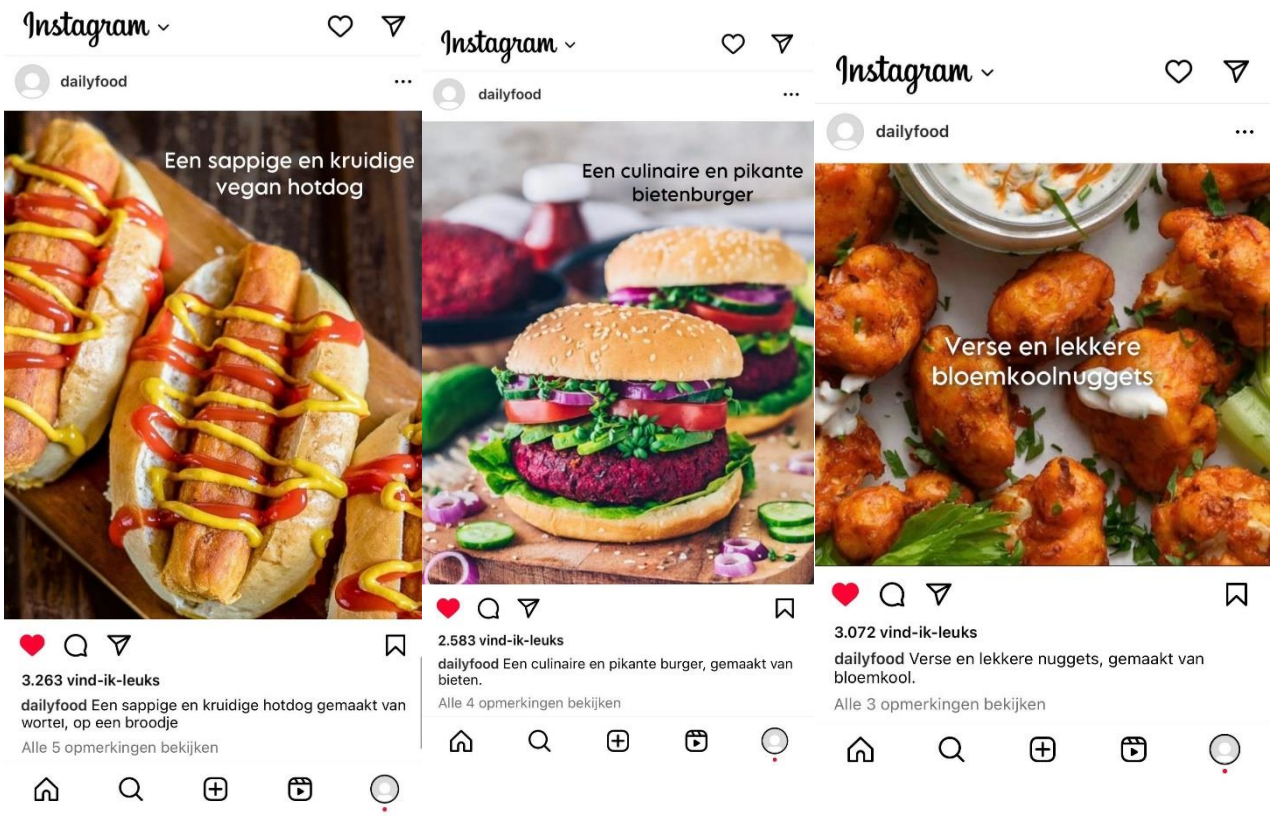
Turnwald, B. P., & Crum, A. J. (2019). Smart food policy for healthy food labeling: leading with taste, not healthiness, to shift consumption and enjoyment of healthy foods. *Preventive Medicine*, *119*, 7–13. https://doi.org/10.1016/j.ypmed.2018.11.021

Weber, C.L., Matthews H.S. (2008). Food-miles and the relative climate impacts of food choices in the United States. *Environmental science & technology*, 42 (10), 3508–3513.

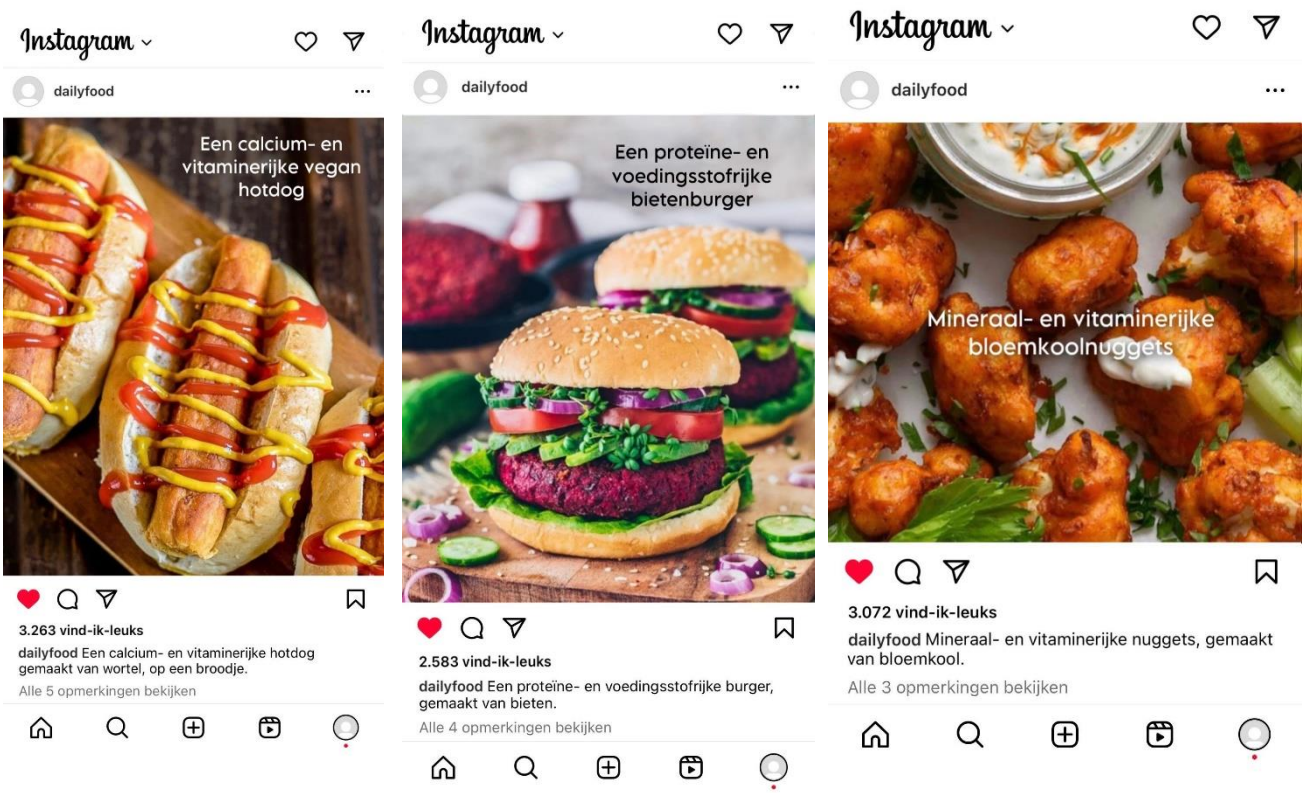
Zeng, Y., (2008). Young consumers' perceptions and purchase intentions towards mass-designer lines. Master's thesis. Iowa State University.

Appendix 1:

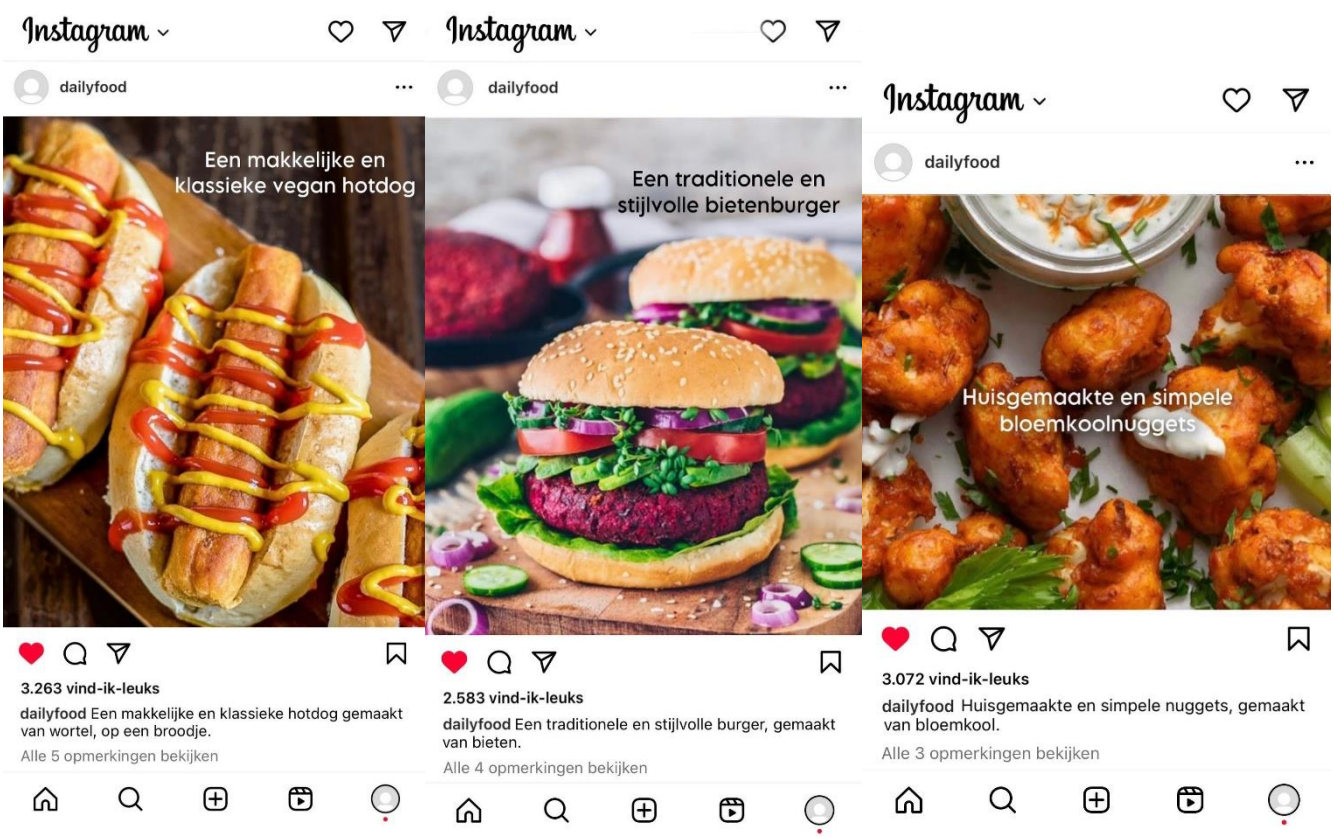
Taste-focused x plant-based



Health-focused x plant-based



Neutral x plant-based



Taste-focused x meat-based

Health-focused x meat-based

Neutral x meat-based

Appendix 2:

Statement of own work

Student name: Manu Maste

Student number: S1054432

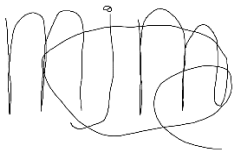
PLAGIARISM is the presentation by a student of an assignment or piece of work which has in fact been copied in whole or in part from another student's work, or from any other source (e.g. published books or periodicals or material from Internet sites), without due acknowledgement in the text.

DECLARATION:

a. I hereby declare that I am familiar with the faculty manual (https://www.ru.nl/facultyofarts/stip/rules-guidelines/rules/fraud-plagiarism/) and with Article 16 "Fraud and plagiarism" in the Education and Examination Regulations for the Bachelor's programme of Communication and Information Studies.

b. I also declare that I have only submitted text written in my own words

c. I certify that this thesis is my own work and that I have acknowledged all material and sources used in its preparation, whether they be books, articles, reports, lecture notes, and any other kind of document, electronic or personal communication.

Signature: 

Place and date: Cuijk, The Netherlands, 09-06-2023