

# Radboud University



## Bachelor Thesis

Using indulgent labels for healthy meals on Instagram to make them  
more attractive

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**Abstract**

Obesity is a large issue within society, and eating unhealthy food regularly is a contributing factor. However, research suggests that language use in the food description can greatly affect food attractiveness towards consumers. Indulgent food descriptions may help healthy food options seem more attractive to consumers. This is because desire occurs when certain food cues, like the language use in the food labels, make people think about a specific type of food and what it feels like to consume it. This could lead to them eating more healthy meals, and in the end, may potentially lead to a decrease in obesity. Previous studies only researched this phenomenon in a restaurant- or canteen settings, and as social media has come to play a large role in people's everyday lives, this study attempted to find out whether it is also the case in a social media setting. Hence, the goal of this study was to determine whether using indulgent labels on healthy meal advertisements on Instagram would increase the consumers' purchase intention towards the meals and their expected tastiness. This was done by means of measuring the effect of language use (indulgent, neutral and healthy) in healthy and unhealthy food advertisements on consumer purchase intention, expected tastiness, persuasiveness and credibility. Findings suggest that the type of label had no effect on the respondents' purchase intention towards healthy or unhealthy meals. The same results were observed for the expected tastiness of the meals. Unhealthy meals with a healthy label were perceived as less credible than with a neutral or indulgent label. There was no effect of label on the persuasiveness or credibility for advertisements of healthy meals. These results suggest that the phenomenon that, due to mental simulation, indulgent food descriptions make healthy food more attractive may not occur in advertising on Instagram. Nevertheless, the conclusions bring the knowledge to advertisers of how they can make their advertisements of unhealthy meals more persuasive and credible.

## Introduction

Obesity is a significant issue nowadays. In 2017, 14.2 per cent of the population in the Netherlands was obese, and an additional 36 per cent was overweight, which means that more than half of the Dutch population was either overweight or obese (“Statistics Netherlands”, 2018). This is a large problem because obesity can increase the chance of serious illness such as cardiovascular disease, type II diabetes and depression (Chou, Rashad & Grossman, 2008). It can be defined as a condition of excessive fat accumulation to the extent that it may be harmful towards one’s health (World Health Organisation, 1998), and it occurs when a person’s energy intake surpasses the person’s energy output for prolonged periods of time (Lvovich, 2003).

Most of the time, obesity is linked to consuming unhealthy foods which frequently are high in calories and sugar (Turnwald & Crum, 2019). Factors such as poor eating habits, overeating and reduced levels of physical activity may contribute to it. Moreover, food advertising plays a large role in the rise of obesity as these advertisements often depict consumption of unhealthy food with high frequency and of large portion sizes as normal behaviour, and, thus, influence the behaviour of the consumers (Hoek & Gendall, 2006). As advertising supports the continuation of unhealthy behaviour patterns, it reduces the likelihood of consumers recognising the behaviour as unhealthy or wanting to change these. This means that people are exposed to advertisements for unhealthy food without knowing that the food is unhealthy. If people do not know they are eating unhealthy food, they will not change their behaviour and keep consuming an unhealthy diet which, ultimately, may lead to obesity (Hoek & Gendall, 2006). Furthermore, food advertising targeted at youth also greatly increases the amount of unhealthy food consumed (“Advertising and childhood obesity”, 2005). More than half of these food advertisements are for foods which are high in fats and added sugars. These advertisements increase the consumption of unhealthy food because they increase the purchase requests by children to their parents. Hence, these advertisements lead to greater consumption of energy-dense food and are, as a result, a contributing factor towards obesity.

Another reason why people consume unhealthy foods so often is that they are linguistically portrayed as delicious and convenient foods, and healthy food alternatives instead are linguistically portrayed as less attractive (Turnwald, Jurafsky, Conner, & Crum, 2017b). Unhealthy foods are often described with indulgent language which focuses on the tastiness of the food instead of its health aspects. According to Sullivan et al. (2019), indulgent food options are foods which are tasty but not healthful. People tend to choose indulgent and unhealthy food

options over healthy ones because they assume these are tastier (Raghunathan, Naylor, & Hoyer, 2006; Turnwald et al., 2017b). For instance, Turnwald et al. (2017b) found that healthy food items were described as less exciting, fun and tasty compared to unhealthy food items on 26 restaurant menus in the USA. The researchers investigated the hypothesis that the descriptions of foods in a healthy food menu section are less attractive towards the consumer than the descriptions of foods in the standard menu section in the USA. They found that healthy food options were described as less appealing than unhealthy food options, with words such as “*plain*”, “*light*” and “*low carb*”. The descriptions of healthy food options focused more on the healthiness instead of on the tastiness of the food, whereas the unhealthy food options were described with words such as “*crunchy*”, “*housemade*” and “*premium*”, which focus more on the tastiness of the foods. This may make consumers believe that healthy foods are not tasty or indulgent and they, consequently, choose to consume an unhealthy food option instead (Turnwald et al., 2017b). Therefore, in order to tackle the problem of obesity, it is important to advertise healthy food options similarly to unhealthy food options. This can be done by using indulgent language in healthy food advertising as an alternative to focusing on the healthy aspect of the food.

The phenomenon that people tend to consume unhealthy foods due to their indulgent descriptions may be attributed to the grounded cognition theory of desire. This theory suggests that desire occurs when certain food cues, like the language use in the food labels, make people think about a specific type of food and what it feels like to consume it. This, in turn, leads them to desire that type of food (Papies, Barsalou & Rusz, 2019). Hence, using indulgent language in healthy food advertising may help stimulate desire for the food.

The researchers Turnwald, Boles and Crum (2017a) and Turnwald and Crum (2019) have studied the notion of whether indulgent language descriptions for healthy food options increase the consumption of these foods. A study by Turnwald et al. (2017a) examined whether labelling vegetables with indulgent descriptions could increase vegetable consumption. This study took place in a canteen setting. When the vegetables were labelled with an indulgent description (e.g. “*Twisted citrus-glazed carrots*”), consumers chose to consume these vegetables significantly more often than when they were labelled with a basic description (e.g. “*Carrots*”) or healthy a description (e.g. “*Carrots with sugar-free dressing*”). Furthermore, the researchers state that people rate the food they perceive to be healthier as less tasty, and the food they perceive to be less healthy as tastier.

Research by Turnwald and Crum (2019) showed similar results to the study by Turnwald et al. (2017a). Turnwald and Crum (2019) conducted four studies in different settings in California, USA, to investigate whether food labels for healthy food with a taste-related focus are more appealing to the consumer than food labels for healthy food with a health-related focus. Their first study took place in a university cafeteria. They found that significantly more people chose healthy food when it was labelled as tasty rather than when it was labelled as healthy. Their second study took place at a conference lunch buffet and it had similar results. In their third study, they investigated whether people chose vegetarian entrees with a taste focused label more frequently than meat entrees with a health-focused label and vice versa. They used vegetarian entrees as the healthy option and meat entrees as the unhealthy option and the study took place over a 2-month time period. The main result they reported was that people chose the vegetarian entrees significantly more often when they were described as tasty as opposed to when they were described as healthy. In their fourth study, the researchers investigated whether food labels for healthy food focused on taste rather than on health benefits would improve the experienced taste of the food. This study also took place in a university cafeteria. The results of this study suggest that if healthy foods are labelled as tasty, this leads to more consumers choosing to eat healthy foods. Additionally, it suggests that taste-focused labels on healthy foods enhance the taste experiences the consumers have when consuming healthy foods. Likewise, the researchers found that using taste-focused labels on healthy foods makes people think that healthy foods can be tasty as well. These studies show that food labels which focused on the food's taste make the healthy food more attractive towards the consumers opposed to food labels which focused on the healthy aspects of the food (Turnwald & Crum, 2019).

While the existing studies, therefore, show that using indulgent language for descriptions of healthy food results in consumers wanting to buy that food more than if it were described with language focused on the healthiness of the food, they focused primarily on restaurant and canteen settings (Turnwald et al., 2017a; Turnwald et al., 2017b; Turnwald & Crum, 2019). However, the fact that the language use of the advertisement affects the way in which consumers interpret it suggests that this could, likewise, be the case in advertising on social media. In recent years, social media has become a large part of our lives and users spend considerable time on it, which makes it a more beneficial platform to advertise food on. According to Chen, Lin and Yuan (2017), social media is defined as platforms where the users can communicate and distribute messages via virtual communities and social networks. Social

media is a tool that is used by companies to promote their products or services as it allows them to interact with consumers in a more informal and personal way (Papazolomou & Melanthiou, 2012). Many users of these social media spend several hours per day on these platforms, which makes them perfect for companies to publish their advertisements. Thus, the present study focuses on the effect of indulgent language for healthy foods on social media, more specifically, on the social media platform Instagram.

Instagram is a popular social network where users can share pictures and send private messages to each other. This study focuses on advertising on Instagram because social media users spend 45% more time on Instagram than on Facebook and 40% more time than on Twitter (Leibowitz, 2017). Consequently, Instagram has a strong impact on consumers' daily lives. It is a mobile and visual platform where companies can advertise their products or services for a reasonably low cost, but with a major persuasive effect (Kusumasondjaja & Tjiptono, 2019). However, it is not known whether the findings of the studies focusing on indulgent language use for healthy foods translate to social media (Turnwald et al., 2017a; Turnwald et al., 2017b; Turnwald & Crum, 2019).

In addition to focusing on Instagram, this study will use sentence long stimuli, which the studies of Turnwald and colleagues did not do (Turnwald et al., 2017a; Turnwald et al., 2017b; Turnwald & Crum, 2019). In other words, the descriptions of the food in the advertisements in this study will consist of grammatical sentences that show the availability of the meals in the restaurant instead of loose words. This will help achieve the effect of the grounded cognition theory of desire by Papies et al. (2019). It suggests that people will desire a meal due to its sentence long description as it makes them think about the meal and how it feels like to consume it. Moreover, when people see the advertisement with the information that the meal is available in the restaurant, they are more likely to imagine themselves ordering it in the restaurant and consuming it than if the availability of the meal were not stated in the advertisement. Subsequently, they are more likely to desire the meal. Having desire for a meal increases its attractiveness and, in the end, may also increase the consumers' purchase intention and expected tastiness towards the meal.

In this study, the effect of language use on consumers' purchase intention towards healthy and unhealthy foods as well as their expected tastiness of the foods will be assessed. Furthermore, the credibility and the persuasiveness of the advertisements will be measured as these can affect the consumer's attitude towards the advertisement. According to Derbaix (1995), using non-natural settings for advertising can harm the ecological validity of the

research. Therefore, as the advertisements in this study will be fictional, it is crucial to measure the credibility of the advertisements to investigate whether they seem credible towards the consumers. If the participants perceive the advertisements as credible, the ecological validity of this study may be improved. In this study, the variable persuasiveness will be measured in order to find out whether the participants were convinced by the advertisement. If the participants were not convinced by the advertisement or did not perceive the advertisements to be credible, this could be the reason for the possible scenario where there would be no effect of language use on the participant's purchase intention and on how they expected the meals to taste. The aim of this study is to successfully find how language use in food advertising on Instagram affects the consumers' attitude towards the healthy and unhealthy foods advertised in the Netherlands. According to the "Integrative Model of Behavioural Prediction" by Fishbein and Yzer (2003), consumers' attitude can change their behaviour. This is crucial in advertising, as the advertiser aims to change consumers' attitude towards a product or service and, in the end, change the consumers' behaviour and hence purchase intention.

In this study, the effects of indulgent language use, neutral language use and healthy language use in advertising on Instagram will be explored on the purchase intentions towards healthy and unhealthy food options and their expected tastiness. Consequently, the first research question of this study is:

*RQ1: To what extent does indulgence labelling on advertisements on Instagram affect consumers' purchase intention towards healthy and unhealthy food?*

*H1: Consumers will want to buy healthy and unhealthy food with an indulgent label more often than healthy or unhealthy food with a healthy or neutral label.*

Hypothesis 1 was chosen because the studies by Turnwald and Crum (2019) and Turnwald et al. (2017a) showed that in canteen settings food labels that focused on the tastiness of the food increased the number of times the food was chosen by a significant amount. This hypothesis aims to find out whether this can also be the case in a social media setting. The expected tastiness towards the meals will also be researched, therefore there will be a second research question:

*RQ2: To what extent does indulgence labelling for healthy and unhealthy food advertisements on Instagram have an effect on the expected tastiness of the food?*

*H2: Indulgence labelling leads consumers to perceive healthy and unhealthy food as tastier than neutral and healthy labelling.*

Hypothesis 2 is based on the grounded cognition theory of desire, which suggests that indulgent language use in food advertising can make the consumer think about consuming the food and, therefore, enhance the expected tastiness of the food (Papies et al., 2019). This hypothesis aims to discover whether using an indulgent label for healthy meals can make them be perceived as tastier than with a neutral or healthy label in a social media setting.

This study aims to fill the research gap which is that a similar study has not yet been conducted in a social media setting using full grammatical sentences, but only in restaurant and canteen settings using separate words. The fact that this study focuses on Instagram will give a better indication to food advertisers on Instagram which language use is more effective, whereas the existing studies merely focused on restaurant and canteen settings. In this way, food advertisers learn how to make their advertisements more attractive towards the consumer on Instagram, the social media where users spend most of their time. Consequently, this research intends to help reduce the consumption of unhealthy food and increase the consumption of healthy food in a way that advertisers also benefit, making them more likely to implement the findings. As a result, this may help tackle the issue of obesity and the illnesses caused by it.



## Method

### *Materials*

In total, there were eighteen advertisements created as Instagram posts to advertise different dishes. Each advertisement consisted of one picture of a meal accompanied by one description of it. The pictures were chosen to look equally fresh and tasty as each other with the aim of the pictures to have no effect on the perceived taste of the meals and the buying intention of the participants. The advertisements were posted as if a fictive Dutch restaurant called “Dinery” posted them. In total, there were pictures of six different meals, three of which were considered as healthy the other three of which were considered unhealthy. Each meal had three versions, one with an indulgent frame, one with a neutral frame and one with a healthy frame. The images of the Instagram posts with their descriptions can be found in Appendix A. The choice of the words used for the advertisements were based on the study by Turnwald et al. (2017b). In their study, they identified three categories of words: in the first category there are words that are more likely to occur in a standard menu, which are words that focus on the taste of the food. In the second category, there are words which are more likely to occur in a healthy menu, which are words that focus on the healthiness of the food. In the third category, there are words that occur in both menu types, which are neutral words. For the indulgent frames, some words were chosen from the first category. For the healthy frames, some words were chosen from the second category. Finally, for the neutral frames, some words were chosen from the third category.

The three healthy foods that were advertised are salad, vegetable curry and salmon. The three unhealthy foods that were advertised are pizza, a hamburger and some nachos. An example of an indulgent frame on a salad meal that was used is: “*Sappige salade met krokante falafel, nu beschikbaar op onze menukaart*”, which translates to “Juicy salad with crispy falafel, now available on our menu”. An example of a healthy frame on a salad meal that was used is: “*Koolhydraatarme salade met vezelrijke falafel, nu beschikbaar op onze menukaart*”, which translates to “Low carb salad with high fibre falafel, now available on our menu”. An example of a neutral frame on a salad meal that was used is: “*Rauwkost salade met kikkererwten falafel, nu beschikbaar op onze menukaart*”, which translates to “Coleslaw salad with chickpea falafel, now available on our menu”. The descriptions used in the advertisements per meal were of the same length, regardless of which frame was being used.

### *Subjects*

In total, 191 participants were included in the computing of the results. The demographic variables that were recorded are age, gender, occupational status, current educational level and highest accomplished educational level. The mean age of the participants was 29.51 years ( $SD=14.3$ ), and their ages ranged from 18 to 69 years. 52.4% of the respondents were of female gender ( $n=100$ ) and 47.6% was of male gender ( $n=91$ ). 55.5% of the respondents were students ( $n=106$ ), 40.3% were working ( $n=77$ ) and 4.2% had a different occupational status ( $n=8$ ). The current educational level, as well as the highest accomplished educational level of the respondents, was relatively high. Most of the students are studying a bachelor at a university ( $n=56$ , 29.3%). The range for the current educational level was being a student a secondary school to being a master's student at a university. Most of the respondents who are working or have a different occupational status has earned a bachelor's degree from a university of applied sciences ( $n=35$ , 18.3%). The range for the highest accomplished educational level was preparatory secondary vocational education to a master's degree from a university.

### *Design*

In this experiment, the dependent variables are expected tastiness, purchase intention, persuasiveness and credibility of the advertisement. The independent variables are the frames and types of food. The design in this study was a 2 (healthy food and unhealthy food) x 3 (indulgent, healthy or neutral frame) within-subjects design.

### *Instruments*

To measure the dependent variable of expected tastiness, participants were asked to answer the following statement on a 7-point semantic differential scale: "I find this meal..." with the options: "not tasty at all – extremely tasty" and "not attractive at all – extremely attractive". To measure the dependent variable purchase intention, the participants were asked to answer the following statement on a 7-point semantic differential scale: "I would choose this meal in the restaurant" with the options: "probable – not probable" and "likely – not likely". Additionally, there were two questions after each advertisement where participants could rate the other two dependent variables, persuasiveness and credibility of the advertisements, on a 7-point Likert scale. These were the following questions: "I find this advertisement persuasive" and "I find this advertisement credible". Moreover, they were asked to answer the following statements about their health orientation on a 7-point Likert scale with the options "completely disagree –

completely agree”: “I think a lot about my health”, “I am very self-aware about my health” and “I generally pay attention to my inner feelings about my health”. These were asked because they could greatly affect the results. For example, if one of the participants is on a diet, they may have rated the healthy food as most attractive regardless of its description.

Another question that was asked in the questionnaire is the open question “How long ago was it that you last ate something?”. This was asked because hunger level could also affect the results. This could happen if someone had a meal right before filling in the questionnaire and then rates the meals as less attractive as they do not have the intention of eating anytime soon. The statements “Things that are good for me rarely taste good” and “There is no way to make food healthier without sacrificing taste” were measured using a 7-point Likert scale to find out whether there was an unhealthy is tasty intuition as described by Raghunathan et al. (2006). Finally, the open question “What do you think the purpose of this study was?” was asked to determine whether participants guessed what is being studied. If participants did guess the purpose of the study, they were excluded in the data analysis to improve the validity of the study. This was not the case in this study.

### *Procedure*

The experiment was conducted using an online questionnaire made with Qualtrics. The questionnaire was distributed among Dutch citizens with Dutch as their first language. Cross-cultural differences are beyond the scope of this study. All the advertisements in the questionnaire were in Dutch. There were three versions of the questionnaire. These began with an introduction to the questionnaire, followed by a description of the restaurant “Dinery”. The food-description combinations were distributed across participants in a way that every participant saw one condition, although across all participants all food-description combinations were seen. This means that each participant saw each food once with one type of label. Each advertisement had the same questions below to measure the expected tastiness of the foods, the purchase intention, the persuasiveness and credibility of the advertisement. To answer these questions, the participants had to click on their desired answer on the 7-point Likert scale or a 7-point semantic differential scale. For the open questions, the participants were asked to give their responses in an answer box. The questionnaire ended with a debriefing which thanks the participants for taking part in the study and explains what the purpose of the questionnaire was.

## Results

In this study, the dependent variables are expected tastiness, purchase intention, persuasiveness and credibility. All four of them are interval variables. The effect of each independent variable on the dependent variables was separately analysed using a two-way within-subjects ANOVA. For persuasiveness and credibility, a one-way repeated measures ANOVA was conducted in order to find the effect of label on each food type. When these were significant, a paired-samples t-test was conducted between each label type to follow up the interaction.

To answer the research questions, statistical tests have been conducted using the programme IBM SPSS Statistics 25. Before analysing the results, some of the data for the healthy meal with a neutral label in the second version of the questionnaire had to be recoded. This was because the scale for rating the expected tastiness and purchase intention of the meal was reversed for this advertisement and, as the answers of some respondents were extremely different from what they answered in the previous questions, it can be assumed that they did not notice. For the respondents that did not notice the reversion of the scales, their answers were recoded to ensure that the data is correct.

To answer the first research question: *To what extent does indulgence framing on advertisements on Instagram affect consumers' purchase intention towards healthy and unhealthy food?* a repeated measures analysis for purchase intention with food type as within-subjects factor and label as within-subjects factor was conducted. There was no effect of food type ( $F(1, 190) = 3.87, p = .051$ ) and no effect of label ( $F(2, 380) = 2.87, p = .058$ ). There was no interaction between food type and label ( $F(2, 380) = .45, p = .640$ ). Although the difference did not reach significance, numerically unhealthy meals ( $M = 4.19, SD = 1.83$ ) had a higher purchase intention than healthy meals ( $M = 4.20, SD = 1.83$ ), as demonstrated in Table 1.

Table 1. Descriptive statistics for purchase intention

	Healthy label	Neutral label	Indulgent label
	M (SD)	M (SD)	M (SD)
Healthy meal	4.31 (1.82)	3.99 (1.85)	4.28 (1.83)
Unhealthy meal	4.45 (1.71)	4.35 (1.76)	4.56 (1.73)

A repeated measures ANOVA was conducted to answer the second research question: *To what extent does indulgence labelling for healthy and unhealthy food advertisements on Instagram have an effect on the expected tastiness of the food?* A repeated measures analysis

for tastiness with food type as within-subjects factor and label as within-subjects factor showed a significant main effect food type ( $F(1, 190) = 5.22, p = .023$ ) and no effect of label ( $F(2, 380) = 2.70, p = .068$ ). There was no interaction between food type and label ( $F(2, 380) = 2.09, p = .125$ ). As demonstrated in Table 2, unhealthy meals ( $M = 5.08, SD = 1.45$ ), were shown to have a higher expected tastiness than healthy meals ( $M = 4.86, SD = 1.48$ )

Table 2. Descriptive statistics for expected tastiness

	Healthy label	Neutral label	Indulgent label
	M (SD)	M (SD)	M (SD)
Healthy meal	5.00 (1.46)	4.66 (1.52)	4.92 (1.47)
Unhealthy meal	5.02 (1.48)	5.05 (1.46)	5.18 (1.40)

A repeated measures analysis for persuasiveness with food type as within-subjects factor and label as within-subjects factor showed a significant main effect food type ( $F(1, 190) = 5.64, p = .019$ ) and no effect of label ( $F(2, 380) = 2.89, p = .057$ ). These main effects were qualified by a significant interaction effect between food type and label ( $F(2, 380) = 3.28, p = .039$ ). As demonstrated in table 3, advertisements for healthy meals ( $M = 5.04, SD = 1.35$ ) were shown to have been more persuasive than advertisements for unhealthy meals ( $M = 4.84, SD = 1.52$ ). Advertisements for unhealthy meals with a healthy label were shown to be the least persuasive ( $M = 4.62, SD = 1.63$ ).

To follow up the significant interaction, a repeated measures analysis for the persuasiveness of advertisements of healthy meals with label type as a within-subjects factor showed no effect of label type on healthy meals ( $F(2, 380) = 1.18, p = .308$ ). A repeated measures analysis for the persuasiveness of advertisements of unhealthy meals with label type as a within-subjects factor showed a significant effect of label type on unhealthy meals ( $F(2, 380) = 4.29, p = .014$ ).

A paired samples t-test for the persuasiveness of advertisements of unhealthy meals showed no difference between healthy label and neutral label ( $t(190) = 1.71, p = .089$ ), a significant difference between healthy label and indulgent label ( $t(190) = 2.74, p = .007$ ) and no difference between neutral label and indulgent label ( $t(190) = 1.32, p = .189$ ). As demonstrated in Table 3, advertisements with an indulgent label ( $M = 5.04, SD = 1.51$ ) were shown to be more persuasive than advertisements with a healthy label ( $M = 4.62, SD = 1.63$ ).

Table 3. Descriptive statistics for persuasiveness

	Healthy label	Neutral label	Indulgent label
	M (SD)	M (SD)	M (SD)
Healthy meal	5.08 (1.29)	4.97 (1.39)	5.08 (1.38)
Unhealthy meal	4.62 (1.63)	4.86 (1.51)	5.04 (1.42)

A repeated measures analysis for credibility with food type as within-subjects factor and label as within-subjects factor showed a significant main effect food type ( $F(1, 190) = 46.58, p < .001$ ) and no effect of label ( $F(2, 380) = 2.56, p = .078$ ). These main effects were qualified by a significant interaction effect between food type and label ( $F(2, 380) = 6.29, p = .002$ ). As demonstrated in Table 4, advertisements of healthy meals with a healthy label ( $M = 5.31, SD = 1.18$ ), neutral label ( $M = 5.14, SD = 1.25$ ) or indulgent label ( $M = 5.25, SD = 1.33$ ) were shown to have been more credible than advertisements of unhealthy meals with a healthy label ( $M = 4.44, SD = 1.68$ ), neutral label ( $M = 4.92, SD = 1.49$ ) or indulgent label ( $M = 4.91, SD = 1.58$ ).

To follow up the significant interaction, a repeated measures analysis for the credibility of advertisements of healthy meals with label type as a within-subjects factor showed no effect of label type on healthy meals ( $F(2, 380) = .48, p = .619$ ). A repeated measures analysis for the credibility of advertisements of unhealthy meals with label type as a within-subjects factor showed a significant effect of label type on unhealthy meals ( $F(2, 380) = 6.17, p = .002$ ).

A paired samples t-test for the credibility of advertisements of unhealthy meals showed a significant difference between healthy label and neutral label ( $t(190) = 3.28, p = .001$ ), a significant difference between healthy label and indulgent label ( $t(190) = 2.71, p = .007$ ) and no difference between neutral label and indulgent label ( $t(190) = .07, p = .943$ ). As demonstrated in Table 4, advertisements with a healthy label ( $M = 4.44, SD = 1.68$ ) were shown to be less credible than advertisements with a neutral label ( $M = 4.92, SD = 1.49$ ) or indulgent label ( $M = 4.91, SD = 1.58$ ).

Table 4. Descriptive statistics for credibility

	Healthy label	Neutral label	Indulgent label
	M (SD)	M (SD)	M (SD)
Healthy meal	5.31 (1.18)	5.14 (1.25)	5.25 (1.33)
Unhealthy meal	4.44 (1.68)	4.92 (1.49)	4.91 (1.58)

## Conclusion

The aim of this study was to find out how healthy, neutral and indulgent meal descriptions influence consumer's purchase intention and expected tastiness of the meals, as well as how the different descriptions influence the persuasiveness and credibility of the advertisements of the meals towards the consumer.

The type of label used in both healthy and unhealthy meals had no effect on the respondent's purchase intention of the meals. This means that the respondents did not differ in their purchase intention towards healthy and unhealthy meals with a healthy label, neutral label or indulgent label. Furthermore, the respondents did not differ in their purchase intention towards healthy meals and unhealthy meals. Therefore, contrary to predictions, the respondents did not want to buy healthy and unhealthy food with an indulgent label more often than healthy or unhealthy food with a healthy or neutral label.

It was confirmed that the type of food influenced expected tastiness of healthy and unhealthy meals. Respondents expected unhealthy meals to taste better than healthy meals. However, this was not caused by the type of label used in the advertisements. This study showed no effect of label type on respondent's expected tastiness of healthy and unhealthy meals. In other words, the respondents did not differ in their expected tastiness towards healthy and unhealthy meals with a healthy label, neutral label or indulgent label. Thus, in contrast to predictions, healthy and unhealthy food with an indulgent label were not seen as tastier than with a neutral or healthy label.

The study showed that the type of food influenced the perceived persuasiveness of the advertisements of both healthy and unhealthy meals. Advertisements for healthy meals were seen as more persuasive by the respondents than advertisements of unhealthy meals. Further testing confirmed that the label type does not influence the persuasiveness of healthy meals, whereas the label type does influence the persuasiveness of unhealthy meals. For unhealthy meals, there was a significant difference in the persuasiveness between meals with a healthy label and meals with an indulgent label. Advertisements for unhealthy meals with an indulgent label were seen as more persuasive than advertisements for unhealthy meals with a healthy label.

Another conclusion that can be drawn from this study is that food type affects the credibility of healthy and unhealthy advertisements. Advertisements of healthy meals were seen as more credible by the respondents, regardless of which label was being used. Further testing demonstrated that the type of label significantly affects the credibility of unhealthy

meals. However, the type of label does not affect the credibility of healthy meals. There is a significant difference between the credibility of advertisements for unhealthy meals with a healthy and a neutral label, as well as a significant difference between advertisements for unhealthy meals with a healthy and indulgent label. Advertisements for unhealthy meals with healthy labels were seen as less credible than advertisements for unhealthy meals with neutral or indulgent labels.



## Discussion

The ultimate goal of this study was to find out whether using indulgent labels for healthy meal advertisements on Instagram would increase the purchase intention towards the meals and their expected tastiness, to, in the end, help reduce the number of people suffering from obesity in the Netherlands. The results, however, do not realise this goal. This study did not find a significant effect of label type on the respondents' purchase intention of both healthy and unhealthy meals or the expected tastiness of these meals. Nevertheless, previous studies have concluded that indulgent labels for healthy meals do make them more attractive towards the consumer (Turnwald et al., (2017a), Turnwald et al., (2017b), Turnwald and Crum, (2019)). These studies were mostly in canteen or restaurant settings, and not in social media settings like the research conducted in this study. This may suggest that using indulgent labels for healthy meal advertisements on social media, more specifically Instagram, may not make the meals more attractive as they do in a restaurant or a canteen. A reason for this may be that in a canteen or restaurant setting, the consumers are presumably hungry, and they intend to consume a meal, whereas when being shown an advertisement of food on Instagram that intention may not be present. The consumer might not think about consuming food before seeing the advertisement when they are on Instagram, but they do when they are in a canteen or restaurant.

When food in a canteen or restaurant is described with indulgent language use and the consumer is already thinking about the food before seeing the description, the effect of the grounded cognition theory of desire by Papies et al. (2019), which suggests that indulgent language use increases desire for the food as it makes consumers think about consuming it, will likely be stronger. This implies that because they were probably hungry and thinking about food before, the consumers may find the indulgently described food more attractive in a restaurant or canteen than if they were looking at an advertisement of food with an indulgent description on Instagram. This may be a reason why indulgent labelling for meals in a canteen or restaurant may make the meals more attractive but not on Instagram. Nonetheless, not having found a significant effect of label type for both healthy and unhealthy meals on purchase intention and expected tastiness in this study, may still be useful for advertisers on Instagram to take into account when learning the best manner in which to advertise their meals.

A possible reason why different results were found compared to previous studies may be due to cultural differences. Advertising healthy meals on Instagram with indulgent labels may increase their attractiveness in other countries and cultures, such as the USA where the

existing studies took place (Turnwald et al., (2017a), Turnwald et al., (2017b), Turnwald and Crum, (2019)). According to Hofstede's cultural dimensions, the USA is highly masculine while the Netherlands is highly feminine ("Hofstede Insights", n.d.). Consumers from masculine cultures are more easily convinced by advertisements than consumers from feminine cultures (Christiansen, Yıldız & Yıldız, 2014). Due to this, consumers from the USA are more likely to be convinced by advertisements for meals with indulgent labels. This may be the reason why the previous studies measured significant effects between language use and food type and this study did not.

Although this research found other results than expected, it can still provide several valuable insights to advertisers in the food industry. The advertisements of unhealthy meals with an indulgent label were seen as significantly more persuasive than advertisements for unhealthy meals with a healthy label. Furthermore, this study confirmed that advertisements for unhealthy meals with a neutral label were seen as the most credible. These insights may be useful for advertisers of unhealthy meals to know in order to produce either credible or persuasive advertisements.

This research is subjected to some limitations providing opportunities for future research. First, personal taste may have affected the results. This could be the case if, for example, someone dislikes salad, they may rate it low on purchase intention and tastiness regardless of which label is being used in the advertisement. If this were the case, the person did not rate the salad low because of its description, but because of already knowing beforehand that they do not find it appetising. This may greatly affect the results as disliking a specific meal is very common. This could have been avoided when a question was to be asked at the beginning of the survey asking the participants about their personal tastes. For instance, the question could ask them to state meals they do not enjoy eating at all. If a respondent then answers a meal which was in the survey, their answers for that particular meal could be disregarded in the analysis of the results. This would lead to more accurate findings of the effect of label type on the attractiveness of the meal. Therefore, future research may benefit from determining whether respondents do not enjoy consuming certain meals in order to improve the validity of the study.

The second limitation refers to the environment of the study. Whilst the advertisements in this study were seen as credible, and hence the manipulation was successful, the use of images of fictive Instagram advertisements may have prevented the participant's immersion into the original Instagram environment. The use of a survey to assess consumers' attitudes

towards advertisements on Instagram might not be the most realistic environment. When consumers are normally exposed to advertisements on Instagram, they appear amongst the images of accounts they follow. Consequently, a limitation of this study could be that, notwithstanding that the advertisements were made to look exactly like Instagram posts, the setting of a survey may have affected the results of this study. Reason for this is that the respondents were prepared to answer questions directly after the advertisement, which is not the case in advertising on Instagram. It is therefore recommended that future research investigates the effectiveness of the use of healthy, neutral and indulgent labels in an original responsive Instagram environment. In such an environment, participants are able to interact with the advertisements by 'liking' or leaving a comment on the advertiser's post and visit their account. As a result, the conclusions of the study can be generalised to the realistic Instagram setting where users can participate in the interactive Instagram experience.

Finally, a limitation to this study could be that the respondents focused more on the image of the meal than on the description of it. If this were the case, it is a possible reason why there was no significant effect of label type on purchase intention or expected tastiness. This may be attributed to the fact that Instagram is a predominantly visual media. The phrase "a picture says more than a thousand words" may, in this specific case, have led to the text underneath the picture having only very little influence the perception of the attractiveness of the portrayed meal. A manner in which this could be avoided could be to instead of adding the description of the meal underneath the picture, to add the description on the image itself with a larger font size and, therefore, increase the dominance of the description. Hence, future research may benefit from enlarging the impact of the description in the Instagram post by adding the text to the image instead of placing it underneath.

Altogether, judging from the results of this research, it can be said that the ultimate goal of this study, learning how to make healthy meal advertisements on Instagram more attractive, has not been reached. It does, however, provide the information to advertisers on Instagram that, in the Netherlands, for healthy meals, there is no difference in label usage. Additionally, it may help advertisers of unhealthy meals make their advertisements more persuasive and credible. In other words, while the present study did not produce the findings it predicted, different results were presented than existing studies which may be helpful for a distinct type of advertiser, namely advertisers of unhealthy food.

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## Appendix A: Materials





