The Indulgent Taste of Health:

Can label use and language choice

help consumers to make healthier food choices?

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Abstract

Within the large food industry, businesses need to find ways to persuade consumers to choose their product over other available options. Furthermore, finding an efficient way to persuade the consumers might help tackle the great public health threats of obesity. Food labels seem to influence the health and tastiness perception and in doing so potentially trigger purchase reactions. On top of deciding which kind of labelling to use (e.g. indulgent, healthy or neutral), the food industry also faces the challenge of using the countries native language (e.g. Dutch) or opting for a single language approach (e.g. English). A single language approach helps reduce translation and production costs. The present study used five healthy foods with six different advertisements per stimuli based upon the two independent variables: label use and language choice. The present study, including 196 Dutch respondents, did not find evidence for a direct effect on (future) purchase intention through the use of language or labelling. This is contradicting to previous studies which have found a positive effect of the use of indulgent labelling and native language. This difference could have occurred due to the lack of spontaneous action required within the present study and the relatively high English proficiency of the respondents. The advertisement labels did influence the tastiness perception of the foods. In the indulgent condition, the role of tastiness perception on purchase intention was far greater than the role of tastiness perception on the neutral condition, but only slightly greater than the role on the healthy condition. The only significant result that was found amongst language use was that the respondents in the English condition evaluated the foods healthier than the respondents in the Dutch condition. This could have occurred due to the primed Anglophone cultural values and/or the ease of comprehension of the labels.

Introduction

"To eat means to have pleasant (and sometimes unpleasant) sensations, to experience special emotions, and to socialise with table companions. Food is a source of energy and memory, identity and encounter, relations with the earth and nature, a symbol of social status."

The above quote from Corvo (2015, p. 1-2) shows the great importance that food holds in our society. With such a prominent position in our day-to-day lives, it is no wonder that the food industry is the largest industry within the Netherlands with a total revenue of 70.5 million euros in 2017 (Wageningen University & Research, 2019).

Within such a big market it may be difficult for companies to separate themselves from the competition. Thus, it is essential for them to find ways to persuade the consumer to choose their product over the other available options. Furthermore, finding an efficient way to persuade the consumers might help tackle one of the most serious public health threats of this century: obesity (Branca, Nikogosian, & Lobstein, 2007). Obesity increases the possibility of different types of heart diseases, hypertensive diseases, strokes, cancers and osteoarthritis. On top of that it also has a negative effect on psychological health and personal quality of life (Noordam, Halberstadt, & Seidell, 2016). If consumers can be influenced into making healthier choices, the threat of obesity might decrease.

Health promotion strategies are being developed in order to achieve this goal. Nudging is one strategy that is frequently used. Thaler and Sustein (2008, p. 6) were the first to introduce the concept of nudging and defined it as: "any aspect of the choice architecture that alters people's behaviour in a predictable way, without forbidding any options or significantly changing their economic incentives. Putting fruit at eye level counts as a nudge; banning junk food does not". This is an important strategy within food marketing. Forbidding options is often considered unethical when it comes to eating habits. Additionally, economic incentives usually mean sacrificing a part of the profit and thus are uninteresting from the company's perspective. Besides sacrificing profit when introducing an economic incentive, an equivalent effect size was found for nudging strategies as for a 10% price cut strategy on healthy foods (Afshin et al., 2017; Cadario & Chandon, 2019). This means that nudging could lead to similar purchase increases as a 10% price cut, without having to decrease profit.

In a meta-analysis regarding the effectiveness of healthy eating nudges, affectively orientated interventions, such as healthy eating calls and hedonic enhancements, were found very effective (Cadario & Chandon, 2019). These kinds of interventions are thought to influence how consumers feel without necessarily changing what they know. This approach is successful as it seeks to alter people's eating goals, which are inherently based on affect (Corvo, 2015; Shiv & Fedorikhin, 1999). Healthy eating calls are interventions directly encouraging people to make better food choices (e.g. "Make a fresh choice"). Hedonic enhancement is described as an intervention which uses vivid descriptions to increase the hedonic appeal (e.g., "twisted citrus-glazed carrots") (Cadario & Chandon, 2019). Hedonic enhancements were found especially effective in encouraging healthy food choices. Creating vivid descriptions could be a relatively simple and low-cost nudge towards the selection of healthy food (Greene, Gabrielyan, Just, & Wansink, 2017; Hanks, Just, & Wansink, 2013).

The response of customers to different kinds of nudges were tested at an outdoor community pool (Olstad, Goonewardene, McCargar, & Raine, 2014). First, the signage of healthy food items was made more appealing for children (e.g. *Wonderful waterberry slushie*) increased sales by 4.2%, however, these results were not significant. Secondly, customers were allowed to taste the healthy foods and a price reduction was operationalised. Even though these interventions performed significantly better overall (43.9% and 43.3% respectively), the nudge including only signage (44.7%) performed better than all nudges combined (40.5%) amongst non-overweight customers. Remarkably, the reverse was found with overweight customers where all nudges combined increased purchase of healthy foods by 50.8% and solely the adjustment of signage for 27.5%. This study seems to indicate that customers with an overall greater concern for healthy eating are more easily influenced by affective nudging strategies. However, this study used playful hedonic language with no descriptive value. Potentially, greater overall effects could be found when language is used to describe the products' healthiness, taste or eating experience.

Hedonic features, such as taste and pleasure of eating are important factors in the decision-making process (Papies, 2013). Different kinds of foods can hold different feature associations in consumers' minds. As was found by Papies (2013), respondents listed significantly more tempting words for attractive, but unhealthy foods than for healthy foods. Tempting words are words that activate simulations of eating the food (e.g. taste and texture), eating situations, and of hedonic enjoyment. In return, significantly more visual features (e.g. colour and form) and non-eating situation features (e.g. production and purchase location) were mentioned for the healthy food options than for the unhealthy food options. This indicates that unhealthy foods trigger features activating simulation, whereas healthy foods are associated with their visual characteristics and non-eating features.

Reading food words activate gustatory and reward areas in the brain similarly to as if the consumers were actually eating and enjoying food (Barrós-Loscertales, et al., 2012). The grounded cognition theory of desire explains how internal or external cues to previous experiences with certain products can activate simulations of consuming and enjoying the respective product (Papies, Best, Gelibter, & Barsalou, 2017). This activation is thought to trigger spontaneous, goal-directed actions towards consumption, such as purchasing the product (Papies, Barsalou, & Custer, 2012; Papies, 2013; Veling, Aarts, & Stroebe, 2012). The food industry plays into this potential by labelling tempting, unhealthy foods with indulgent language (Turnwald, Jurafsky, Conner, & Crum, 2017). Remarkably, the food

industry takes another language approach to promote healthy foods. They have responded to the increasing rates of obesity by using health-focused labels (Turnwald et al., 2017).

The difference in label use may make consumers believe that the healthy options are not as tasty as the standard, less healthy, options and thus may lead them to choose the standard option (Irmak, Vallen, & Robinson, 2011; Raghunathan, Naylor, & Hoyer, 2006; Yeomans & Hovard, 2015). Label use seem to directly influence health and tastiness perception. For example, labelling a smoothie using indulgent language (*So Smooth! The Indulgent Choice!*) resulted in a significantly more indulgent, but less healthy evaluation than the healthy labelled (*So Light!, The Healthy Choice!*) and the not labelled smoothie (Yeomans & Hovard, 2015). Remarkably, the healthy labelled smoothie was rated healthier compared to the smoothie without a label, but it did not differ to the health rating of the indulgent labelling. This indicates that the benefit of using indulgent labelling exceed the benefit of healthy labelling. Additionally, this advantage continued even after respondents were asked to taste the smoothies. Even though the same smoothie was used for all three conditions, the indulgently labelled group still rated the beverage as significantly more indulgent than the healthy group. This shows that impressions created through labelling can have a persistent effect on the tastiness perception, regardless of the actual taste of the product

As reviewed above, indulgent foods or the perception of indulgence seem to have many benefits: they attract attention, activate reward-processing areas in the brain, and can trigger purchase reactions (Papies, 2013). The question is whether these reactions to tempting foods could be transferred to healthy foods as well. The answer to this seems to be yes. Labelling vegetables indulgently (e.g. *Twisted garlic-ginger butternut squash wedges*) increased the selection of consumers by 25% over neutral labelling (e.g. *Butternut squash*), 35% over healthy positive labelling (e.g. *Antioxidant-rich butternut squash*), and 41% over healthy restrictive labelling (e.g. *Butternut squash with no added sugar*) (Turnwald et al., 2017). Another study confirms that taste-focused labelling increased choice of healthy foods over health-focused labelling and additionally found that taste-focused labelling enhanced the post-consumption ratings of deliciousness and mindsets about the deliciousness of healthy foods (Turnwald & Crum, 2019).This again seems to indicate that labelling could have a persistent effect upon tastiness perceptions.

The persistent effect of labels is especially important within the advertising context as effects of an advertisement are generally found to decay over time (Schmidt & Eisend, 2015). As of yet, the effect of label use has only been tested in actual canteen or food purchase situations (Olstad et al., 2014; Turnwald et al., 2017; Turnwald & Crum, 2019; Yeomans &

Hovard, 2015). Advertisements, however, face the additional challenge of the time between exposure to the labelling and purchase situations. The gap between exposure and purchase might be extra challenging in the food choices context. People have a natural desire to maintain a positive self-concept (Steele, 1988). Part of this positive self-concept is the ability to make healthy choices. As explained, tempting words are thought to unconsciously trigger gustatory and reward areas in the brain (Barrós-Loscertales, et al., 2012; Papies et al., 2012; Papies, 2013; Veling et al., 2012). The unconscious trigger created by indulgent language threatens the ability to make healthy choices and the consumer could attempt to restore self-integrity by dismissing, denying or avoiding the threatening information. The difference between the triggered reward behaviour and the health-conscious intensions is called the intention-behaviour gap (Papies, 2017). The most efficient way to decrease this gap is to decrease time between exposure and behaviour. However, this is usually not within the power of the marketer. Thus, the present study intends to investigate whether the previously found effects of indulgent label use are great and prolonged enough to also be efficient in the advertising context.

On top of deciding which kind of labelling to use (e.g. indulgent, healthy or neutral), the food industry also faces the challenge of which language to use. The choice is often between the native language of the country where the product is sold or English as this is the most globally accepted language (Ahn & Ferle, 2008). The use of foreign languages in advertisements is a growing trend and this is due to the increasing number of global brands. Opting for a single language approach, and thus English, provides the benefit of not having to translate all the promotional material or have a separate production line for the packaging for each country. It could even help the company to position themselves as global, exclusive, cosmopolitan, prestige, and professional (Krishna & Ahluwalia, 2008).

Other than influencing the perception of the company, linguistic relativism, or the Saphir-Whorf hypothesis, states that language might influence the way we think (Akkermans, Harzing, & van Witteloostuijn, 2010). Priming is an exposure strategy that builds upon linguistic relativism. It employs cultural icons to trigger behaviour adherend to the primed cultural norms and values (Oyserman, Coon, & Kemmelmeier, 2002). Among bilinguals, language can be used as such a cultural icon (Bond & Yang, 1982; Kemmelmeier & Cheng, 2004; Ralston, Cunniff, & Gustafson, 1995; Trafimow, Silverman, Fan, & Law, 1997). Using foreign language in advertisement, could thus result in individuals thinking and behaving according to the cultural norms and values of the corresponding country. Anglophone cultures generally show high values for masculinity and assertiveness (Akkermans et al., 2010;

Hofstede, 2019). Both, masculinity and assertiveness were found to be positively related to making healthy food choices (First & Brozina, 2009; Sun, Horn, & Merritt, 2009). Maintaining their own well-being was found to be a strong motivator in regard to food choices for individuals from high masculinity and assertiveness cultures. This means that using English could potentially nudge consumers into making healthy food choices as this reflects the masculine and assertive Anglophone culture.

A disadvantage to using the second language (L2) of the consumers in advertisement is that the processing of a message in L2 is likely not as strong at the conceptual level as it would be in the consumers' native language (L1). This inconsistency is often explained through the revised hierarchical model (RHM). The RHM explains how individuals store native and foreign languages in memory (Dufour & Kroll, 1995). It builds upon the idea that a bilingual's memory is represented in two levels: the lexical and the conceptual level. Within the lexical level, all words are stored separately for each language. For the conceptual level, these words are connected to a shared semantic representation. The model explains that the link between L1 words and the conceptual meaning is stronger than the link between L2 words and the conceptual level. This is because when individuals first start learning words in the L2, they refer to the L1 translation to gain meaning. This means that an additional step is required for sensemaking than would be for L1 words, which can directly be linked to the conceptual level. As language learners become more proficient, the ability to directly link the L2 word to the conceptual meaning grows. However, it was found that even for more fluent bilinguals, the L1 remains superior in semantic processing over the L2 (Dufour & Kroll, 1995).

The RHM is often referred to when explaining failure of L2 advertisements (Ahn & Ferle, 2008; Luna & Peracchio, 2001). However, besides the potential that lies within language priming, using L2 can also have benefits as it might help to attract attention due to uniqueness and novelty. Recall and recognition of ads can be superior in ads with a L2 brand name than with a L1 brand name (Ahn & Ferle, 2008). However, brand copy messages contain important product attributes, such as health or indulgent labels. The processing of this requires a deeper conceptual link and thus recall should appear superior in L1 (Ahn & Ferle, 2008). Brand copy in L2 could be too challenging, which might lead to miscomprehension or disengagement from the message altogether (Ahn & Ferle, 2008; Gerritsen, Korzilius, Van Meurs, & Gijsbers, 2000).

Research suggests that perceived difficulty plays a role within the overall ad evaluation. This was supported in an experiment by Hornikx, van Meurs, and de Boer (2010),

in which Dutch participants appreciated car ads with easy-to-understand English slogans more than the Dutch equivalent. When the slogans were difficult, the English slogan was appreciated equally to the Dutch equivalent. The preference for English could be explained due to cars being a luxury good. The use of L2 works better for luxury goods than for necessities as it displays sophistication (Krishna & Ahluwalia, 2008). For necessities, L1 is preferred as it triggered a familial feeling on which many necessity goods purchase decisions are based.

The importance of familial feelings in necessity purchase decisions was established in India, which is known to hold great value to familial feelings (Krishna & Ahluwalia, 2008). However, other experiments conducted in more individualistic countries, such as the Netherlands and Belgium also showed that textual information expressed in consumers' native language tends to be perceived as more emotional than those in their second language (Hofstede, 2019; Puntoni, de Langhe, & van Osselaer, 2009). These studies explain that this is likely due to exposure frequency. Concepts frequently encountered in L1 are experienced more emotional in L1, and the effect is reversed for concepts encountered predominantly in L2. This could mean that the effectiveness of indulgent language is compromised when displayed in L2. Indulgent language is sensing orientated, such as simulations of eating the food, eating situations, and of hedonic enjoyment. These feelings might get lost in translation as there are most likely fewer simulations encountered in L2 than in L1 (Papies, 2013).

The grounded cognition theory of desire by Papies et al. (2017) argues that desires arise when a simulation of an earlier pleasant appetitive experience is triggered by either an internal or external cue. This simulation is stored as a situated conceptualization and thus requires a higher level of processing to reach. As explained by the RHM, it is easier to reach the conceptual level with L1 words (Dufour & Kroll, 1995). Therefore, it can be expected that advertisements including cues in the receivers' native language are more direct triggers for desire than advertisements in the receivers' second language which might solely get processed at the lexical level.

Within the food industry, the choice of language is specifically relevant as most products are produced by multinationals (Econexus, 2013). They would profit greatly from using a single language approach. Thus, the study intends to investigate how the choice of language (L1 or L2) could increase or decrease the effect of label use (Indulgent, neutral, and healthy) within healthy food advertisements. To do this, the following research question was formulated: *To what extent does language choice and labelling language in healthy food advertisements affect purchase intentions?*

Based on the previously mentioned studies it can be expected that label use (indulgent, neutral, or healthy) influences the health and tastiness perception. Overall, the benefit of using indulgent labelling on tastiness perception was found to be stronger than the impact of healthy labelling on the health perception (Yeomans & Hovard, 2015). This leads to the prediction that indulgent language generates greater purchase intentions of the healthy foods than healthy labels (Barrós-Loscertales, et al., 2012; Papies, 2013; Turnwald et al., 2017; Turnwald & Crum, 2019). However, the effect of label use has not yet been studied within an advertisement context. Advertisements could have a decreasing effect on the triggering effect of label use upon spontaneous, goal-directed behaviour as time between exposure and actual purchase is increased (Papies, 2017; Schmidt & Eisend, 2015). This could lead to correcting behaviour in order to protect the positive self-concepts' ability to make healthy food choices (Steele, 1988). The present study intends to discover whether the previously found positive effects of labelling are extended to advertisements as well or if the time in between exposure and decision making is too great to benefit from the intention-behaviour gap.

According to the revised hierarchical model and the theory of desire, simulations that are triggered by indulgent language and lead to purchase behaviour are stored at a conceptual level and thus require deeper processing to be reached (Papies et al., 2017; Puntoni et al., 2009). Deeper processing is easier achieved in someone's L1 and thus it can be expected that the effect of label use is even stronger when the advertisement uses L1 instead of L2 (Ahn & Ferle, 2008; Dufour & Kroll, 1995). However, food advertisements do seem to benefit optimally from the positive biases of L2 use, as the copy messages are often of low difficulty and promotional content often includes visuals to aid processing (Ahn & Ferle, 2008; Hornikx et al., 2010; Luna & Peracchio, 2001). Additionally, language priming offers the potential to transfer the Anglophone values of masculinity and assertiveness to the receiver. (Oyserman et al., 2002). Both masculinity and assertiveness have been tied to making health-conscious decisions (Akkermans et al., 2010; Hofstede, 2019; Oyserman et al., 2002). This could potentially lead to a more positive attitude towards the healthy labels than might occur in the L1 sample. This study will assess whether easy to understand food advertisements and English language priming can help Dutch consumers overcome the RHM disadvantages that come with the L2 advertising.

Methodology

Material

Five healthy foods were used as stimuli. Four of the foods in the advertisements were based on a study by Turnwald and Crum (2019) in which they tested the difference on healthy food selection and experienced taste with healthy and indulgent language use. The advertised foods that were taken from this study were wraps, salads, vegetables with miso dipping sauce, and green beans. Additionally, an advertisement for smoothies was added based on the previously mentioned study of Yeomans and Hovard (2015). Six different food advertisements per stimuli were designed based upon the two independent variables: label use and language choice. For label use there were three levels, namely healthy, indulgent, and neutral. Each of these versions were created in English (L2) and Dutch (L1).

It was important to find labels which could be translate into Dutch without changing the meaning. This is why the labels used by Turnwald and Crum (2019) were slightly adjusted (see Table 1 and Table 2). With the adjustment, achieving an equal word count in each condition was aimed for. However, compound words are frequently used in Dutch. In order to ensure an equal sentence meaning in English and Dutch, compound words were counted as two words. The advertisements can be found in Appendix A. Brand names and logos were added to make them look more realistic. The brand names and logos were created solely for this study. This way the respondents could not have any prior experience or associations to these brands.

Table 1. English language labels for the five different product stimuli

	Indulgent	Neutral	Healthy
Wraps	Tasty Grilled Vegetable Wrap	Richly Filled Vegetable Wrap	Vitamin-Rich Vegetable Wrap
Salad	Indulgent Deluxe Salad	Green Dinner Salad	Light & Fresh Salad
Mixed vegetables	Crispy veggie straws with decadent miso dip	Mixed vegetables with traditional miso dipping	Fiber-packed vegetables with nutritious miso sauce
Green Beans	Delicious Sweet Green Beans and Shallots	French-cut green Beans and Shallots	Low Carb Green Beans and Shallots

Smoothies	So Creamy! The Indulgent Smoothie!	So simple! The vanilla smoothie!	So Nutritious! The Healthy Smoothie!

Table 2. Dutch language labels for the five different product stimuli

	Indulgent	Neutral	Healthy
Wraps	Smakelijke Gegrilde Groentewrap	Rijkgevulde Groentewrap	Vitamine Rijke Groentewrap
Salad	Heerlijke Deluxe Salade	Groene maaltijdsalade	Lichte & Verse Salade
Mixed vegetables	Krokante snackgroente met decadente misodip	Gemengde groenten met traditionele miso dip	Vezelverpakte groenten met voedzame misosaus
Green Beans	Heerlijke zoete sperziebonen en sjalotten	Frans gesneden sperziebonen en sjalotten	Lage koolhydraten sperziebonen en sjalotten
Smoothies	Zo romig! De heerlijke smoothie!	Zo simpel! De vanille smoothie!	Zo voedzaam! De gezonde smoothie!

Subjects

Main study. The participants of the study had to be Dutch and above 18 years old, other than that there were no restrictions for: age, gender, education level, or profession. In total there were 201 respondents in the study. However, five respondents were removed as they reported a Dutch proficiency below average on at least one of the three measures. The age of the remaining 196 respondents ranged between 19 and 64 (M = 29.63, SD = 12.07). The respondents were 37.2% male and 62.8% female. The education of the respondents was divided as following: 12.9% MBO, 43.1% HBO, and 41.1% WO. The Dutch proficiency of the respondents ranged between 3.67 and 7 (M = 6.55, SD = 0.76) and their English proficiency ranged between 2.67 and 7 (M = 5.73, SD = 1.10). The personal health concern of the respondents ranged between 1.60 and 6.60 (M = 4.56, SD = 0.98). The age and language proficiency variables can be found in table 7 in Appendix B.

Separate Chi-Square tests to validate equal distribution of the participants in the conditions showed no significant differences for gender (χ^2 (5) = 2.24, p = .815) and education (χ^2 (10) = 5.38, p = .864). Additionally, separate one-way ANOVAs with condition

as factor showed no significant differences on age (F (5) = 1.46, p = .207), Dutch proficiency (F (5, 190) < 1), and English proficiency (F (5, 190) < 1).

Follow up study. Of the 196 respondents in the main study, 22 respondents participated in the follow up study. This sample size is too narrow to draw meaningful conclusions as the 30 respondents bottom-line for the Central Limit Theorem was not achieved. The Central Limit Theorem states that sampling distribution of means approach a normal distribution as the sample size gets larger, disregarding the shape of the actual population distribution (Lindeberg-Levy as referred to by Bell, 2015). The results from the follow up study will thus only be used as an indication for potential results.

The age of the respondents in the follow up study ranged between 21 and 64 (M = 32.45, SD = 14.26). The respondents were 22.7% male and 77.3% female, and their degree level was divided as following: 18.2% MBO, 45.5% HBO, and 36.4% WO. The Dutch proficiency ranged between 5.67 and 7 (M = 6.80, SD = 0.33) and the English proficiency between 3 and 7 (M = 5.80, SD = 1.25). The personal health ranged between 2.80 and 6.40 (M = 4.55, SD = 1.12).

Design

The study had a 2x3 between-subjects design. This means that one respondent was only exposed to one condition of the independent variables (Healthy English, Healthy Dutch, Indulgent English, Indulgent Dutch, Neutral English, and Neutral Dutch). Within this condition they saw all five advertisements. This approach was chosen to prevent the respondents from identifying the purpose of the study. If a within-subjects design was applied, the purpose of the study could be discovered by the respondents. The advertisements were displayed in a random order so that the order differed for each participant.

The main dependent variable of the present study is purchase intension, both future and direct. It was found that food selection displays similar results to actual consumption when measured (Cadario & Chandon, 2019). Thus, purchase intention should be a reliable indicator to estimate effectiveness on healthy food consumption increase. The effect of language and label use on purchase intention is expected to be moderated by perceived tastiness and health. Tastiness and healthiness perception were found to be influenced by the product labelling and has been seen to affect the purchase intention in several, previously discussed, studies (Papies, 2013; Turnwald & Crum, 2019; Yeomans & Hovard, 2015).

Personal health concern was measured as a background variable. It can be expected that health conscious people are more interested in health labels than people for which health is not an important consideration in decision making (Olstad et al., 2014; Sinclair, Cooper, &

Mansfield, 2014). Additionally, advertisement evaluation was also measured as a background variable. The consumers' liking or disliking of an advertisement can influence the buying behaviour (Rimoldi, 2008; Khalid & Tehreemyasmeen, 2018).

Instruments

The questionnaire consisted mostly of statements to which respondents answered through a 7-point Likert scale (Appendix C). The Anchor Contraction Effect (ACE) explains how participants tend to respond more extremely on a Likert scale, when being questioned in their L2 (de Langhe, et al., 2011). This is because the anchors hold a lower emotional value which is experienced quicker than the emotional value of the same word in L1. To prevent this effect from occurring, the scales will be anchored by non-emotional anchors: 'completely disagree' and 'completely agree'. The questionnaire was translated and checked through back to back translation. This means that a fluent speaker of Dutch and English translated the text from English to Dutch and another fluent speaker translated the text back to English again to evaluate accuracy.

The questionnaire commenced with an evaluation of the advertisement itself. This in order to focus the respondent's attention to the advertisement and specifically the conditioned text. The statements commenced with "*I think the advertisement..."* and continued with five statements: "*uses text suitable to the product*", "*uses comprehensible language*", "*is convincing"*, *"is well-designed"*, and "*is informative*" (α = .83).

Next, purchase intention of the healthy foods, was measured. This was done through three items measuring the direct intentions, which commenced with "*I would...*" and followed with: "*not buy the product in the ad*", "*recommend the product in the ad to someone else*", and "*select this product over my usual pick*" (α = .73). Afterwards the future purchase intentions were measured. The statements for this variable were based on those used in a study by Thøgersen, Haugaard, and Olesen (2010), which investigated the effect of quality marks on packaging. The measurement commenced with "*In future, I'm going to...*" and followed with three items: "*buy this product in the shops*", "*try to buy this product*", and "*plan my shopping so that I get to buy this product*" (α = .88).

Next, the expected moderators for the effect were measured: perceived tastiness and health. Tastiness was measured with three statements starting with "*I think that…*" and continuing with: "*this product sounds tasty*", "*I would enjoy eating the product*", and *"the product has a lack of flavour*" (α = .80). Healthiness perception was measured with "*I think*

that this product" and again three items: "*sounds healthy"*, "*contains a lot of vitamins"*, and "*is bad for me*" (α = .84).

All above mentioned measurements were questioned for all five advertisements. The questionnaire continued with questions regarding the respondent themselves. First of all, the personal health concern was measured through five statements commencing with "*Personally, I…*" and continued with: "*consume products similar to the one in the ad frequently*", "*find it very important to eat healthy*", "*have changed from one brand to another for health considerations*", *"should eat more healthy*", and "*work out frequently*" (α = .52). The third statement was again taken from the study by Thøgersen et al. (2010).

The questionnaire ended with demographic questions. The respondents' age, gender, degree program, and language proficiency are measured. Language proficiency was measured for both Dutch and English. Participants with a low proficiency of the language in the advertisement are expected to experience more difficulty to interpret it. If the statements were too challenging, this could have resulted in miscomprehension, disengagement, and a lower evaluation of the advertisement (Ahn & Ferle, 2008; Gerritsen et al., 2000; Hornikx et al., 2010). Self-assessment was decided upon as a moderate correlation between language test scores and self-assessment is established (Edele, Seuring, Kristen, & Stanat, 2015). Including an actual language test would have resulted in more reliable results. However, it would also prolong the questionnaire considerably. Since the respondents' language proficiency was a background variable and not a direct influencer of the experiment, a moderately reliable proficiency rating is sufficient. The measurement was done with the use of three items: speaking, writing, and reading, for both the English proficiency (α = .90) as the Dutch proficiency (α = .89) (Krishna & Ahluwalia, 2008).

Lastly, the participants were asked if they were willing to participate in the follow up research. Several studies found evidence for a prolonged effect on healthy food evaluations (Turnwald et al., 2017; Turnwald & Crum, 2019). The follow up questionnaire was conducted two weeks after the respondent participate in the main study. It checked if the future purchase intentions measured in the original questionnaire were lived up to and if the overall tastiness perception of the healthy foods, pertained (Appendix D). The purchase behaviour was measured with "*Since the study, I have …*" followed by three items: "*bought product similar to the ones in the ads*", "*tried to buy products similar to the ones in the ads"*, and "*planned my shopping so that I got to buy products similar to the ones in the ads*" (α = .86). Next, the tastiness perception of healthy foods was measured with "*I think that …"* again followed by

three items: *"healthy foods are tasty"*, "*I would enjoy eating healthy foods*", and "*healthy foods have a lack of flavour*" (α = .75).

Procedure

The experiment was conducted online through Qualtrics and took about ten minutes. Most respondents were recruited through social media platforms, such as Facebook, LinkedIn, and Instagram. Participation was voluntary and processed anonymously. Participants were only informed that the study was about the evaluation of several food advertisements. Previous to the questionnaire, the participants were provided a consent form. After complying to the consent form, the participants were shown their first advertisement. Directly below the advertisements the questions were portrayed. This way they could scroll back to the advertisement while answering the questions. When they had responded to all statements, they could continue to the next advertisement, which again showed the advertisement first, followed by the statements. The respondents could not return to a previous advertisement page to adjust their response. This structure continued until all five advertisements were shown. Afterwards they came to a separate page with the demographic questions.

The actual purpose of the study was not revealed openly as this would jeopardize the follow up study, however, respondents were invited to establish contact privately if they wanted to know more about the present study. The respondents who agreed to participate in the follow up research were sent an individual link to the new questionnaire through Qualtrics. This way the follow up results could easily be linked to their previous results. The follow up study took approximately one minute.

Statistical treatment

For the analysis of the results multiple statistical tests were conducted. First of all, the reliability of the scales was checked through Cronbach's Alpha. Most variables had acceptable to excellent Alpha's (α > .73). However, the Cronbach's Alpha for personal health concern was poor (α = .52). Removing an item would not make a difference and thus the items were still grouped. The low Alpha will be kept in mind when interpreting results.

The main analyses were done through several two-way univariate analysis of variance with label use and language choice as factors and as dependent variables: tastiness perception, healthiness perception, purchase intention, and future purchase intention. To check whether the background variables were equally divided amongst the conditions, several additional analyses were conducted. For the continuous variables (advertisement evaluation, personal health concern, age, and language proficiency), this was checked through two-way

ANOVAs. For the categorical variables (Gender and education), this was done through Chi-square analyses.

Results

Background variables

To check if people liked the advertisements equally among the different conditions, the advertisement were evaluated. If subjects in one condition would like the advertisement more than subjects in another, this could influence the food evaluation and purchase intention. A two-way ANOVA was performed with language and label as factors and advertisement evaluation as dependent variable. There was no significant main effect of language (F (1, 190) = 1.88, p = .172) and label (F (2, 190) < 1), nor was there a significant interaction effect (F (2, 190) < 1). The variables per condition are shown in Table 3.

Additionally, the personal health concern of subjects could influence their purchase intention. Another two-way ANOVA with language and label as factors and personal health as dependent variable also showed no significant main effects of language (F (1, 190) < 1) and label (F (2, 190) < 1). The interaction effect did show significance (F (2, 190) = 5.41, p = .005. Separate independent t-tests comparing the personal health concern for the different label conditions. Both the t-test for the indulgent (t (63) = 0.30, p = .768) and the neutral condition (t (67) = 1.44, p = .155) were not significant. However, the t-test for healthy was significant (t (60) = 3.52, p = .001). The respondents in the healthy Dutch condition (M = 4.90, SD = 0.74) reported themselves significantly healthier than the respondents in the healthy English condition (M = 4.17, SD = 0.90). This difference will be controlled for as a covariate in the further analyses. The means, sample size, and standard deviations per condition are shown in Table 3.

Table 3. The background variables of the study. Means and standard deviations *(between brackets)* of advertisement evaluation (AE) and personal health concern (PHC) on a scale of 1 (Completely disagree) to 7 (Completely agree).

		n	AE	PHC
English	Indulgent	32	4.44 *(0.72)*	4.61 *(1.16)*
	Neutral	33	4.69 *(0.65)*	4.76 *(0.86)*
	Healthy	31	4.62 *(0.74)*	4.17 *(0.90)*
	Total	96	4.59 *(0.70)*	4.52 *(1.00)*
Dutch	Indulgent	33	4.39 *(0.87)*	4.53 *(0.98)*
	Neutral	36	4.50 *(0.71)*	4.42 *(1.06)*

	Healthy	31	4.42 *(0.89)*	4.90 *(0.74)*
	Total	100	4.44 *(0.82)*	4.61 *(0.96)*
Total	Indulgent	65	4.41 *(0.80)*	4.57 *(1.07)*
	Neutral	69	4.60 *(0.69)*	4.58 *(0.97)*
	Healthy	62	4.52 *(0.82)*	4.54 *(0.90)*
	Total	196	4.51 *(0.77)*	4.56 *(0.98)*

Purchase intentions

The main dependent variable of the present study was the effect on purchase intention. This was tested through a two-way ANOVA with language and label as factors and purchase intention as dependent variable. No significant effects were found in the main effects of label (F (2, 190) < 1) and language (F (1, 190) < 1), nor in the interaction effect (F (2, 190) < 1).

Another two-way ANOVA with language and label as factors and future purchase intention as dependent variable again showed no significant effect on label (F (2, 190) < 1), language (F (1, 190) < 1), nor on the interaction of those two (F (2, 190) < 1). The means, standard deviations per condition for purchase intention and future purchase intention are shown in Table 4.

Table 4. The purchase intention variables of the study. Means and standard deviations *(between brackets)* of purchase intention (PI) and future purchase intention (FPI) on a scale of 1 (Completely disagree) to 7 (Completely agree).

		n	PI	FPI
English	Indulgent	32	3.57 *(0.90)*	3.11 *(1.10)*
	Neutral	33	3.66 *(0.72)*	3.33 *(0.81)*
	Healthy	31	3.56 *(0.89)*	3.15 *(0.90)*
	Total	96	3.60 *(0.83)*	3.20 *(0.94)*
Dutch	Indulgent	33	3.37 *(0.87)*	3.11 *(1.12)*
	Neutral	36	3.57 *(0.73)*	3.00 *(0.99)*
	Healthy	31	3.72 *(0.69)*	3.25 *(0.84)*
	Total	100	3.55 *(0.77)*	3.12 *(1.10)*
Total	Indulgent	65	3.47 *(0.88)*	3.11 *(1.10)*
	Neutral	69	3.62 *(0.72)*	3.16 *(0.92)*
	Healthy	62	3.64 *(0.80)*	3.20 *(0.87)*
	Total	196	3.57 *(0.80)*	3.16 *(0.96)*

Food evaluation

The effect of the advertisements was measured through the perception of healthiness and tastiness of the foods in the advertisements. A two-way ANOVA with language and label as factors and healthiness perception as dependent variable was not significant for label (F (2, 190) < 1) or interaction (F (2, 190) = 1.58, p = .211). The main effect of language was significant (F (1, 190) = 3.89, p = .041). The respondents in the English condition (M = 5.22, SD = 0.70) evaluated the foods significantly healthier than the respondents in the Dutch condition (M = 5.00, SD = 0.83). The means, standard deviations per condition are shown in Table 5.

A separate two-way ANOVA was conducted with language and label as factors and tastiness perception as dependent variable. The main effect of language (F (1, 190) < 1) and the interaction effect (F (2, 190) < 1) were not significant. The main effect of label was marginally significant (F (2, 190) = 2.91, p = .061). The neutral label (M = 4.77, SD = 0.74) was rated as marginally tastier than the healthy label (p = .056, Bonferroni correction; M = 4.44, SD = 0.82). The indulgent label (M = 4.66, SD = 0.79) was not rated significantly different from the healthy label (p = .347, Bonferroni correction), nor from the neutral label (p = 1, Bonferroni correction). The tastiness perception variables per condition are shown in Table 5.

Table 5. The evaluation variables of the study. Means and standard deviations *(between brackets)* of healthiness perception (HP), tastiness perception (TP) on a scale of 1 (Completely disagree) to 7 (Completely agree).

		n	HP	TP
English	Indulgent	32	5.36 *(0.67)*	4.71 *(0.73)*
	Neutral	33	5.01 *(0.66)*	4.79 *(0.65)*
	Healthy	31	5.24 *(0.77)*	4.41 *(0.66)*
	Total	96	5.23 *(0.70)*	4.64 *(0.69)*
Dutch	Indulgent	33	4.91 *(0.77)*	4.61 *(0.85)*
	Neutral	36	5.11 *(0.58)*	4.74 *(0.82)*
	Healthy	31	4.97 *(1.11)*	4.47 *(0.97)*
	Total	100	5.00 *(0.83)*	4.61 *(0.85)*
Total	Indulgent	65	5.13 *(0.75)*	4.66 *(0.79)*
	Neutral	69	5.10 *(0.61)*	4.77 *(0.74)*
	Healthy	62	5.11 *(0.95)*	4.44 *(0.82)*
	Total	196	5.11 *(0.78)*	4.63 *(0.79)*

Tastiness as a moderator

Purchase intention. To test the moderating effect of tastiness on purchase intention, an ANCOVA was performed, with language and label as factors, purchase intention as dependent variable, and tastiness perception as covariate. The main effect of language was not significant (F (2, 184) = 1.57, p = .212), nor was the interaction effect of language and label (F (2, 184) < 1). However, the main effect of label was significant (F (2, 184) = 3.22, p = .042). When the tastiness perception was controlled for, the healthy labelled advertisement generated a significantly higher purchase intention (M = 3.64, SD = 0.80) than the indulgently labelled advertisement (p = .009, pairwise comparisons; M = 3.47, SD = 0.88). There was no significant difference between the neutral label (M = 3.62, SD = 0.72) and the indulgent label (p = .295, pairwise comparisons), nor was there with the healthy label (p = .102, pairwise comparisons).

The ANCOVA with language and label as factor, purchase intention as dependent variable and tastiness perception as covariate also showed a significant effect of tastiness perception on purchase intention (F (1, 184) = 84.65, p < .001). An additional multiple regression analysis showed that tastiness perception, explained 29% of the variance in purchase intention (F (1, 194) = 80.68, β = .54, p < .001).

The ANCOVA with language and label as factor, purchase intention as dependent variable and tastiness perception as covariate also showed a marginally significant interaction effect between tastiness perception on purchase intention (F (2, 184) = 3.01, p = .052). Several multiple regression analyses were performed for the different label conditions. It showed that tastiness perception explained the variance in purchase intention for 45.8% in the indulgent condition (F (1, 63) = 53.31, β = .68, p < .001), 36.3% in the healthy condition (F (1, 60) = 34.14, β = .60, p < .001), and 13.4% in the neutral condition (F (1, 67) = 10.39, β = .37, p = .002).

Future purchase intention. A similar trend was found for future purchase intention as was found for purchase intention. A separate ANCOVA with language and label as factor, future purchase intention as dependent variable and tastiness perception as covariate showed no significant main effect on language (F (1, 184) < 1), nor did it on the interaction effect between language and label (F (2, 184) < 1). The main effect of label was significant (F (2, 184) = 7.49, p = .001). However, the pairwise comparisons did not reflect this. Numerically, the healthy label condition had the highest value (M = 3.20, SD = 0.87), but this was not significantly different from the indulgent (M = 3.11, SD = 1.10; p = .117, pairwise

comparisons) and neutral label (M = 3.16, SD = 0.92; p = .154, pairwise comparisons), nor was the indulgent from the neutral label (p = .878, pairwise comparisons).

The ANCOVA with language and label as factor, future purchase intention as dependent variable and tastiness perception as covariate did show a significant effect of tastiness perception on future purchase intention (F (1, 184) = 85.12, p < .001). An additional multiple regression analysis showed that tastiness perception, explained 30.6% of the variance in future purchase intention (F (1, 194) = 87.16, β = .56, p < .001).

Additionally, a significant interaction was found on future purchase intention between tastiness perception and label (F (2, 184) = 7.08, p = .001). Separate multiple regression analyses were performed for each label condition. It showed that tastiness perception explained the variance in purchase intention for 58.6% in the indulgent condition (F (1, 63) = 91.74, β = .77, p < .001), 23.7% in the healthy condition (F (1, 60) = 19.92, β = .50, p < .001), and 15.3% in the neutral condition (F (1, 67) = 13.32, β = .41, p = .001).

Healthiness as a moderator

Purchase intention. The ANCOVA with language and label as factors, purchase intention as dependent variable, and healthiness perception as covariate showed no significant effects on language (F (1, 184) < 1), label (F (2, 184) < 1), nor was there an interaction effect between language and label (F (2, 184) = 1.48, p = .094). However, it did have a direct significant effect on purchase intention (F (1, 184) = 5.48, p = .020). An additional multiple regression analysis showed that healthiness perception, explained 3.6% of the variance in purchase intention (F (1, 194) = 8.32, β = .20, p = .004).

Future purchase intention. The same trend occurred for the future purchase intention. Health perception did not interact with any of the other factors. However, it did show a significant effect independently (F (1, 184) = 9.45, p = .002). An additional multiple regression analysis showed that healthiness perception, explained 5.4% of the variance in future purchase intention (F (1, 194) = 12.10, β = .24, p = .001).

Follow up study

The sample sizes, means, and standard deviations of the follow up study are reported in Table 6. The follow up study did not achieve the Central Limit Theorem bottom-line sample size of 30 respondents per condition and thus no statistical conclusions can be based upon the gathered data (Lindeberg-Levy as referred to by Bell, 2015).

Table 6. The variables of the follow up study. Means and standard deviations *(between brackets)* of actual purchase behaviour and perception of healthy foods on a scale of 1 (Completely disagree) to 7 (Completely agree).

		n	Actual purchase behaviour	Perception of healthy foods
English	Indulgent	3	2.56 *(1.68)*	5.78 *(2.12)*
	Neutral	5	3.00 *(1.27)*	6.00 *(0.47)*
	Healthy	2	2.33 *(0.47)*	5.83 *(1.18)*
	Total	10	2.73 *(1.20)*	5.90 *(1.12)*
Dutch	Indulgent	5	2.93 *(2.01)*	5.33 *(1.35)*
	Neutral	5	2.20 *(1.10)*	5.60 *(1.09)*
	Healthy	2	4.00 *(4.24)*	6.67 *(0.47)*
	Total	12	*2.81 (1.99)*	5.67 *(1.16)*
Total	Indulgent	8	2.79 *(1.77)*	5.50 *(1.54)*
	Neutral	10	3.17 *(2.65)*	5.80 *(0.82)*
	Healthy	4	2.60 *(1.19)*	6.25 *(0.88)*
	Total	22	2.77 *(1.64)*	5.77 *(1.12)*

Conclusion

The effects of label use (indulgent, healthy, and neutral) and language choice (L1 or L2) on purchase intention were studied. This was done through the use of five different healthy food advertisement amongst Dutch respondents. The present study did not find evidence for a direct effect on (future) purchase intention through the use of language and labelling. However, the independent labels did influence the expected moderators. Language influenced the healthiness perception; the respondents in the English condition evaluated the foods significantly healthier than the respondents in the Dutch condition. However, even though healthiness perception individually did influence (future) purchase intention, no interaction effects were found between language and label and healthiness perception as covariate.

Label influenced the tastiness perception; the neutral label was rated as marginally tastier than the healthy label. Tastiness perception independently influenced (future) purchase intention. This influence was great enough that when the tastiness perception was controlled, the healthy labelled advertisement generated a significantly higher purchase intention than the indulgently labelled advertisement. This is due to a significant interaction between label and tastiness perception. The moderating role of tastiness on (future) purchase intensions is

far greater in the indulgent condition than in the neutral condition, but only slightly greater than the role in the healthy condition

Discussion

The present study does not find evidence for a direct effect on (future) purchase intention through the use of language and labelling. This is contradicting to previous studies which have found that indulgent labelling improved food selection (Barrós-Loscertales, et al., 2012; Papies, 2013; Turnwald et al., 2017; Turnwald & Crum, 2019). An important difference between the present study and previous experiments is that the previous studies were conducted in actual food selection environments, such as a cafeteria or at a swimming pool, whereas the current study employed advertisements (Olstad et al., 2014; Turnwald et al., 2017; Turnwald & Crum, 2019). This means that in previous studies, the respondents were exposed to the label use simultaneously to the food selection moment. The effect of indulgent language is reliant on impulsive purchase trigger (Barrós-Loscertales, et al., 2012; Papies et al., 2012; Papies, 2013; Veling et al., 2012). As advertisement exposure is not directly followed by a purchase decision, the spontaneity required for label effectiveness was endangered.

Seeing that the time between label exposure and purchase behaviour is greater among advertisements than when the labels are used at the actual purchase location, the consumers have more time to overthink and process their impulsive behaviour. To maintain a positive self-concept, consumers want to be able to make healthy food choices (Steele, 1988). The effectiveness of indulgent labelling is linked to the activation of gustatory and reward areas in the brain, which results in spontaneous, goal-directed actions towards consumption. The unconscious trigger created by indulgent language could have threatened the consumers' ability to make healthy choices as they created the impression that the advertised food was not healthy (Irmak et al., 2011; Raghunathan et al., 2006). In response, the respondents could have attempted to restore self-integrity by dismissing, denying or avoiding the threatening information. This correcting behaviour is especially found to occur in monitored situations (Papies, 2017). In the other experiments, in which actual behaviour was measured, correcting behaviour would have resulted in having to eat a less preferred dish. Within the present study there were no consequences tied to the correcting behaviour.

In compliance with previous studies, the label use significantly influenced the tastiness perception (Yeomans & Hovard, 2015). However, the effect did not occur as expected. The neutral labels were rated as marginally tastier than the healthy labels.

Remarkably, the indulgent labels were not rated significantly different from the neutral and healthy labels. This could be evidence for the dismissal of threating information in order to protect the self-integrity (Steele, 1988). However, it could also be that the credibility of the indulgent labels was decreased by a clearer presence of persuasion attempt (van Reijmersdal, Neijens, & Smit, 2010). This counter intuitive effect could have occurred in the present study as the Netherlands scores remarkably lower on masculinity than the countries included in previous studies: Canada (Yeomans & Hovard, 2015) and the United States (Turnwald et al., 2017; Turnwald & Crum, 2019) (Hofstede, 2020). Within feminine cultures modesty and humility in advertising is found to be appreciated (Saleem, 2017). It could be that the Dutch respondents experienced the advertisements including indulgent labels as too self-praising and thus decreased the credibility of the foods actually being tasty.

Tastiness perception as a predictor showed an interacting role with label use. In the indulgent condition, the role of tastiness perception was far greater than the role of tastiness perception on the neutral condition, but only slightly greater than the role on the healthy condition. This does indicate that tastiness perception holds a great value for both the indulgently labelled and the healthy labelled advertisements. When tastiness perception is controlled for, even more evidence is found for the important role it plays in determining purchase intentions. If the role of tastiness perception is disregarded, the healthy labelled advertisement generated a significantly higher purchase intention than the indulgently labelled advertisement. This finding might partly explain the lack of a direct effect of label on purchase intention. It appears that the respondents had a positive bias towards the healthy advertisement. However, the use of indulgent language increased the tastiness perception of the indulgent condition so that the healthy and indulgent conditions were evaluated equally on purchase intentions.

The positive bias towards healthy food creates support for the desire to maintain a positive self-concept through healthy food selection (Steele, 1988). This finding also generates support for the intention-behaviour gap (Papies, 2017). Even though, consumers had the intention to eat healthy, the indulgent label use nudged the consumers more towards the tastier perceived option even if this is not the healthy option. However, the nudge failed to trigger significantly higher purchase intensions for indulgently labelled advertisements. The closest predictor for behaviour that was measured within the present study was an intention. As a result, the full range of the intention-behaviour gap remains unexplored. The positive bias towards the healthy advertisements seem to indicate the present study represents the more health conscious consumer (Sinclair et al., 2014). Remarkably, the study by Olstad et al.

(2014) found that labelling was more effective among non-overweight consumers. The fact that the respondent group of the present study is health conscious, would create the expression that labelling would be effective. However, in the Olstad et al. (2014) study, they used playful labelling which did not directly refer to the tastiness or healthiness of the products.

The lack of significant effects of language use on purchase intention also contradicts the expectation that native language would have a greater effect on purchase intention as the native language would be easier to process and would generate a greater familial feeling (Ahn & Ferle, 2008; Dufour & Kroll, 1995; Krishna & Ahluwalia, 2008). The labels used were simplistic. Previous studies have found results in which L2 was appreciated equally or even was preferred over L1 when the respondents rated the L2 message easy to comprehend (Ahn & Ferle, 2008; Hornikx et al., 2010). The respondents of the present study also scored fairly high on English proficiency. This might have decreased the influence of the revised hierarchical model substantially and made the effect insignificant (Dufour & Kroll, 1995). Additionally, the advertisement contained visuals, which are found to be a helpful tool in improving L2 processing (Luna & Peracchio, 2001).

Remarkably, the only significant effect is shown in the healthiness perception. The respondents in the English condition evaluated the foods healthier than the respondents in the Dutch condition. This might be an effect of the language priming, which intended to trigger behaviour adherent to the masculine and assertive Anglophone culture (Akkermans et al., 2010; Hofstede, 2019; Oyserman et al., 2002). Although the priming did not lead to actual behaviour, such as an increase in purchase intention of the healthy labelled advertisement, it could have helped the respondents be more health conscious while evaluating the advertisements (First & Brozina, 2009; Sun et al., 2009).

Limitations and future research

The present study intended to contribute to the theoretical knowledge of both label use and second language use in healthy food advertisements. It generated contradictory results to previous studies in regard to inefficiency of labels (Barrós-Loscertales, et al., 2012; Olstad et al., 2014; Papies et al., 2012; Papies, 2013; Turnwald et al., 2017; Turnwald & Crum, 2019; Veling et al., 2012) and high L2 acceptance (Ahn & Ferle, 2008; Dufour & Kroll, 1995; Krishna & Ahluwalia, 2008). These findings suggest that there are still many uncertainties within both fields of study. Future research should focus on decreasing these uncertainties through finding what the specific moderators are for efficiency of both label use

and L2 use in advertisements. Furthermore, the present study encountered several limitations, which could be improved within future studies.

The average age of the present study was 30. Because of this, the found results mostly reflect the effect of language and label use upon young adults. Young adults are frequently more familiar with English (Education First, 2018). Additionally, young adults are often more health conscious (André, Meuleman, & Kraaykamp, 2018). This could have led to different results than would occur amongst an older respondent group. It is important for all consumer groups to be encouraged correctly to make healthy food choices to combat the threat of obesity. Making healthy choices is increasingly important as one grows older, since health is naturally found to decrease (André et al., 2018). Besides that, companies will want to sell their product to as many people as possible and thus speak to a wide public and thus future research should investigate if the label and language use is as insignificant for elderly consumers as it is amongst young adults.

Another limitation was that the indulgently labelled advertisements were not rated the tastiest as expected. It is expected that this occurred in an attempt to restore self-integrity (Steele, 1988). However, it could also be due to the low masculinity score of the Netherlands compared to the previous studies, which were conducted in Canada (Yeomans & Hovard, 2015) and the United States (Turnwald et al., 2017; Turnwald & Crum, 2019). This would indicate that the effect of label use is dependent upon specific cultural values. Becoming aware of such difference will help marketers develop culture specific label approaches. Thus, future research should focus on countries with different cultural values and should include comparative studies to discover if there really exist cultural differences within the appreciation of indulgent label use.

It can be wondered if the participants really focused upon the language or used the visuals for their evaluation. The present study did try to control for this by initiating the questionnaire with two questions focusing on the advertisement text: "*I think the advertisement uses text suitable to the product*" and "*I think the advertisement uses comprehensible language*". However, this still does not guarantee that the participants primary looked at the visuals for indicating purchase intention. Visual aesthetics have been found to be key determinants of ad effectiveness (Krishna, Cian, & Sokolova, 2016). Future studies could check if the respondents focused upon the text by including control questions asking the respondents to repeat the advertised text. Seeing the importance of visual aesthetics in advertisements, it could also be that the advertisements were not up to the consumer standards as they were not actual advertisements and were not professionally

designed. This was controlled for through the advertisement evaluation variable, which appeared equal among all conditions. Thus, it could not have led to variation between the conditions. However, it could be that the overall evaluation of the advertisements was low. Future studies could use actual or professionally designed advertisements to ensure that the visual aesthetics are closer to reality.

Additional to more realistic advertisements, the situation could be more realistic. The current study used a hypothetical environment. This means that the actual purchase behaviour was not discovered. People could have altered their response in protection of their positive self-concept or to be more socially desired. Previous studies, which did find significant effects of label use, were conducted in actual purchase behaviour situations (Olstad et al., 2014; Turnwald et al., 2017; Turnwald and Crum, 2019). This approach would reflect a more honest representation of the effect. However, it would be difficult to simulate such a situation with advertisements. It could be studied through real examples, for example monitoring sales figures when companies change their advertisements to include indulgent language. Another method could be to hand out flyers outside of a food purchase context (e.g. a supermarket or canteen). This could also decrease the effect of the intention-behaviour gap by placing the advertisement closer to the behavioural situation. It can be questioned how realistic this approach would be as it is just a fact that advertisement exposure usually occurs quite some time before the actual purchase behaviour. However, potential does lie within the increase of online grocery shopping (Hand et al., 2009). Within such an environment, it would be possible to place an advertisement directly before or simultaneously to the purchase decision through the use of banners or pop-up ads. A simulation of an online grocery shop could also be the base for future studies.

Another limitation of the present study is that the follow up study failed to recruit sufficient respondents to use it as a base for any meaningful conclusions. Future studies should try to obtain more respondents for the follow up study. The present study found that about 10% of the participants in the primary study agreed to participate in the follow up study. This would require an original sample size of 1800. This could be decreased by including fewer conditions or by increasing the participation rate. This could potentially be achieved with an additional incentive.

Managerial implications

Currently, businesses often use health-focused labels to promote healthy food options (Turnwald et al., 2017). The difference in label use could make consumers believe that the healthy options are not as tasty as the standard, less healthy, options and thus may lead them

to choose the standard option (Irmak et al., 2011; Raghunathan et al., 2006; Yeomans & Hovard, 2015). It was argued that creating indulgent descriptions could provide a relatively simple and low-cost nudge towards the selection of healthy food (Greene, Gabrielyan, Just, & Wansink, 2017; Hanks, Just, & Wansink, 2013). However, the present study does not find any direct support for using neither the health, nor indulgent label approach in advertising. This suggest that even though label use might be effective in direct purchase situations, the gap in advertising between exposure and purchase might not be bridged by the spontaneous trigger created with label use (Olstad et al., 2014; Turnwald et al., 2017; Turnwald and Crum, 2019).

The current study did not detect disadvantages to using a single language approach. This means that multinational companies do not need to translate promotional material or have separate production lines for packaging, which would decrease production costs significantly. The present study even found that when the labels were written in English, the advertisements were rated as healthier than when they were written in the respondents first language. This provides support for the efficiency of language priming (Oyserman et al., 2002). This suggests that if a company desires to portray themselves or their products as healthy, English could invigorate this perception amongst consumers. Additionally, it could be used to make consumers even more aware of which food options are healthy. Helping consumers make health-conscious decision will help decrease the threat of obesity. Using language which enhances the health perception could lead to an increase in sales as it was found to be a predictor for purchase intention. The present study does show that the benefits of tastiness perception exceed the benefits from the healthiness perception and thus focussing on making a product seem tasty is more important than making it seem healthy. The found importance of taste perception also provides even more support to the opening statement of Corvo (2015, p. 1-2): “To eat means to have pleasant (and sometimes unpleasant) sensations”.

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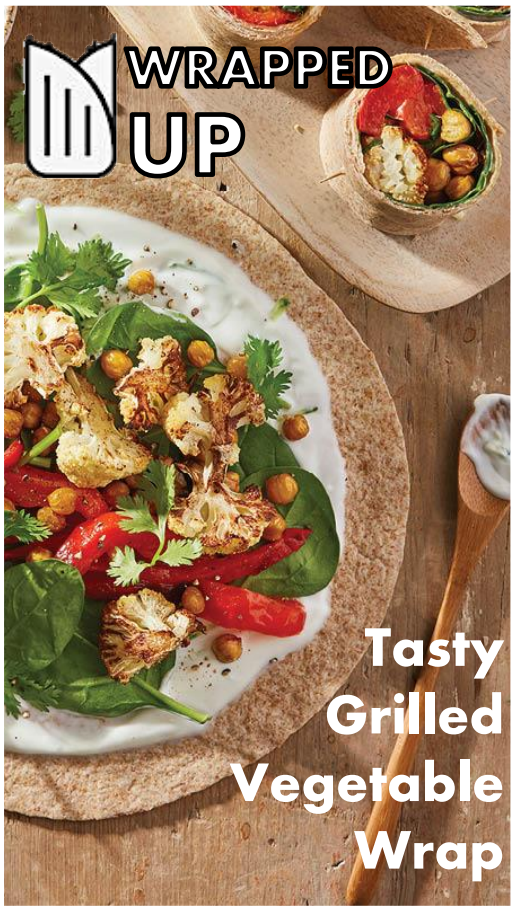
Appendix

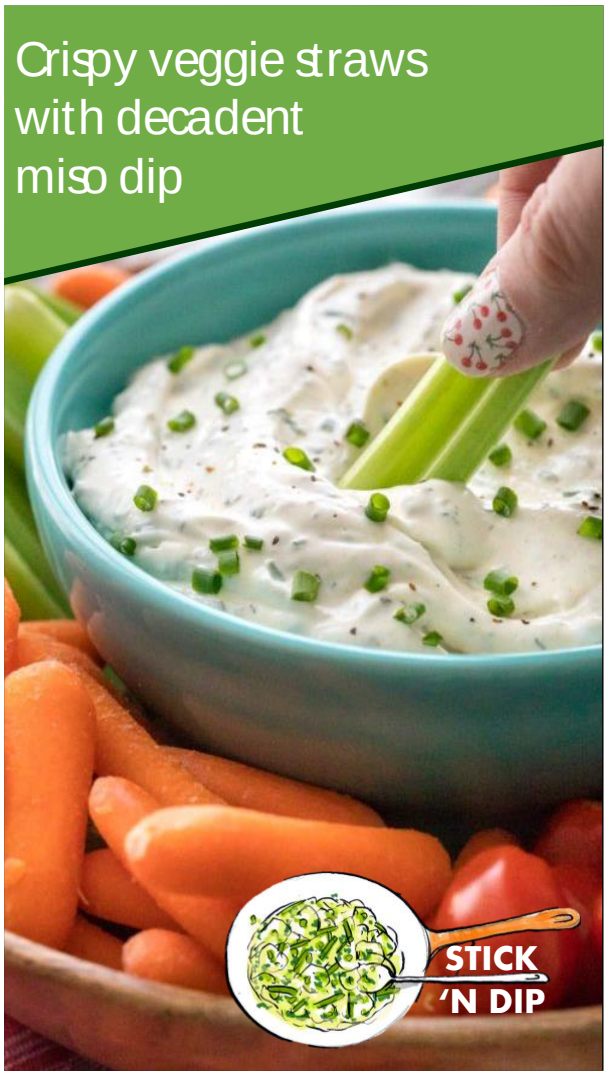
Appendix A: Advertisements with Indulgent text

A1: Wrap Ad



A2: Salad Ad

A3: Mixed Vegetables



A4: Green Beans

A5: Smoothies

Appendix B: Subject demographics

Table 7. The subject-related variables of the study. Means and standard deviations *(between brackets)* of age, Dutch and English proficiency, and personal health concern.

		n	Age	Dutch Proficiency	English Proficiency
English	Indulgent	32	28.75 *(11.32)*	6.45 *(0.85)*	5.67 *(1.11)*
	Neutral	33	25.67 *(6.83)*	6.76 *(0.47)*	5.84 *(0.88)*
	Healthy	31	29.26 *(12.48)*	6.51 *(0.84)*	5.65 *(1.26)*
	Total	96	27.85 *(10.46)*	6.57 *(0.74)*	5.72 *(1.08)*
Dutch	Indulgent	33	32.27 *(12.88)*	6.47 *(0.80)*	5.55 *(1.29)*
	Neutral	36	32.33 *(14.70)*	6.46 *(0.92)*	5.82 *(1.07)*
	Healthy	31	29.16 *(12.06)*	6.65 *(0.59)*	5.87 *(0.98)*
	Total	100	31.33 *(13.27)*	6.52 *(0.79)*	5.75 *(1.12)*
Total	Indulgent	58	30.54 *(12.17)*	6.46 *(0.82)*	5.61 *(1.19)*
	Neutral	69	29.14 *(12.02)*	6.60 *(0.75)*	5.82 *(0.98)*
	Healthy	62	29.21 *(12.17)*	6.58 *(0.72)*	5.76 *(1.12)*
	Total	196	29.63 *(12.07)*	6.55 *(0.76)*	5.73 *(1.10)*

Appendix C: Questionnaire

C1: English

Advertisement evaluation:

I think the advertisement ….

A1: *uses text suitable to the product*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
A2: *uses comprehensible language*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
A3: is convincing	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
A4: is *well-designed*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
A5: is *informative*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		

Current Purchase Intention:

I would …

CP1: *not buy the product in the ad*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
CP2: r*ecommend it to someone else*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
CP3: *select this product over my usual pick*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		

Future Purchase intention:

In future, I'm going to …

FP1: *buy this product in the shops*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
FP2: *try to buy this product*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
FP3: *plan my shopping so that I get to buy this product*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		

Tastiness perception:

I think that …

T1: *this product sounds tasty.*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
T2: *I would enjoy eating the product*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
T3: *the product has a lack of flavour*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		

Health perception:

I think that this product …

H1: *sounds healthy*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
H2: *contains a lot of vitamins*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
H3: *is bad for me*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		

Personal health concern:

Personally, I …

PHC1: *consume product similar to the one in the ad frequently*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
PHC2: *find it very important to eat healthy*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
PHC3: *have changed from one brand to another for health considerations*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
PHC4: *should eat more healthy*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
PHC5: *work out frequently*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		

Demographics:

Age:

Gender:

- Male
- Female
- Other

Degree Program (Either finished or current)

- High school
- MBO
- HBO
- WO

Please indicate how you would assess your Dutch for the following skills:

DP1: *Speaking*	1	2	3	4	5	6	7
	Poor						Excellent
DP2: *Writing*	1	2	3	4	5	6	7
	Poor						Excellent
DP3: *Reading*	1	2	3	4	5	6	7
	Poor						Excellent

Please indicate how you would assess your English for the following skills:

EP1: *Speaking*	1	2	3	4	5	6	7
	Poor						Excellent
EP2: *Writing*	1	2	3	4	5	6	7
	Poor						Excellent
EP3: *Reading*	1	2	3	4	5	6	7
	Poor						Excellent

May I be reached out to for follow-up research?

C2: Dutch

Advertentie evaluatie:

Ik vind dat de advertentie ….

A1: *tekst gebruikt die past bij het product*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
A2: *begrijpelijke taal gebruikt*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
A3: overtuigend is	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
A4: *goed ontworpen is*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
A5: *informatief is*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		

Huidige Aankoopintentie:

Ik zou het product in de advertentie …

CP1: niet *kopen*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
CP2: aanraden aan iemand anders	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
CP3: *boven mijn gebruikelijke keuze verkiezen*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		

Toekomstige Aankoopintentie:

In de toekomst, ga ik …

FP1: *dit product kopen in de winkel*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
FP2: *dit product proberen te kopen*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
FP3: *mijn boodschappen plannen zodat ik dit product kan kopen*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		

Smaakperceptie:

Ik denk dat …

T1: *dit product smakelijk klinkt*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
T2: *ik zou genieten van het eten van dit product*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
T3: *dit product een gebrek aan smaak heeft*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		

Gezondheidsperceptie:

Ik denk dat dit product …

H1: *gezond klinkt*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
H2: *veel vitamins bevat*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
H3: *slecht voor mij is*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		

Persoonlijke gezondheids-zorg:

Persoonlijk, …

PHC1: *eet ik regelmatig producten gelijk aan het product in de advertentie*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
PHC2: *vind ik het belangrijk om gezond te eten*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
PHC3: *heb ik weleens gewisseld van merk vanwege gezondheidsoverwegingen*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
PHC4: *vind ik dat ik gezonder zou moeten eten*	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		
PHC5: sport ik regelmatig	1	2	3	4	5	6	7
	Volledig mee oneens				Volledig mee eens		

Demografieken:

Leeftijd:

Gender:

- Man
- Vrouw
- Anders

Opleiding (Afgerond of huidig)

- Middelbare school
- MBO
- HBO
- WO

Geef aan hoe u uw Nederlands zou beoordelen voor de volgende vaardigheden:

DP1: *Spreken*	1	2	3	4	5	6	7
	Slecht						Uitstekend
DP2: *Schrijven*	1	2	3	4	5	6	7
	Slecht						Uitstekend
DP3: *Lezen*	1	2	3	4	5	6	7
	Slecht						Uitstekend

Geef aan hoe u uw Engels zou beoordelen voor de volgende vaardigheden:

EP1: *Spreken*	1	2	3	4	5	6	7
	Slecht						Uitstekend
EP2: *Schrijven*	1	2	3	4	5	6	7
	Slecht						Uitstekend
EP3: *Lezen*	1	2	3	4	5	6	7
	Slecht						Uitstekend

Mag ik benaderd worden voor vervolgonderzoek?

Appendix D: Follow-up Questionnaire:

Purchase behaviour

Since the study, I have …

FP1: *bought product similar to the ones in In the ads*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
FP2: *tried to buy products similar to the ones in the ad*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
FP3: *planned my shopping so that I got to buy products similar to the ones in the ads*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		

Tastiness perception:

I think that …

T1: *healthy foods are tasty.*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
T2: *I would enjoy eating healthy foods*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		
T3: *healthy foods have a lack of flavour*	1	2	3	4	5	6	7
	Completely disagree				Completely agree		