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Do food celebrities evoke altered perceptions of relatively unhealthy recipes? An experiment among young Dutch females

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Abstract

Background and objective

Product evaluations and perceptions are known to be highly influenced by the use of celebrities in product advertisement. Also, the phenomenon of people following a diet promoted by celebrities is recently occurring and growing. However, still unclear is the effect of a food-celebrity on product evaluations of a relatively unhealthy recipe. This study experimentally tested whether exposure to a food celebrity would evoke altered product evaluations in terms of health and taste perception, as well as on caloric-density estimation. This was tested by means of three experimental conditions, of which two manipulations and one control condition.

Methods

Via an online survey, 467 women between the age of 18 and 40 (M = 22.4, SD = 4) were exposed to the recipe of a date pie as a healthy substitute for a regular birthday pie. Either promoted by a famous food celebrity (Rens Kroes (n=165) or Fajah Lourens(n=156)) or by a neutral person (editor of magazine (n=146)). After exposure, questions on expected taste and health of the recipe were asked, as well as an estimation of caloric-density. Moreover, questions on background characteristics and familiarity with the food celebrities were asked.

Results

Participants exposed to food celebrities evaluated the recipe to be relatively less tasty compared to the control condition ($p = .018$). Additionally, the healthier the recipe was evaluated, the lower the caloric estimation turned out to be ($p = .000$). Lastly, exposure to a food celebrity did not have a direct effect of caloric-density estimation($p = .974$) and health evaluation ($p = .159$) of the relatively unhealthy recipe.

Discussion

These results imply that the diets promoted by food celebrities do evoke altered taste perceptions of the recipe. However, exposure has no consequences for caloric-density and health valuations. Moreover, the healthy ≠ tasty intuition is not supported for this sample of young Dutch women. Conducting the same experiment with different samples or male food celebrities leaves interesting opportunities for future research. Nonetheless, food celebrities do have an impact on society as many women follow their advices. Working together with experts, they could be of help in terms of public health.

Table of Contents

1 Introduction

1.1 Healthy lifestyle trends

Nutrition and its health effects is a subject of broad and current interest. Aside from scientists, consumers join the daily discussion on healthy diets. A global trend is emerging among citizens of the western countries, altering their diets to improve and achieve a happier and healthier lifestyle. Valuing personal care for the body is embedded in ideals as yoga, fitness and thinness, which are part of a more body-conscious society (Crossley, 2004) in particular among women (Bearman, Martinez, Stice, & Presnell, 2006). Since the end of the last century, body image concern seems to have activated a desire for healthier diets (Baltas, 2001; Steptoe, Pollard, & Wardle, 1995) and a recent study from The Nielsen Global Health & Wellness Survey (2015) confirmed these findings for today's generation. Information was gathered over 60 countries among more than 30,000 respondents with internet access between 2013 and 2014 and found that generation Z, born between 1995-2009, is the most health-centric group of consumers. Among 23 countries in the EU, a survey on consumer attitudes to food, nutrition, and health found that "trying to eat a healthy or a balanced diet" reached the top five of determinants influencing food choice today (Lappalainen, Kearney, & Gibney, 1998). Simultaneously, the difficulty consumers experience to actually manage and achieve this behaviour is compelling. This is why the consumer-need for information on which products, recipes, and ingredients contributing to this desired way of living is increasing (GfK, 2011).

1.2 Food celebrities; lifestyle books and social media

According to the law of supply and demand, a logical consequence of this expanding need for information is the increasing amount of available sources that fulfil this need. In the Netherlands, a rising number of celebrities like Rens Kroes and Fajah Lourens, take a step into the world of lifestyle and diets. They seem to fulfil the information need as they are publishing their personalised healthy lifestyle books containing more than just recipes. They describe a way of living in these books that definitely speaks to the consumer's minds, as all of their books have been bestsellers soon after their release ([Bestseller Top 60], n.d.) Together with this low threshold of creating books, goes the convenience of sharing health related items on the internet. On a daily basis, a tremendous amount of posts is being published in the form of pictures, videos and recipes on popular websites, forums, blogs and social media platforms like Instagram and Pinterest. Therefore the saying "we eat with our eyes" is more relevant than it has ever been. By the time this research was written, Instagram was exactly 212,574,598 rich in posts for #food and over 55 million for #foodie, someone who perceives eating food as a hobby rather than a need. This daily exposure to all sorts of visually appealing culinary illustrations and photographs of ordinary meals seems to have incorporated a new dimension of how to look at food. Our relationship with food has been completely revolutionized. A variety of social media platforms have made it possible for anyone to instantaneously share impressions of their gluten-free purple asparagus soup, track the trendiest restaurants and follow their most favourite healthy lifestyle bloggers. These blogs about how to address a happy and healthy lifestyle like "Chickslovefood.com", "WorkThatEs.nl" and "ILoveHealth" are extremely popular and have thousands of followers. According to a research of NVVL (2015), the majority of Dutch consumers regularly searches online for information on healthy nutrition, of whom women are most attracted to healthy food trends.

1.3 Less authority, more celebrity

The phenomenon of following these trends confirms the reality of consumers' decreasing trust in authorities and addresses the shift towards the convenience of food celebrities. Spiteri & Moraes (2015) found this in an interpretative study by means of in-depth interviews among 34 respondents. The majority of the respondents held policymakers, authorities, and organisations responsible for the contradicting information on healthy food, they have received from them. This led to confusion which in its place resulted in consumers seeking for more straight forward information on labels and in advertisements to get their information. This shift in trust away from authorities fits the phenomenon of food celebrities who recommend certain diets which are based on debatable information as it is seldom scientifically proven (Rousseau, 2015). A growing number of celebrities claiming to be an expert on healthiness shift the authority from the established order towards a wider range of people and it seems that the consumer demand for these 'celebrity experts' is growing (Bugge, 2015). Advise and recommendations about how to live a healthy lifestyle made by these food celebrities, are taken very seriously by their fans. Their books are being bought, their shows are being watched and daily food choices are based on the heath claims they make. This way of bringing about health claims seems to owe its success to the face behind it (Goodman, 2010).

1.4 Criticism

Despite their great popularity among the public, food celebrities and the health claims they make have been subject to criticism in debates around this issue. Claims as "an average woman needs no more than 1300-1400 calories a day" (Fajah Lourens), and "Maple syrup and honey are much healthier than granulated sugar" (Rens Kroes) are just some of the allegations that are being made by food celebrities. Yet, these claims are diametrically opposed to what classical authorities claim to be true (FDA, 2000; WHO, 2016). Experts are worried and criticise the diets as they have their concerns about the negative consequences these 'healthy food choices' might have on a consumers' overall health in the long run (The Guardian, 2016). Despite these concerns, food celebrities seem to keep winning popularity among young women and to win trust over authorities.

1.5 Relevance

Is this concern expressed by experts justified? As it is difficult for a consumer to perceive and believe what is true and what is untrue about healthy food intake, following a good looking celebrity might feel safe and convenient. Yet, this area of advertisement of making use of role models to promote a certain way of living has been surprisingly neglected in literature. The majority of research on influencing consumers' beliefs and intentions towards dieting behaviour focussed on advertisement of the nutritional content or claims on labels (Andrews, Netemeyer, & Burton, 1998). Therefore it is difficult to build on existing knowledge about food celebrities and the effects of the health claims they make. However, Chandon & Wansink (2007) found in an experiment that a consumer's calorie intake increases when a restaurant claims to be healthy in comparison with restaurants that do not make such claims, which indicates a change in health valuation of the consumer as they justify bigger portions for themselves in this condition. Moreover, these health halo's affect consumers' perceived healthiness which lowers their estimations of energy density

(Faulkner et al., 2013). Hence this overgeneralisation of health valuation has been proven on health claims with labelling and restaurants, though never in the context of food celebrities. Together with the occurrence that a celebrity's popularity seems to be synonymous for expertise in unrelated areas and moreover, the eagerness of many women, to read, follow and believe these food celebrities, has created a research gap. Therefore the current thesis addressed the impact on consumers' product valuation of relatively unhealthy products when exposed to food celebrities with the goal to find out if this evokes altered product evaluations among young women (18-40) in The Netherlands.

1.6 Methods

By means of a between-subject experimental design consisting of three conditions, a control group and two manipulated conditions, each with a food celebrity and her corresponding presentation style this study was conducted. A relatively unhealthy recipe of a date-pie that was identical in every condition had to be evaluated by the respondents. The recipe in the control group showed an introduction, the ingredients, methods to prepare and a picture of the date-pie as you would find it in a supermarket magazine. Manipulation 1 showed the same content, yet with an extra picture of Rens Kroes, a food celebrity known for her (and her sister's) famous modelling career. Manipulation 2 also showed an extra picture of a role model promoting the pie, yet this time Fajah Lourens, known for her sports-oriented background. The dependent variables were health evaluation, taste evaluation and caloric-estimation.

2 Literature review

The second chapter lays the theoretical foundation for this study. Yet, hardly any research has been done on the phenomenon of food celebrities. Therefore this chapter discusses several theories that might contribute to the popularity of food celebrities among young women. First, general information about recently occurring food trends is being discussed. The second section of this chapter addresses the topic from different related social science theories and reflects on possible motivations for consumers to get attracted by such lifestyles ideals. To conclude the chapter, a conceptual model that functions as an outline for this research is being presented along with the corresponding hypothesis.

2.1 Theoretical background on healthy food trends

2.1.1 Characteristics of healthy food trends

Approximately 52% of Dutch inhabitants want to significantly improve their diets, to achieve a happier and healthier lifestyle, while simultaneously, the difficulty they experience to actually manage and achieve this behaviour is compelling (GfK, 2011). Confused by the amount of contradicting information about healthy products and which diets work, consumers collectively start following their greatly admired idol's conscious lifestyle ideas. With hardly having any expertise in the field of nutrition and health, celebrities start writing their own advises which are straightforward and accessible for the consumer (Rousseau, 2015). It is a phenomenon that is being described as the "cult of the amateur" (Keen, 2007) or as the "death of expertise" (Collins, 2014; Nichols, 2014). Given these rising numbers in conscious lifestyle role models**,** it is important to establish what effect these role models have on their followers.

Whereas the growing number of celebrities coming up with their own healthy lifestyle guides is a recently occurring phenomenon, little scientific research has been done on this topic. However, last year an explorative research (Mebelder, 2016) focussed on consumers' sensibility for popular healthy food trends in general and the corresponding characteristics of these diets. Analysing several measurable bestselling lists, websites and newspaper articles, resulted in five specific traits nowadays' food trends carry out. To create a clear overview she summarized these findings together with corresponding examples of popular books and diets in a table which is being adjusted for the cases used in this study as seen in Table 1. Mebelder (2016) concludes that the concept of healthy food trends consists of the following five dominant attributes;

1. Prescriptions to avoid certain nutrients or substances
2. Prescriptions to avoid entire product groups
3. Promotion of less processed techniques and more natural foods
4. Claiming specific health benefits and prevention of diseases
5. Use of role models, often with contradicting information with what authorities say

This study addresses the fifth attribute, here referred to as food celebrities, that promote a healthy lifestyle. To define this concept, the above mentioned results of healthy food trend characteristics of Mebelder's (2016) study are being used. Therefore this study considers healthy

lifestyle trends as a way of living promoted by a role model, who prescribes to avoid certain nutrients and entire product groups and promotes green and natural foods, with the objective to get healthier by claiming certain health benefits.

Table 1: Food celebrities and the books they have written with the corresponding promised effects and banned and promoted product categories. *Adapted from Mebelder (2016).*

Food celebrity	Books title	Promised benefits	Banned (or reduced consumption of) product categories	Promoted product categories	Characteristic of diet
Rens Kroes	- Powerfood - Powerfood. From Friesland to New York - On the Go	- "To achieve and maintain a healthy, happy and beautiful body"	- Cow's milk - Products containing gluten - Refined sugar	- Whole foods - Green foods	- Role Model - Exclusion of specific nutrients or substances - Exclusion of entire product groups - Less processing; more natural
Fajah Lourens	- Killerbody dieet - Killerbody 2	- "Slim in 12 weeks"	- Refined sugar - Products high in carbs or fat	- Protein	- Role Model - Exclusion of specific nutrients or substances

Furthermore gender differences in the field of eating behaviour have been extensively studied over the last years. In general, women have shown different and specifically more health-related motives than men do to make their daily food choices (Gough & Conner, 2006; Wardle et al., 2004; Lappalainen et al., 1998). This appears to be a universal occurrence among different stages in life and numerous studies addressing different scales have found similar results of greater health concerns among women than among men. By means of a face-to-face interviewer-assisted questionnaire, a pan-European study on attitudes towards food, nutrition and health (Lappalainen et al., 1998) found that "trying to eat healthy" was in the Top-5 determinants for females between the age of 18 to 40 on making food choices, whereas this motive did not reach the determinant Top-10 for males as they considered more holistic motives as "taste" and "habit" most important. As a logical consequence, being more focussed on the healthy aspects of making food choices, women show a greater likelihood of dieting (Wardle et al., 2004). Therefore, this study focusses entirely on women in the age between 18 and 40.

2.1.2 Characteristics of role models

Role models, in general, are people who are being admired for their behaviour, the example they set, or their success, particularly by the younger generation. They fulfil a social role, aspired by individuals, in that their behaviour is often idolized, imitated and used as a standard for personal evaluation (Thompson & Hickey, 2005). The type of role model discussed in this article is the celebrity role model. The ever-widening media coverage of celebrities has resulted in a growing influence trough global communication and mass media. As a consequence, this has given them a powerful status and an increased level of credibility in what they do and say, not necessarily in their field of expertise (Fraser & Brown, 2002). That is a major characteristic of today's popular food

celebrities. Many of them are famous in another area than nutrition and health, for example for their (former) modelling (e.g. Rens Kroes), sports (e.g. Fajah Lourens) or acting (e.g. Gwyneth Paltrow) careers.

Furthermore, a common characteristic of these food celebrities is that they are utilizing different platforms – blogs, social networking, and books – to put themselves out there as well online as offline. For example Rens Kroes, she is probably the most well-known food celebrity in The Netherlands. She started as a food coach on living a healthy lifestyle, whereas now she has her own website, an Instagram account (338k followers), a Twitter account (19K followers), a Facebook fan page (6K followers), a YouTube channel (3K subscribers) and moreover she has had three bestselling healthy lifestyle books.

Lastly, after comparing different lists, another aspect that characterizes today's food celebrities became evident. Counting the male to female ratio in ranking lists as "The Best Dutch Fitfluencer", "Celebrity Food Experts" and "Top 12 Instagram Celebrity Foodies" showed a gender ratio of at most 30% male to at least 70%. This implies that the vast majority of successful food celebrities is from the female gender (Bustle, 2014; HuffingtonPost, 2014; Women'sHealth, 2016).

2.1.3 The power of celebrity role models

The power of celebrity endorsement is widely researched in marketing (Erdogan, 1999). The usage of likeable celebrities can be explained by different learning mechanisms in consumer behaviour. Three types; modelling, classical conditioning and reference groups, are highlighted to create a better understanding of the popularity of food celebrities.

The first one is modelling, also known as observational learning (Carroll & Bandura, 1987). This first happens with little children, observing their parents' behaviour followed by imitation (Brown & Ogden, 2004). In the context of food celebrities with their many followers, it is nothing different. Fans follow their favourite food celebrity online and model the behaviour such as sports behaviour and dietary intake.

The second learning theory is classical conditioning. Classical conditioning explains that certain positive associations become automatically associated with a product, in this specific case the recipe the celebrity presents. The favourable feelings celebrities generate from their followers, makes that their use as unconditioned stimuli results in positive associations transferred to the recipe.

The third theory explains the popularity of celebrities in health promotion in terms of reference groups, where an individual might feel he or she aspires to be like or to have some characteristics of another individual or group (Park & Lessig, 1977). In terms of aspirational food celebrities, this implies that the individual does not want to become the celebrity itself, but wants to associate with their healthy standard of living or with their success. In this way, the recipes promoted by admired food celebrities, take over their aspirational quality. This projected aspirational quality of a person on a product is being explained by the theory of property mapping in section 2.2.

2.2 Property mapping and product evaluation

2.2.1 Property mapping

When consumers make food choices, the first thing they do is base their impressions on the outward aspects of a product. This makes that the visual design features of a product are essential for creating perceptions regarding content, quality and use of the product (Crilly, Moultrie, & Clarkson, 2004). The design and presentation of a product are therefore very important when transferring product property information to a consumer (Becker, Van Rompay, Schifferstein, & Galetzka, 2011). This research advances that exposure to food celebrities in presenting a relatively unhealthy recipe is an effective way of communicating features of this celebrity to the consumer. More specifically, we posit that due to adding a promotional picture of a person that is known for living and promoting a healthy lifestyle to a relatively unhealthy recipe, personal features of this food celebrity induce property mapping: a thinking style which leads consumers to transfer property information from one product (the food celebrity) to another (the recipe). Ultimately, it is expected that this effect of property mapping will alter, in terms of overgeneralisation, a consumer's health valuation of the recipe. Moreover, this positive effect of the healthy attributes projected on the recipe, is assumed to solely take place when the consumer has a positive attitude towards the food celebrity.

2.2.2 Role models and attitudes

According to Western consumer behaviourists, attitudes are lasting, general evaluations of people (including oneself), objects or issues (Baron & Byrne, 1987). Attitudes accommodate cognitive as well as affective components. This means that an attitude is based on functions of, as well as the emotional connectedness to, the considered object. Furthermore, attitudes involve thinking, feeling, and behaving (Fiske, 2010), better known as the "integrated affect-behaviour-cognition" system or ABC model of attitudes (Solomon, Bamossy, Askegaard, & Hogg, 2014). This model with its three components explains the interconnectedness of what an individual feels, does and knows.

Attitudes are not innate, people are not born with them, they are a concept formed through learning. Solomon (2013) mentions several types of influences that form our attitudes. *Information* is one of these types. Formed through media, marketing, and advertisement, but also through personal communication with other individuals. An example in the context of healthy lifestyle blogs, are other users that post their "before and after transformation photos" on social media. In one second you can see how following this new way of living has transformed their bodies, which visualizes the impact that diet could have on you. In this way positive associations of these diets are brought to mind. Next to information, *personal direct experiences* form a basis for learning attitudes. Actual contact with a product or person, but also mere exposure, not really interacting but just being exposed, helps in creating attitudes. It is a much replicated finding from social psychology that 'familiarity breeds liking'; the more familiar we are with a product or person, the more we like it (Moreland & Beach, 1992).

Next to personal experience and information, attitudes are also formed from social learning (Bandura, 1977)**,** as explained with the power of the celebrity role model. This theory explains

formation of attitudes through modelling other's behaviour; the concept that we continuously observe other people's behaviour, we watch them interact with attitude objects, and infer what these objects mean to them. When this person uses the object a lot, this infers a positive attitude and you start wanting to try or having them yourselves. In marketing this is used through positive stimuli, to try to create an automatic positive association, called conditioning.

Food celebrities might touch a new chapter in social learning with all virtual groups they are present in; the internet widens possibility of all kind of social influences, for instance for food celebrities and their followers. Through virtual communities, consumers share social relationships based on product usage/interests. Via blogs and platforms, and online media, experiences and opinions are shared which has made it possible to very quickly evaluate a product, person or brand (Jonas & Micael, 2011).

2.2.3 Role models and social comparison

Comparison with others is an important factor of creating knowledge about oneself. The theory of social comparison was developed around this thought by Festinger (1954). By making comparisons with others, people evaluate their own abilities and create perceptions of the self. Research has shown that, depending on the context, there are three underlying goals of social comparison; self-evaluation, self-improvement and self-enhancement (Wood, 1989). This first underlying goal, self-evaluation comparison, is based on how one is doing compared to others. Skills, knowledge and different attributes are being compared. This can be by evaluating math grades compared to peers, but also by comparing beauty with a sportsman. Self-improvement comparisons are equal to making upwards social comparisons. By taking someone that is a bit more successful as a benchmark, one is able to watch and learn from the other to achieve a personal goal. In contrast, self enhancement comparisons are downward social comparisons to increase self-esteem keep a positive feeling about the self for instance comparisons with a heavy friend after gaining unwanted kilograms.

Studies in the area of social comparison have found that women regularly tend to compare themselves to peers and models in the media (Halliwell & Dittmar, 2005; Leahey, Crowther, & Mickelson, 2007). It is found that the more sensitive a women is for social comparison, the more negative the influence on their body perception (Cattarin, Thompson, Thomas, & Williams, 2000). A recent experimental investigated the effect of social media usage in terms of Facebook exposure on young women's body image and how this differed from viewing models in a magazine (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015). They randomly assigned female participants to either a 10 minute browse on Facebook, a magazine or an appearance-neutral control group. They found that women high in appearance comparison felt worse about their looks as they mentioned more issues about their appearance than women in the other conditions.

In the context of healthy food trends, women are instantly exposed to online appearance-related social comparison. Comparison with the role model promoting their personal lifestyle, not only including pictures of the food but also of themselves. Furthermore progression pictures from before and after following a diet, might result in comparison in how much a woman believes her body can change.

2.2.4 Healthy becomes tasty

Despite the fact that more consumers are following the trend of shifting towards a healthier diet (Prasad, Strijnev, & Zhang, 2008), still many people are overweight, due to overeating products rich in calories. A recent study among American consumers devotes this energy-dense eating behaviour to a certain intuition that makes consumers, sometimes unconsciously, perceive unhealthy food as being more tasty than healthy food (Raghunathan et al., 2006). This so called unhealthy = tasty intuition, here referred to as healthy ≠ tasty, together with the main driver for making food choices being taste (e.g. Tepper and Trail 1998) results in overconsumption of unhealthy food in America.

However, there are reasons to believe that this effect is not universal. Werle et al. (2013) showed that in France, unhealthy food is spontaneously associated with bad taste, while healthy food is linked to tastiness. A study in France showed that unhealthy food was unconsciously associated with a bad taste and vice versa; healthy food was spontaneously associated with tastiness. Their results based on French respondents, found that neutral foods labelled *healthy* were perceived to have a better taste and being of better quality compared to the same products labelled *unhealthy* (Werle, Trendel, & Ardito, 2013). Though this study has been the first to violate the healthy ≠ tasty intuition, it is likely to believe that there are more situations in which this intuition does not automatically happens. With celebrities creating a sense of credibility to their public, it is expected that with the descriptive motivations they give for their recipes to be healthy as well as tasty, will be believed by the consumers. Therefore this study argues that Dutch food celebrities can combat the healthy ≠ tasty intuition and will create greater associations of tastiness.

2.2.5 Effect of overgeneralisation

Dichotomous thinking | The concept of healthy food trends is characterized by its strict and extreme differences from common diets, as for instance deleting a whole product category such as carbohydrates. This way of thinking corresponds with the concept of dichotomous thinking. With dichotomous thinking, also known as black and white thinking, people tend to think about objects in ultimate oppositions as either “all or nothing, good or bad”.

As there are many types of information sources, consumers try to simplify their way of making food choices and to create a certain structure in their food couture (Rousseau, 2015). A study in The Netherlands among 241 adults (Palascha, van Kleef, & van Trijp, 2015) found that eating-related dichotomous thinking is a determinant for restricted eating behaviour and gaining weight. They propose the idea that such binary beliefs about food are linked with following a strict diet. In line with Mebelder’s (2016) findings, it is supposable that this way of dichotomous thinking about food also exists in the degree to which someone is attracted to following healthy food trends.

Health Halo | Another way of processing the amount of available information on food consumption is by making use of mental shortcuts. For instance for not taking energy density into account when eating a cucumber as they are considered ‘healthy’. These kind of mental shortcuts in the context of healthiness are called health halo’s.

This health halo effect occurs when a single health claim about a product causes an effect of overestimation in terms of health, for instance “cholesterol lowering”. A recent study found that a common confusion in the context of health-claims among consumers is “low fat” with “low in calories” which in its place might lead to overconsumption of these “low fat” food items. Wansink & Chandon (2006) investigated the estimated calorie-density among consumers by making use two different products. A relatively unhealthy (M&M) and relatively healthy (granola) both containing a “low fat” claim were indeed considered more healthy, specifically lower in calories. The claim justifies to eat greater amounts of an item than would normally be done, as this health halo effect lowers feelings of guiltiness.

Next to health halos, halos also have proven its effect of over estimation in other research areas like reputation for instance based on CSR policy (Peloza, Ye, & Montford, 2015). They found that estimation of calorie density lowered when a company holds a reputation of caring for stakeholders. Food celebrities attach much value to their followers by thanking them for their support and by reacting on their posts, therefore it is likely that calorie estimation of products promoted by food celebrities also are being lower than the actual amount.

2.3 Hypothesis and conceptual model

Based on the theoretical findings concerning product evaluations and the use of celebrities in marketing to alter these evaluations, a conceptual model with corresponding hypotheses was developed. The model presented in Figure 1, aims to serve as a basis for the empirical research in which the hypotheses will be tested.

This research assumes that after exposure to a food celebrity, the mechanism of property mapping will evoke altered product evaluations. This projected aspirational quality of a food celebrity on the recipe could lead to perceptions of a better taste and a greater health evaluation, which, in turn, influences the caloric estimation. The hypothesis are built on these expectations.

As results in former research (e.g. Chandon & Wansink, 2007) have shown that consumers perceive restaurants or products that claim to be healthy as serving products lower in calories, it is expected that the statements of the food celebrity will activate this health halo. Resulting in the first hypothesis:

> **Hypothesis 1**: When exposed to a recipe with a food celebrity, the calorie-density of the recipe will be estimated lower compared to a recipe without a food celebrity

Earlier research has shown that the more unhealthy a product is perceived by a consumer, the better the expected taste will be; the so called healthy ≠ tasty intuition (Raghunathan et al., 2006). Yet one of the characteristics of food celebrities is that they promote with many descriptive information that their recipes are extremely tasty *and* good for your body (Mebelder, 2016), which led to the expectation that food celebrities will outweigh the healthy ≠ tasty intuition, resulting second hypothesis to be formulated as follows:

Hypothesis 2: When exposed to a recipe with a food celebrity, the recipe will be evaluated tastier compared to a recipe without a food celebrity.

Much research has been done on health halo's and dichotomous thinking as mechanisms for overgeneralising product evaluations (Mebelder, 2016; Peloza et al., 2015). As the food celebrities are assumed to mirror a healthy lifestyle in terms of conditioning, this is expected to activate halo's and dichotomous, which in turn results in greater health evaluations (Crilly et al., 2004). Hypothesis three is formulated as follows:

Hypothesis 3: When exposed to a recipe with a food celebrity, the recipe will be evaluated healthier compared to a recipe without a food celebrity.

The last two hypothesis are more general. Not specifically focussing on the effect of exposure of the food celebrity, but more on the general effect of product evaluations on caloric estimation. In line with the above mentioned theory, it is expected that activation of health halo's will lead to lower estimations of caloric-density. This has to do with the relation between evaluations of health and calories in one's head. Therefore hypothesis four was formulated as follows.

Hypothesis 4: When the recipe is being evaluated healthier, the calorie-density estimation will be lower.

Hypothesis 5 is created to check whether the healthy ≠ tasty intuition (Raghunathan et al., 2006) in general is also true for this particular target group. Findings on this intuition are not unanimously as results contradict in America and France (Werle et al., 2013). Yet, as most results point in the direction of the intuition to be true, the following hypothesis is being formulated:

Hypothesis 5: When the recipe is being evaluated as being tastier, the calorie-density estimation will be higher.

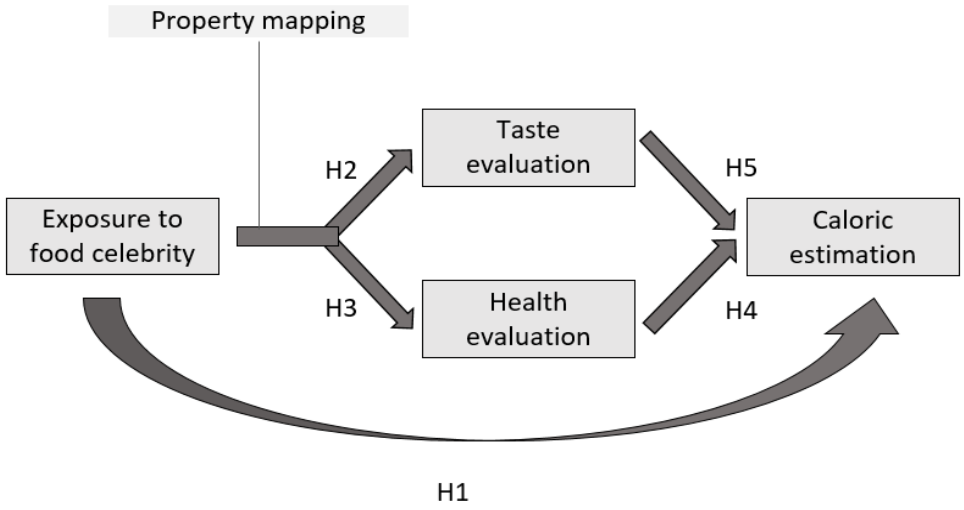


Figure 1: Conceptual model

3 Method

3.1 Participants

Respondents were approached via several social media platforms. An anonymous link was shared in the following Facebook Groups; “BBC 2014-2015”, “Wageningen Student Plaza”, “Argo Afroeiperiode”, “Fit Girl Code”, “Healthy Recipes”, but also via the researcher’s personal account on Facebook. Moreover, the link leading to the survey was shared in by the researcher in different WhatsApp groups and family and friends were approached to share the link in their environment as well. People known and unknown by the researcher shared the survey many times, resulting in respondents living in different cities in The Netherlands. Yet, as the biggest group reached out to by the researcher lives in Wageningen, results show that 70% of the women that filled in the questionnaire live in or in the neighbourhood of this area.

To answer the research question a voluntary online survey was distributed and completed by 489 Dutch respondents. It was chosen to delete all participants that did not finish the questionnaire most of them did not reach the questions about the conditions. Seven of respondents were deleted by the fact that they answered the gender question by being “male”. Furthermore, eight others were deleted as they exceeded the age of 40. The final sample consisted of 467 Dutch females with a mean age of 22.4 (SD = 4.0) years, who’s answers were used to test all hypothesis.

3.2 Procedure

After starting the experiment by clicking on the anonymous link online, the respondents had to go through six phases of the survey: 1.) Welcoming word 2.) Condition 3.) Questions concerning dependent variable 4.) General questions 5.) Control questions 6.) Final thank word (see Figure 2).

After clicking on the anonymous link, the survey opened online in a new tab starting with a welcoming word. This first page contained a general descriptive text, including the informed consent to be seen in Appendix A. Explicitly mentioned in this text was that the research focusses on women, and that a respondent not necessarily needs to like date pie to participate in the survey. It was mentioned that participants agreed to the terms and conditions by clicking on “next page”.

Subsequently, after agreement, random assignment to one of three conditions took place. A descriptive text was showed to the participants that was the same for every condition except for the name of the person recommending it, referring to the corresponding condition (*Rens Kroes Condition, Fajah Lourens Condition, Control Condition*). Respondents were asked to imagine that, in preparation for their birthday upcoming week, they were searching for a birthday pie to treat their family and/or colleagues. Beneath this text the recipe of the date pie was shown.

Then participants arrived at the part of the survey, where they were asked questions about all three constructs to create a product evaluation, which were the same in every condition. This part of the survey entailed questions about the expected health and taste, including a question on the estimation of the amount of calories.

The fourth phase of the survey could be seen as an intermezzo with some easy to answer general questions on the background of the respondent. Also level of education and zip-code were

asked to check the spread of the survey. Moreover, questions on date liking and pie baking in general had to be filled in by the respondent.

In the fifth phase of the survey, participants were asked questions about both food celebrities to get an indication if they knew the food celebrities in advance and if they were familiar with the them writing recipes. Furthermore, it was asked to which degree the respondent linked certain attributes (*fit, trustworthy and honest)* to the food celebrity.

The sixth phase consisted of the final thank word in which the respondent was attended on submitting the survey to make their results count. Including an open box where they optionally could leave a remark or critic on the survey.

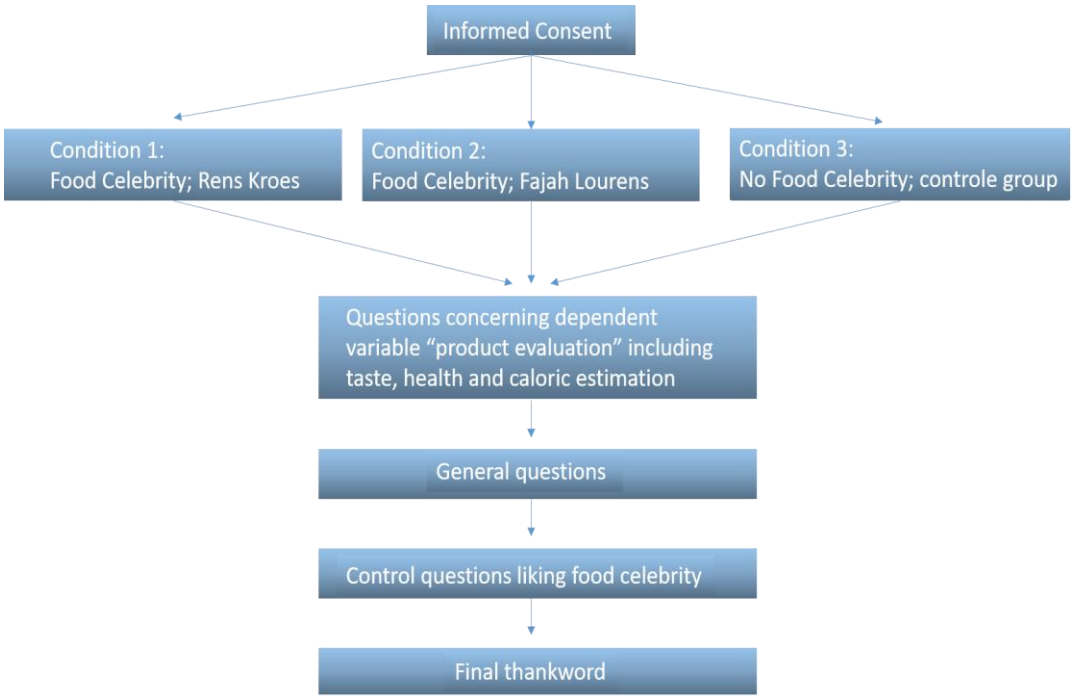


Figure 2: Flowchart of the survey, to give a visual clarification of the survey flow

3.3 Design

In order to test the hypotheses, an experiment was conducted. This between-subjects experiment was conducted via an online survey using Qualtrics software. Respondents were automatically led to one of three conditions (*food celebrity Rens Kroes (RKC), food celebrity Fajah Lourens (FLC) or control condition (CC) without a food celebrity).* Regardless of condition, the exact same questions were asked to be able to measure the same constructs.

The survey was aimed at women in the age of 18 to 40 and therefore these gender and age constraints were mentioned in the introduction of the survey. Furthermore, to ensure that all respondents were living in the Netherlands and spoke the Dutch language, the survey was in Dutch and the respondents had to fill in their zip-code to check the spread of the survey.

All respondents were randomly assigned to one of three conditions of the between subject design. In this way, the scores of the participants are not influenced by other factors. Results

influenced by practice or fatigue are also avoided by using this design. The average scores of all conditions can be compared to see if the conditions significantly differ. The dependent variables of this design used to test the hypothesis were ‘health evaluation, taste valuation and caloric-density estimation’.

Independent of the condition, a recipe of a date pie was shown including four aspects; introduction, ingredients, methods and two pictures. The ingredients and method were the same for all three conditions, yet the introduction and the pictures were manipulated with food celebrities. The introduction contained a general text about a date pie being a healthy alternative to a regular birthday pie. In the control group, this section was written by an anonymous person, referred to as ‘the editor’. In the first manipulation, the descriptive text stayed the same, yet ‘the editor’ was replaced by ‘Rens Kroes’, a Dutch food celebrity famous for her sister’s modelling career and her bestselling lifestyle books on how to live a happy and healthy lifestyle. In the second manipulation, ‘the editor’ was replaced by ‘Fajah Lourens’, a Dutch food celebrity famous for her former acting career and current fitness lifestyle. Also, in both manipulations, one of two date pie pictures were replaced by a picture of the corresponding food celebrity (see Figure 3 below for an impression, Appendix A for full format of the recipes).

Figure 3: Overview of the recipe of different conditions: food celebrity Rens Kroes condition (RKC), food celebrity Fajah Lourens condition (FJC) and control condition (CC).

3.4 Measures

In this experiment, the independent variable was *exposure to a food celebrity*. The effect of exposure to a food celebrity on product evaluation was measured with help of three different dependent variables: *taste evaluation, health evaluation* and *caloric-density estimation.* Furthermore there were some control variables to check whether participants were equally distributed among the three different conditions. To check randomisation, the following variables were used; '*age, educational level, liking of dates in general, liking of baking in general, liking of pie in general, frequency baking of pies, number of food accounts following online'.* The questions about familiarity '*knowing before survey*' and '*know she writes recipes*' and attributes '*fit, trustworthy* and *honesty*' of the food celebrities were no dependent variables. Yet it could be interesting to test if these variables have an influence on the constructs measured.

3.4.1 Dependent variables

TASTE EVALUATION

Taste evaluations of the recipe were measured by using a 7-Point-Likert Scale with endpoints labelled 'totally disagree' to 'totally agree'. The construct of taste was measured using the following three items 1.) *'I think the pie of this recipe will have a good taste'* 2.) *'I think the pie of this recipe will have a nice flavour'* and 3.) *'I find this pie attractive to eat*'. Combining these items into a unique scale resulted in a highly reliable factor (α = .875). Therefore these items were computed and defined as independent construct for overall level of taste evaluation to be further analysed in this research.

HEALTH EVALUATION

Health evaluation perceptions were idem measured by using a 7-Point-Likert Scale with endpoints labelled 'totally disagree' to 'totally agree'. The items '*I think this pie is filling'* and '*I think this pie has a crispy bottom'* were added as so called 'fillers' to distract the participants from the focus on health perception. Therefore these items are not further analysed in the research. The remaining items: '*I think the pie of this recipe is healthy'*, '*I think the pie of this recipe contains good nutrients'*, '*I think I won't feel guilty after eating a piece of this pie'* and '*I think this pie is good for me'* were computed into an independent scale of acceptable reliability (α = .761). Yet the Cronbach's Alpha of the '*If Item Deleted'* column did show a greater value after deleting '*I think I won't feel guilty after eating a piece of this pie'* therefore this item was deleted and the new variable contained the remaining three items (α = .766). This new construct loaded on the three items is further analysed in this research.

CALORIC-DENSITY ESTIMATION

The last construct, the energy density of one piece of the date pie, was measured by a single question. By means of a slider that ran from 0 to 1000 calories, participants could show their estimation of calories per portion. For illustration, a picture of one slice of the pie in the same style as that of the recipe was shown. Participants were asked to estimate the amount of calories per slice as shown in the picture.

3.4.2 Control variables

BACKGROUND VARIABLES

General classification of the respondent was measured where *gender, age* and *level of education* were asked. If respondents checked the box of being 'male' or reported an age greater than 40, they were automatically lead to the sixth phase, the final thank word of the survey.

NUMBER OF ACCOUNTS FOLLOWING ONLINE

In the literature study it became clear that the social media accounts (Twitter, Facebook, Instagram, blogs) of a food celebrity plays a vital role in their popularity among their fans. Mebelder (2016) suggested that the amount of (healthy) food accounts followed online could influence the attractiveness of food celebrities, as social influence might play a role. Therefore an estimation of the number of (healthy) food blogs followed online was asked, to ensure that the fanatic social media users are equally spread among the conditions.

LIKING

..of pie in general

As particular words might create association with others (Hines et al. 1986), a person that has negative memories about a certain product or activity could automatically get negative associations when seeing this product or activity again. All *liking* items were measured on a 7-Point-Likter Scale (totally disagree – totally agree) on questions concerning them liking the product (*date, pie)* or activity (*baking).* A person not liking pie in general, could get negative associations with the recipe by only seeing the word 'pie'.

..of dates in general

The manipulation of the experiment was the recipe of a date pie. As dates are the main ingredient, it is important to know whether or not people like dates or more important, if they do not for the above mentioned reason. If a person does not like dates at all, this could be an influencer on the taste perception of the pie.

..of baking in general

People who are really into baking might favour a recipe like this and rate higher product evaluations. Therefore it was chosen to also check randomisation among the respondents in terms of liking of baking in general.

FREQUENCY BAKING OF PIES (IN A YEAR)

Among others for the same reasons as for liking of baking in general, the frequency of baking pies was asked. In this study it was assumed that people who bake a lot have a reference of what ingredients a 'normal pie recipe' consists of. People that bake very often therefore could have a different perspective on the health valuation of the product than people that do not have that knowledge.

3.4.3 Questions about food celebrity

Questions about the food celebrities were, as mentioned before, not asked to give answers on the hypotheses, but to check participants knowledge and attitude towards the celebrities to describe the group of respondents and possibly to find out if this has an effect on the constructs measured.

FAMILIARITY

First, two questions were asked about the knowledge a respondent had about the food celebrity. With a simple yes or no, respondents could fill in if they knew the celebrity and if they knew about the recipes they have published. If a respondent answered *yes* on at least one of the questions, she was guided to the attribute questions. If she answered *no* on all questions, the questions on the attributes were automatically skipped.

ATTRIBUTES

Then, on a 7-Point-Likert Scale, questions about healthiness, trustworthiness and honesty were asked in the form of '*I find (name of food celebrity) (attribute)*'. Every attribute was measured by three items. Fit consisted of 'fit, sporty, healthy'; trustworthy of 'trustworthy, honest, believable'; competent of 'competent, expert, specialist'. Respondents could answer these questions by a range from 'totally disagree' to 'totally agree'. A reliability check was done for all three attributes, resulting in highly reliable scales for all attributes (see Table 2).

Table 2: Reliability output Cronbach's Alpha

Reliability Statistics

	Cronbach's Alpha
Fit	.713
Trustworthy	.854
Competent	.897

3.5 Data analysis

Before the constructs and with that the dependent variables were studied to answer the hypotheses, the control variables were used to check whether respondents were equally distributed among the conditions. The variables used to check the randomised distribution were *age, educational level, liking of dates in general, liking of baking in general, liking of pie in general, frequency baking of pies, number of food accounts following online.* Differences between the groups were checked by making use of an ANOVA and a Bonferroni post-hoc test.

In this study, the independent variable was *exposure to a food celebrity.* The effect of exposure to a food celebrity on product evaluation was measured with help of three constructs: *taste evaluation, health evaluation* and *caloric-density estimation.* Statistical analysis of the effect of food celebrities on the constructs were measured for equality of distribution by means of a one-way ANOVA and reporting the effect size. The ANOVA test identified whether the mean values of each item scale of the three conditions significantly differed from each other. The primary test results used to interpret the analysis were significance level and effect size.

Furthermore the influence of health and taste perception on caloric estimation were measured by doing a regression analysis.

All data was analysed via the statistical software package IBM SPSS Statistics 22.0 by using a reliability level of $p < 0.05$. When a significant difference between the conditions could be detected, the strength of the effect of the factor on the affected dependent variable was of interest. The effect size was measured using the statistic eta squared ($\eta 2$) where its value varies between 0 and 1, where 0.10 accounts for a small effect, while 0.50 accounts for a large effect size of the factor on the variable (Malhotra, 2010; Field, 2013).

4 Results

4.1 Familiarity food celebrities

To check whether respondents were familiar with the two food celebrities, the two general questions were consulted as well as the attribute questions. In table 3 is to be seen that all 467 respondents gave an answer to this question for both Fajah Lourens and Rens Kroes. Of these people a great majority had heard about both food celebrities before filling in the survey. Respectively 86.5 and 78.4 percent of the respondents knew Fajah Lourens and Rens Kroes. For Fajah Lourens, 300 respondents were also aware of the fact that she is into writing recipes herself, while 43 more people were aware of this fact for Rens Kroes. Comparing the mean scores for both food celebrities it is to be seen that Fajah appears to be seen as a little more fit than Rens, yet that Rens Kroes scores a bit higher on being trustworthy and competent (Table 4).

Table 3: Frequency table on familiarity with food celebrity

		Fajah Lourens		**Rens Kroes**	
		Count	**Percentage**	**Count**	**Percentage**
Did you ever hear about (name food celebrity) before this survey?	**Yes**	404	86.5	367	78.4
	No	63	13.5	101	21.6
Did you ever hear about (name food celebrity) before this survey?	**Yes**	300	64.5	343	73.3
	No	167	35.5	125	26.7

Table 4: Mean scores food celebrity attributes

	Fajah Lourens		**Rens Kroes**	
	Mean	SD	Mean	SD
Fit	5.7	1.0	5.2	1.0
Trustworthy	3.6	1.3	3.9	1.3
Competent	3.3	1.3	3.7	1.4

4.2 Randomization check

A randomization check for the control variables *age, educational level, liking of dates in general, liking of baking in general, liking of pie in general, frequency baking of pies, number of food accounts following online* was carried out to check whether participants were equally distributed among the different conditions. A One-Way ANOVA was conducted to find out whether these variables could influence results because of the way in which they were distributed across the three different conditions. These seven control variables were set out against the factor 'condition' to check an equal distribution to be seen in Table 5.

Table 5: Differences across food celebrity Rens Kroes condition (RKC), food celebrity Fajah Lourens condition (FLC) and control condition (CC) regarding randomisation checks

	RKC Mean (SD)	FLC Mean (SD)	CC Mean (SD)	*P* value
Randomisation checks*				
• **Age**	22.2 (3.8)	22.2 (3.8)	22.7 (4.3)	.470
• **Educational level**	6.5 (0.8)	6.6 (0.8)	6.5 (0.9)	.766
• **Estimation number of (healthy) accounts following online**	2.5 (1.6)	2.6 (1.6)	2.6 (1.6)	.936
• **Estimation number of pies baked in a year**	7.2 (7.8)	8.7 (17.0)	6.1 (5.7)	.139
• **Liking of pie in general**	5.7 (1.6)	5.4 (1.6)	5.5 (1.6)	.242
• **Liking of dates in general**	4.6 (1.9)	4.3 (2.1)	4.5 (2.0)	.521
• **Liking of baking in general**	5.5[a] (1.5)	5.1[b] (1.7)	5.1[b] (1.8)	.018

* Numbers (except *age*, *estimation number of (healthy) accounts following online*, *estimation number of pies baked in a year*) represent mean scores on each of the scales (7-point scales).
a Mean of the variable was found to be significantly higher than b
b Mean of the variable was found to be significantly lower than a

The test showed that 'age' ($F(2) = .756$, $P = .470$) was not significantly different on the $P < .05$ level between the three different conditions. Thus age of the respondents was evenly distributed across the conditions and did in all probability not influence the results.

The test showed that 'educational level' ($F(2) = .267$, $P = .766$) was not significantly different on the $P < .05$ level between the three different conditions. Thus the educational level of the respondents was evenly distributed across the conditions and did in all probability not influence the results.

The test showed that 'Estimation number of healthy food accounts/blogs following online' ($F(2) = .066$, $P = .936$) was not significantly different on the $P < .05$ level between the three different conditions. The number of healthy food accounts followed by participants thus was evenly distributed across the conditions and did in all probability not influence the results.

The test showed that 'Estimation number of pies baked in a year' ($F(2) = 1.985$, $P = .139$) was not significantly different on the $P < .05$ level between the three different conditions. The average amount of pies baked by participants, thus was evenly distributed across the conditions and did in all probability not influence the results.

The test showed that 'Liking of pie in general' ($F(2) = 1.424$, $P = .242$) was not significantly different on the $P < .05$ level between the three different conditions. The liking of pies among respondents, thus was evenly distributed across the conditions and did in all probability not influence the results.

The test showed that 'Liking of dates in general' ($F(2) = .654$, $P = .521$) was not significantly different on the $P < .05$ level between the three different conditions. The liking of pies among respondents, thus was evenly distributed across the conditions and did in all probability not influence the results.

However, the test showed that 'Liking of baking in general' ($F(2) = 4.053$, $P = .018$) did significantly differ on the $P < .05$ level between the three different conditions. As the main output of the ANOVA was significant, this indicates that there is a difference between the different conditions. Since the main analysis does not show where this difference is an additional Bonferroni *post hoc* test was carried out. This post hoc comparison indicated that the mean score for the control condition, was significantly different from the Rens Kroes condition ($P = .40$). However, the Fajah Lourens condition did not significantly differ from the control condition ($P = .578$) but did from the Rens Kroes condition ($P = .49$). Taken together, these results suggest that the Rens Kroes condition contained respondents that reported a higher liking of baking than the respondents in the control condition and the Fajah Lourens condition. The differences between the conditions on liking of baking could be of influence for the rest of the results of this study. Therefore, all analysis were done twice. Once with *'liking of baking in general'* as a covariate and once without. This did not lead to significant differences on the outcomes of the constructs and therefore was not included as a covariate for further analysis in this study.

4.3 Dependent variables and hypothesis

According to the predictions, making use of a food celebrity when promoting a relatively unhealthy product will have an influence on different aspects of the product evaluation. First of all, it is expected that it will have an influence on the taste perception, furthermore on health perception and lastly on the caloric estimation. It is assumed that after exposure to a food celebrity, the taste perception of the relatively unhealthy product, despite being promoted to be healthy, will not combat the healthy = tasty intuition. Yet exposure is expected to lead to greater health perceptions. Lastly it is expected that exposure will lead to lower caloric estimations. Also a positive correlation between perceived taste and caloric estimation and a negative correlation between health and caloric estimation is expected to be found.

4.4 Testing hypothesis

The constructs taste and health evaluation, and caloric-density estimation were analysed against the grouping variable 'condition' that served as an independent variable and factor throughout all conducted tests. Significance was reported for 'taste perception'($p = 0.000$; $\eta 2 = 0.042$) accounting for a rather small effect ($\eta 2 < .10$). As presented in the table, no significant effects (n.s.) were detected for the remaining two variables 'health perception' ($p = .159$) and 'caloric estimation' ($p = .974$).

Table 6: Output One-Way ANOVA to check hypothesis

ANOVA

Scale items	Mean (SD) RKC	Mean (SD) FLC	Mean (SD) CC	*F*-Ratio	*P* value	Effect size (η2)
Taste evaluation	4.7[b] (1.4)	4.2[b](1.5)	4.9[a](1.4)	10.106	0.000	.042
Health evaluation	3.8 (1.4)	3.6 (1.3)	3.9 (1.1)	1.759	0.159	n.s.
Caloric-density estimation	3.7(1.4)	3.6 (1.4)	3.7(1.4)	.027	0.974	n.s.

* Mean scores are measured on the 7-point scales.

a Mean of the variable was found to be significantly higher than b

b Mean of the variable was found to be significantly lower than a

While the ANOVA test indicated that the majority of variables did not explain a significant difference between the three conditions, the items were further looked at from an individual perspective by directly comparing the mean values in order to test the hypotheses, as presented in the following subchapters

4.3.1 Influence of exposure to food celebrity on caloric estimation

The first hypothesis concerns the variable 'caloric estimation' . When looking into the responses given to the question where an estimation could be given for one piece of date pie, it was found that 45.2% of the respondents in the control condition, gave an estimation equal or less than 300 calories. Within the Rens Kroes condition, 45.1% gave answers in the range from 0 to 300 and for Fajah Lourens this concerned 49.3% of the respondents.

By comparing all conditions against the dependent variable caloric estimation, only a slight difference in means which was almost nihil was found. The control condition (M = 3.7, SD = 1.4) had an equal mean as the Rens Kroes condition (M = 3.7, SD = 1.4) which both were slightly higher than the Fajah Lourens condition (M = 3.6, SD = 1.4). As there is almost no difference found between the three conditions, the predicted hypothesis cannot be supported.

HYPOTHESIS 1 **(Rejected)**: *When exposed to a recipe with a food celebrity, the calorie-density of the recipe will be estimated lower compared to a recipe without a food celebrity*

4.3.2 Influence of exposure to food celebrity on taste evaluation

Taste evaluation is the second product evaluation variable considered. When looking into the responses given to the taste-related questions it became clear that taste perceptions did not go up when exposed to a food celebrity, since the opposite was to be seen in the scores. Whereas over two third of the respondents in the control condition, 68.5% reported a value in the direction of the pie being tasty (5 – 7), only 59.6% gave these answers in the Rens Kroes condition and among the respondents in the Fajah Lourens condition only a minimal majority of 50.7% considered the pie as tasty.

This variable showed quite some differences in mean scores between the three groups in which the control condition (M = 4.9, SD = 1.4) scored higher than the respondents exposed to Rens Kroes (M = 4.7, SD = 1.4) and Fajah Lourens (M = 4.2, SD = 1.6). These scores show that the consumers not exposed to a food celebrity were more likely to perceive the date pie as being tasty. This being found, together with the significant results of the One-Way ANOVA and the Bonferroni test as described before, the hypothesis concerning taste perception is being rejected. Despite the difference among control and experimental conditions, the test shows an opposite effect than was expected.

HYPOTHESIS 2 **(Rejected)**: *When exposed to a recipe with a food celebrity, the recipe will be evaluated tastier compared to a recipe without a food celebrity.*

4.3.3 Influence of exposure to food celebrity on health evaluation

Health perception, similar to the findings considering taste perception, showed results in the opposite direction of that that was expected. Where in the control group 37% of the respondents considered the date pie to be less healthy than neutral (1-3), more respondents in the experimental conditions had this perception. In the Rens Kroes condition 41% perceived the pie as (somewhat) unhealthy and in the Fajah Lourens condition almost half of the respondents chose this answer.

Again a greater difference in means was found between the control group (M = 3.9, SD = 1.1) and Fajah Lourens condition (M = 3.6, SD = 1.3) than between the control group and Rens Kroes (M = 3.8, SD = 1.4). Here again the results show an opposite effect to what was expected in the hypothesis, therefor hypothesis 3 cannot be supported.

HYPOTHESIS 3 **(Rejected)**: *When exposed to a recipe with a food celebrity, the recipe will be evaluated healthier compared to a recipe without a food celebrity.*

4.3.4 Influence of health valuation on caloric estimation

In the created model, it was assumed that the healthier a product is being perceived, the lower the calorie-density estimations are. Whether health perceptions indeed influence calorie-estimations, was investigated by a linear regression. In this linear regression, health perceptions was the independent variable and calorie-estimations the dependent variable. A significant regression equation was found ($F(1,466) = 38.420$, $p = .000$), with an R^2 of .276. The linear regression showed that health perceptions indeed have effect on calorie estimations ($B = -29.45$, $t = -6.198$, $p < .001$).

HYPOTHESIS 4 **(Supported):** *When the recipe is being evaluated as being healthier, the calorie-density estimation will be lower.*

4.3.5 Influence of taste valuation on caloric estimation

In the created model, it was assumed that the tastier a product is being perceived, the higher the calorie-density estimations are. Whether taste perceptions indeed influence calorie-estimations, was similar to the health valuation, investigated by a linear regression. In this linear regression, taste perceptions was the independent variable and calorie-estimations the dependent variable. A non-significant regression equation was found ($F(1,466) = 1.368$, $p = .241$), with an very tiny R^2 of .054. The linear regression showed that taste perceptions indeed have an effect on calorie estimations, yet a very small effect ($B = -4.882$, $t = -1.178$, $p > .001$). This small effect is in the opposite direction of the hypothesis, together with it being non-significant, hypothesis 5 cannot be accepted.

HYPOTHESIS 5 **(Rejected):** *When the recipe is being evaluated as being tastier, the calorie-density estimation will be higher.*

4.5 Summary of Results

One out of five hypothesis is supported after conducting the statistical tests (H4). The other hypotheses were either non-significant (H1, H3, H5), or significant but in contradiction with the expectations (H2). In order to answer the research question, also non-significant results were taken into account when interpreting the results of this research.

This means that exposure to a food celebrity compared to a control condition did not lead to differences in estimation of calories (H1). Moreover, it did also not have an influence on the health evaluation of the product (H3). Yet, a significant effect was found on the effect of exposure on taste perception, yet in contrast to the expectations. After exposure, participants evaluated the product to be less tasty compared to the control condition (H2) which leads to a rejection of the hypothesis.

Furthermore, in line with what was expected, the results of the regression of health perception on caloric estimation demonstrate that the healthier a product is being perceived, the lower the caloric-density estimation is (H4). Results of the regression of taste perception on caloric estimation showed a non-significant result. Indicating that there was not found a correlation between the tastiness of product and the associated caloric estimation (H5). A summary of the results can be found below in Table 7.

Table 7: Summary of results

Assumption	**#Hypothesis**	***P* value***	**Supported /Rejected**
Food celebrity on caloric-density estimation (-)	H1	>.05	Rejected
Food celebrity on taste evaluation (-)	H2	<.05*	Rejected
Food celebrity on health evaluation (+)	H3	>.05	Rejected
Health evaluation (+) on caloric-density estimation (-)	H4	<.05*	Supported
Taste evaluation (+) on caloric-density estimation (+)	H5	>.05	Rejected

* Significant on the $p < 0.05$ level

5 General discussion

A variety of studies have been developed to discover different factors that determine a consumer's product evaluation in terms of health, taste and caloric density estimations. Contributing to knowledge on the alarming rate of obese and overweight people, knowledge on this topic could help to counteract this phenomenon. Despite the great amount of research done in this field, it did not go unnoticed that the recent occurring phenomenon of food celebrities promoting their personal lifestyle guides has had almost no scientific attention yet, while the number of food celebrities and with that their impact on the society is growing. The current study demonstrates that exposure to a food celebrity indeed has an influence on product evaluations, however the results were contradicting expectations. Nonetheless, the influences of these perceptions on caloric estimation were confirming literature. These new findings can be seen as a first attempt on researching the effect of exposure to food celebrities on product evaluations and could be of use in the field of public health.

Theoretical and practical contributions

From a theoretic perspective food celebrities will have an influence on different aspects of the product evaluations. After exposure, the date pie presumably will be perceived to be tastier and healthier, resulting in lower caloric-density estimations. As a result, this will lead to a positive relation between perceived taste and caloric estimation and a negative correlation between health and caloric estimation.

This study shows that exposure to a food celebrity did not lead to differences in estimations on caloric-density of the date pie. In contrast to the expectations, the research in hand did not find corresponding results of lower caloric-density estimations when a food celebrity claimed their product to be healthy compared to the control condition. When a celebrity chef (Howard, Adams, & White, 2012) or a restaurant (Chandon & Wansink, 2007) that serves relatively unhealthy recipes in its marketing claims to be healthy, people will tend to underestimate the caloric-density of the products served. Possibly, this contradiction could be explained by a research of Wansink & Chandon (2006). In their study, they argue that health claims on labels have the effect of people underestimating caloric-density. As the control condition of this research did entail the same health claims, it could be argued that independent of the celebrity these claims work and that therefore no difference between the conditions could be found.

Also no alterations in terms of health perception were found after exposure to a food celebrity. Again this contradicts with what was expected from literature. Relevant proof in a different field of *health perceptions*, led to the idea that regardless of the field, people exceptional in one way are assumed to similarly excel in other areas. This pulls consumers to view them as credible and blindly follow their health recommendations. The study of Hoffman and Tan (2012) explained how consumers acquire and interpret health information promoted by celebrities on products that are already perceived as healthy (medicines), biasing consumers to view the celebrity as a credible health advisor. Their findings were based on the halo effect that celebrities create, adding up to the perceived health of the product. However, whereas the health halo effect was expected to be enlarged by the fact that a food celebrity was added to the experimental conditions, this study found that there was no significant difference between the three conditions in health

perception and that the food celebrities even generated lower health perceptions of the recipe that in the control condition. It could be argued that the consumers' dichotomous way of thinking overruled the health halo, as the date pie being a replacer for a birthday cake could have raised good or bad, healthy and unhealthy categorization, as explained by Wansink & Chandon (2007). It is possible that consumers considered the word 'pie' to be inherently indulgent and thus unhealthy.

However, consumers' taste perception did change when they were exposed to a food celebrity. Confirming the majority of food consumption research agrees on the statement that a high level of healthiness of a product does not go hand in hand with a good taste, ratings on taste perceptions declined when consumers were exposed to Fajah Lourens or Rens Kroes. Consumers also reported taste and health as being in contrast with each other (Luomala, Paasovaara, & Lehtola, 2004). This was explained by the healthy ≠ tasty intuition of Raghunathan et al. (2006) who demonstrated that cues for healthy foods are unconsciously less enjoyed and perceived less tasty than cues for unhealthy food. Therefore, it was expected that exposure to a food celebrity making health claims would lead to a higher evaluation of taste, combatting the healthy ≠ tasty intuition, by the mechanism of property mapping that positive associations of a food celebrity would reflect on the recipe. However, it appeared from the results that this was not the case and that exposure to a food celebrity promoting a relatively unhealthy recipe even led to lower taste evaluations. Logically following from this, the healthy ≠ tasty intuition, would be supported by this research, assuming that the food celebrity created a health halo. However, as just described in the previous part, this health halo did not occur. This shows, that in this study the healthy ≠ tasty intuition is combatted, given that food celebrities bring about perceptions of the recipe to be untasty as well as unhealthy.

In general independent of the condition, the tastier the recipe was being perceived, the lower the estimation of calories. Though this test did not show significant results, therefore the output must be interpreted carefully, but the results again show a contrast to the healthy ≠ tasty intuition. Here the impression is given that healthy is considered as being tasty, as the estimation of calories were lower when the pie was perceived tastier.

Limitations and future directions

That the current research shows contradictions to the healthy ≠ tasty intuition could be explained by multiple reasons. The study of Werle et al. (2013) already argues, the UTI is not a universal applying theory. Based on cultural heritage they found great intercultural differences on food perceptions between the USA and France. As a result of this, they found that French consumers perceived healthy labelled products as being more tasty and unhealthy labelled products as being less tasty. Together with the fact that the majority of the respondents was a student in Wageningen where studies often are linked to food and nutrition, resulting in them having a knowledge bias which might have influenced food perceptions. Therefore, in line with Spiteri Cornish & Moraes (2015) nutritional knowledge has been argued to be taken into account when processing nutrition-related information in making food choices. Therefore future research could add more nuance to the survey, based on factors such as nutritional knowledge, background information and study profile.

Second, the outcomes of the current research state that exposure to food celebrities has a negative outcome on taste and a moderate effect on health evaluations. Yet the number of books

being sold about living a healthy lifestyle are high and rising, indicating a popularity of the food celebrities. This might indicate that consumers do not buy the lifestyle guides because they think the recipes are healthy or tasty, but for other reasons. Future research could investigate by which (psychological) determinants consumers are triggered to buy recipes and products promoted by food celebrities. When we are aware of these determinants, they can adjust their marketing strategy in such a way that it results in more positive product evaluations and maybe even a higher amount of sales.

Third, the food celebrities used for this research were both of the female sex, Rens Kroes famous for her modelling career, Fajah Lourens for her sports career. It would be good for future research to investigate whether different types of food celebrities have a different outcome. Hereby there could be thought of celebrities known from very different backgrounds, ages and also in from different countries. Moreover, most famous bloggers and food celebrities active in the Netherlands are women, yet male food bloggers and food celebrities are also active in this field ("Bestseller Top 60," n.d.; Women'sHealth, 2016). Interesting would be if the same study would generate different results if the food celebrity would have been from the opposite sex.

Lastly, product type is not taken into account in the current study. In general, foods with a reputation of being high in healthiness such as vegetables, are perceived as healthier than foods with a negative reputation such as junk food, even when they carry the same amount of calories (Oakes, 2005). Interesting would be to conduct the study again with a healthier product type as this might lead to different outcomes.

Implication

The aim of this study was to find out to what extent exposure to a food celebrity would affect health and taste evaluations, including caloric-density estimation of date pie. As described above, when consumers are being exposed to a food celebrity, they evaluate the food product to be less tasty and less healthy. This finding is not in line with the healthy ≠ tasty intuition examined by Raghunathan et al. (2006), arguing that consumers evaluate products that are healthy as not tasty and unhealthy products as being tasty. Despite food marketers mainly focus on health-related information (Pitss et al., 2013), marketing by food celebrities focuses on both health and taste-related information. This research implies that the success of food celebrities is not due to the recipe evaluations in terms of health and taste, indicating that it might have to do with them being a celebrity in general. It should not go unnoticed that they do have a great fan base that follows their advice and diet they prescribe, despite the negative product evaluations. To improve public health, the government and experts could work together with food celebrities in letting them promote healthier products. As regular health-related marketing emphasize the intuition of healthy ≠ tasty, food celebrities could contribute to the increase of healthier diets and with that have powerful influence on dieting behaviour to contribute to lowering the obesity rate in this country.

6 References

Andrews, J. C., Netemeyer, R. G., & Burton, S. (1998). Consumer generalization of nutrient content claims in advertising consumer generalization of nutrient content claims in advertising. *Journal of Marketing*, *62*(4), 62–75.

Baltas, G. (2001). Nutrition labelling: issues and policies. *European Journal of Marketing*, *356*(8), 708–721.

Bandura, A. (1977). *Social Learning Theory*. New York, NY: Prentice-Hall Englewood Cliffs.

Baron, R. A., & Byrne, D. (1987). *Social Psychology: Understanding Human Interaction*. *Allyn & Bacon* (5th ed.). Boston, MA: Allyn & Bacon.

Bearman, S. K., Martinez, E., Stice, E., & Presnell, K. (2006). The skinny on body dissatisfaction: A longitudinal study of adolescent Girls and Boys. *Journal of Adolescence*, *35*, 217–229.

Becker, L., Van Rompay, T. J. L., Schifferstein, H. N. J., & Galetzka, M. (2011). Tough package, strong taste: The influence of packaging design on taste impressions and product evaluations. *Food Quality and Preference*, *22*(1), 17–23.

Bestseller Top 60. (n.d.). Retrieved from http://www.debestseller60.nl/index.asp?search String=renskroes

Brown, R., & Ogden, J. (2004). Children's eating attitudes and behaviour: a study of the modelling and control theories of parental influence. *Health Education Research*, *19*(3), 261–271.

Brugge, A. B. (2015). Why are alternative diets such as "Low Carb High Fat" and "Super Healthy Family" so appealing to norwegian food consumers? *Journal of Food Research*, *4*(3), 89–102.

Bustle. (2014). 12 Celebrity foodies you need to follow on Instagram. Retrieved May 11, 2017, from https://www.bustle.com/articles/43368-12-celebrity-foodies-you-need-to-follow-on-instagram-photos

Carroll, W. R., & Bandura, A. (1987). Translating cognition into action. *Journal of Motor Behavior*, *19*(3), 385–398.

Cattarin, J. A., Thompson, J. K., Thomas, C., & Williams, R. (2000). Body image, mood, and televised images of attractiveness: The role of social comparison. *Journal of Social and Clinical Psychology*, *19*(2), 220–239.

Chandon, P., & Wansink, B. (2007). The biasing health halos of fast-food restaurant health claims: Lower calorie estimates and higher side-dish consumption intentions. *Journal of Consumer Research, 34*(3), 301–314.

Collins, H. (2014). *Are we all scientific experts now?* Cambridge, England: Polity Press.

Crilly, N., Moultrie, J., & Clarkson, P. J. (2004). Seeing things: consumer response to the visual domain in product design. *Design Studies*, *25*(6), 547–577.

Crossley, N. (2004). Fat is a sociological issue: Obesity rates in late modern, "Body-Conscious" societies. *Social Theory & Health*, *2*, 222–253.

Erdogan, Z. B. (1999). Celebrity endorsement: A literature review. *Journal of Marketing Management*, *15*(4), 291–314.

Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, *13*, 38–45.

Faulkner, G., Pourshahidi, L., Wallace, J., Kerr, M., Mccaffrey, T., & Livingstone, M. (2013). Perceived "healthiness" of foods can influence consumers' estimations of energy density and appropriate portion size. *International Journal of Obesity*, *38*, 106–112.

FDA. (2000). How to understand and use the nutrition facts label. Retrieved April 4, 2017, https://www.fda.gov/food/ingredientspackaginglabeling/labelingnutrition/ucm274 593.htm

Festinger, L. A. (1954). Theory of social comparison processes. *Human Relations*, *7*, 117– 140.

Fiske, S. T. (2010). Attitudes & persuasion; Changing hearts and minds. In *Social beings: ore motives in social psychology* (p. 694). Wiley. Retrieved from https://books.google.nl/books

Fraser, B. P., & Brown, W. J. (2002). Media, celebrities, and social influence: Identification with Elvis Presley. *Mass Communication and Society*, *5*(2), 183–206.

GfK. (2011). *Dagelijks Eten*. Retrieved from http://www.voedingscentrum.nl/Assets/Uploads/voedingscentrum/Documents/Consumenten/Overig/11-11-11 Rapport Goede Voeding 2011_DEF.pdf

Gough, B., & Conner, M. T. (2006). Barriers to healthy eating amongst men: A qualitative analysis. *Social Science & Medicine*, *62*, 387–395.

Halliwell, E., & Dittmar, H. (2005). The role of self-improvement and self-evaluation motives in social comparisons with idealised female bodies in the media. *Body Image*, *2*, 249–261.

Hoffman, S. J., & Tan, C. (2012). Biological, psychological and social processes that explain celebrities' influence on patients' health-related behaviors. *Public Health*, *73*(1), 2–11.

Howard, S., Adams, J., & White, M. (2012). Nutritional content of supermarket ready meals and recipes by television chefs in the United Kingdom: cross sectional study. *British Medical Journal*, *345*(1), 174–193.

HuffingtonPost. (2014). 15 Celebrities who want to be food experts. Retrieved May 2, 2017, from http://www.huffingtonpost.com/2014/01/10/celebrities-food_n_4563189.html

Jane Wardle, Anne Haase, Andrew Steptoe, Maream Nillapun, Kiriboon Jonwutiwes, & France Bellisle. (2004). Gender differences in food choice: The contribution of health beliefs and dieting. *Ann Behav Med*, *27*(2), 107–116.

Jonas, C., & Micael, D. (2011). Following the fashionable friend: The power of social media. *Journal of Advertising Research*, *51*(1), 313–320.

Keen, A. (2007). *The cult of the amateur: How today's internet is killing our culture and assaulting our economy*. London and Boston, England: Nicholar Brealey.

Lappalainen, R., Kearney, J., & Gibney, M. (1998). A pan EU survey of consumer attitudes to food, nutrition and health: An overview. *Food Quality and Preference*, *9*(6), 467–478.

Leahey, T. M., Crowther, J. H., & Mickelson, K. D. (2007). The frequency, nature, and effects of naturally occurring appearance-focused social comparisons. *Behavior Therapy*, *38*, 132–143.

Luomala, H. T., Paasovaara, R., & Lehtola, K. (2004). How do consumers solve value conflicts in food choices? An empirical description and points for theory-building. *Advances in Consumer Research*, *31*(1), 564–570.

Mebelder, A. (2016). *Towards a healthy and happy lifestyle?* (Wageningen University) [Master Thesis]

Michael K. Goodman. (2010). The mirror of consumption: Celebritization, developmental consumption and the shifting cultural politics of fair trade. *Geoforum*, *41*(1), 104–116.

Moreland, R. L., & Beach, S. R. (1992). Exposure effects in the classroom: The development of affinity among students. *Journal of Experimental Social Psychology, 28*, 255–276.

Nichols, T. (2014). *The death of expertise: The campaign against established knowledge and why it matters*. New York, NY: Oxford University Press.

NVVL. (2015, May). Voedseltrends. Retrieved from http://www.nvvl.nl/wp-content/uploads/2015/05/Rapportage-NVVL-voedseltrends1.pdf

Palascha, A., van Kleef, E., & van Trijp, H. C. M. (2015). How does thinking in black and white terms relate to eating behavior and weight regain? *Journal of Health Psychology*, *20*(5), 638–648.

Park, C. W., & Lessig, V. P. (1977). Students and housewives: Differences in susceptibility to reference group influence. *Source Journal of Consumer Research*, *4*(2), 102–110.

Peloza, J., Ye, C., & Montford, W. J. (2015). When companies do good, are their products good for you? How corporate social responsibility creates a health halo. *Journal of Public Policy & Marketing*, *34*(1), 19–31.

Prasad, A., Strijnev, A., & Zhang, Q. (2008). What can grocery basket data tell us about health consciousness? *International Journal of Research in Marketing*, *25*(4), 301–309.

Raghunathan, R., Walker, R., & Hoyer, W. (2006). The unhealthy=tasty intution and its effects on taste inferences, enjoyment, and choice of food products. *Journal of Marketing*, *70*(4), 170–184.

Rousseau, S. (2015). The celebrity quick-fix: When good food meets bad science. *Food, Culture and Society: An International Journal of MultidisciplinaryResearch*, *18*(2), 265–287.

Solomon, M., Bamossy, G., Askegaard, S., & Hogg, M. K. (2014). *Consumer behaviour: A European perspective* (5th ed.). Essex, England: Pearson.

Spiteri Cornish, L., & Moraes, C. (2015). *The impact of consumer confusion on nutrition literacy and subsequent dietary behavior.Psychology & Marketing*, *32*(5), 558-574.

Steptoe, A., Pollard, T. M., & Wardle, J. (1995). Development of a measure of the motives underlying the selection of food: The food choice questionnaire. *Appetite*, *25*, 267–284.

Thompson, W., & Hickey, J. (2005). *Social Groups, Organisationsm and Bureaucracies*. In *Society in Focus* (pp. 144–160). Boston, MA: Pearson.

Wansink, B., & Chandon, P. (2006). Can "Low-Fat" nutrition labels lead to obesity? *Journal of Marketing Research*, *43*(4), 604–617.

Werle, C. O. C., Trendel, O., & Ardito, G. (2013). Unhealthy food is not tastier for everybody: The "healthy=tasty" French intuition. *Food Quality and Preference*, *28,* 116-121.

WHO. (2016). *Healthy diet Fact sheet N394*. World Health Organization. Retrieved from http://www.who.int/mediacentre/factsheets/fs394/en/

Women'sHealth. (2016). Top 40 fitfluencers. Retrieved from http://www.hearst.nl/content/download/185390/3424069/version/1/file/WH+FIT+LIST+2016.pdf

Wood, J. V. (1989). Theory and research concerning social comparisons of personal attribute. *Psychological Bulletin*, *106*(2), 231–248.

Appendix A: Survey

Hereafter, respondents were randomly assigned to one of the three conditions beneath. Beneath these three different conditions, the questions can be found that every respondent got to see and had to fill in. These questions were the same in all conditions.

Condition 1: 'Rens Kroes Date Pie Recipe'

"Stelt u zich voor dat u binnenkort jarig bent en dat u alvast opzoek bent gegaan naar een origineel recept voor het maken van een verjaardagstaart zodat u uw vrienden en/of collega's kunt trakteren. Na het bekijken van diverse recepten op het internet en in verschillende bakboeken, vindt u onderstaand recept in een onlangs gekregen lifestyle boek met populaire recepten. Zoals u ziet is het het recept dat Rens Kroes op haar verjaardag heeft gemaakt.

Bekijk onderstaand recept goed en klik dan rechtsonder in beeld op "Volgende Pagina" voor het beantwoorden van enkele vragen."

Conditie 2: “Fajah Lourens Date Pie Recipe”

“Stelt u zich voor dat u binnenkort jarig bent en dat u alvast opzoek bent gegaan naar een origineel recept voor het maken van een verjaardagstaart zodat u uw vrienden en/of collega’s kunt trakteren. Na het bekijken van diverse recepten op het internet en in verschillende bakboeken, vindt u onderstaand recept in een onlangs gekregen lifestyle boek met populaire recepten. Zoals u ziet is het het recept dat Fajah Lourens op haar verjaardag heeft gemaakt.

De volgende vragen zullen gaan over uw mening betreffende onderstaand recept. Bekijk onderstaand recept daarom goed en klik daarna rechtsonder in beeld op "Volgende Pagina" voor het beantwoorden van enkele vragen.”

Conditie 3: “Control group (no food celebrity) Date Pie Recipe”

Stelt u zich voor dat u binnenkort jarig bent en dat u alvast opzoek bent gegaan naar een origineel recept voor het maken van een verjaardagstaart zodat u uw vrienden en/of collega’s kunt trakteren. Na het bekijken van diverse recepten op het internet en in verschillende bakboeken, vindt u onderstaand recept in een onlangs gekregen lifestyle boek met populaire recepten.

De volgende vragen zullen gaan over uw mening betreffende onderstaand recept. Bekijk onderstaand recept daarom goed en klik daarna rechtsonder in beeld op "Volgende Pagina" voor het beantwoorden van enkele vragen.

No-bake healthy dadeltaart met kokos

DE REDACTIE

Bak voor je verjaardag eens een healthy treat. Met alleen maar pure ingrediënten. Ik vind het belangrijk om zo min mogelijk bewerkt voedsel en geraffineerde suikers in mijn lichaam te krijgen.

Door geraffineerde suikers te vervangen door natuurlijke suikers, krijg je een *healthy* variant, die net zo heerlijk smaakt maar – vooral voor fijn voor de summerbody – nèt iets gezonder is.

Natuurlijk zoet, een healthy variant op verjaardagstaart

BINNEN NO-TIME OP TAFEL

- Begin met het verkruimelen van de volkoren biscuits en hak de walnoten fijn.
- Kluts het ei en, wanneer je geen ontpitte dadels hebt, verwijder de pitten uit de dadels.
- Smelt vervolgens de kokosolie in een grote pan
- Haal de pan van het vuur af en meng de dadels door de olie of boter heen.
- Voeg daarna de stroop en het geklutste ei toe en roer goed door.
- Zet de pan weer terug op het vuur en breng het mengsel aan de kook. Blijf het goed doorroeren!
- Haal de pan opnieuw van het vuur af en voeg tenslotte de biscuits en walnoten bij het mengsel.
- Vet een ovenschaal in en giet het taart mengsel hierin.
- Strijk het mengsel plat met een warm mes.
- Strooi als laatst de gemalen kokos over de taart heen en laat hem ongeveer 2 uur in de koelkast opstijven.

Een van de redacties favorite sweet and healthy treats

EASY | HEALTHY | HAPPY

Zoals de naam al verklapt heb je natuurlijk dadels en kokos nodig. Met de hieronder genoemde producten maak je een heerlijke gezonde dadeltaart!

250 gram dadels
125 gram kokosolie
1 eetlepel rijststroop of yaconstroop
100 gram walnoten
5 volkoren biscuits, in kleine stukjes gebroken
2 eetlepels chiazaad
1 ei, geklutst
kokosrasp

Geef alstublieft aan in welke mate u het eens bent met de volgende stellingen

	Volledig mee oneens	Grotendeels mee oneens	Gedeeltelijk mee oneens	Neutraal	Gedeeltelijk mee eens	Grotendeels mee eens	Volledig mee eens
De taart van dit recept lijkt me lekker	○	○	○	○	○	○	○
De dadeltaart van dit recept lijkt me makkelijk te maken	○	○	○	○	○	○	○
Ik denk dat de dadeltaart van dit recept goed zal smaken	○	○	○	○	○	○	○
Ik denk dat de dadeltaart van dit recept een originele smaak heeft	○	○	○	○	○	○	○
Ik denk dat deze dadeltaart indruk maakt op mijn vrienden/collega's	○	○	○	○	○	○	○
Ik vind dit recept aantrekkelijk	○	○	○	○	○	○	○

Hieronder staan een aantal vragen over het recept dat u zojuist bekeken heeft. Geef alstublieft aan in welke mate u het eens of oneens bent met de volgende stellingen.

Ik ben van mening dat..

	Volledig mee oneens	Grotendeels mee oneens	Gedeeltelijk mee oneens	Neutraal	Gedeeltelijk mee eens	Grotendeels mee eens	Volledig mee eens
de dadeltaart van dit recept gezond is	○	○	○	○	○	○	○
de dadeltaart van dit recept machtig is	○	○	○	○	○	○	○
de dadeltaart van dit recept goede voedingsstoffen bevat	○	○	○	○	○	○	○
de dadeltaart van dit recept een knapperige bodem heeft	○	○	○	○	○	○	○
de dadeltaart van dit recept goed voor me is	○	○	○	○	○	○	○
ik me niet schuldig voel na het eten van een stuk van de dadeltaart van dit recept	○	○	○	○	○	○	○

Hoeveel calorieën denkt u dat een portie (zoals te zien op onderstaande foto) van de dadeltaart bevat? Versleep de balk om het aantal verwachte calorieën per portie aan te geven.

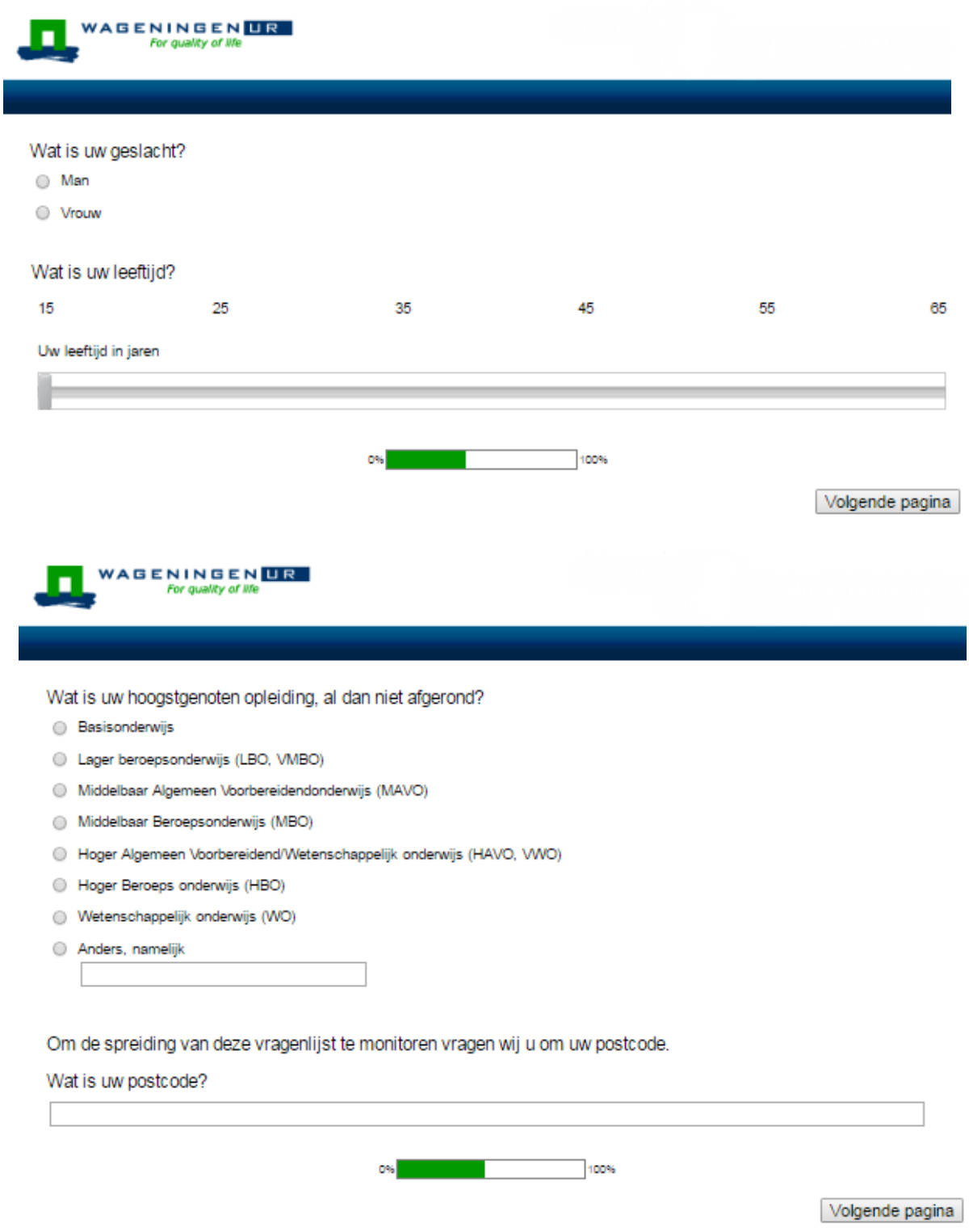
0 250 500 750 1000

Aantal calorieën per portie

0% 100%

Volgende pagina

questions.

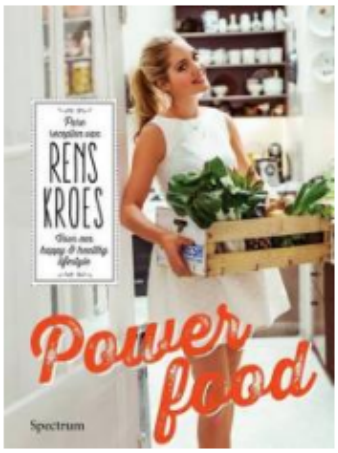


Control questions were asked to see whether participants knew the food celebrity and what they thought of them in terms of health, honesty and competency. Moreover, some questions for a randomisation check were asked. After this, participants got to see a general text to thank them for their participation.

WAGENINGEN UR
For quality of life

Twee bekende food celebrities uit Nederland zijn Rens Kroes en Fajah Lourens, de volgende vragen gaan over hen.

Hier ziet u een foto van Rens Kroes op de cover van een van haar bestselling lifestyle-boeken "Power Food"



	Rens Kroes	
	Ja	Nee
Heb je ooit van deze BN'er gehoord?	○	○
Wist je dat deze BN'er haar eigen recepten schrijft?	○	○

0% 100%

Volgende pagina

WAGENINGEN UR
For quality of life

Ik vind Rens Kroes..

	Volledig mee oneens	Grotendeels mee oneens	Gedeeltelijk mee oneens	Neutraal	Gedeeltelijk mee eens	Grotendeels mee eens	Volledig mee eens
Fit	○	○	○	○	○	○	○
Betrouwbaar	○	○	○	○	○	○	○
Sportief	○	○	○	○	○	○	○
Eerlijk	○	○	○	○	○	○	○
Deskundig	○	○	○	○	○	○	○
Gezond	○	○	○	○	○	○	○
Competent	○	○	○	○	○	○	○
Geloofwaardig	○	○	○	○	○	○	○
Vakbekwaam	○	○	○	○	○	○	○

0% 100%

Volgende pagina

WAGENINGEN UR
For quality of life

Hier ziet u een foto van Fajah Lourens op de cover van een van haar bestselling lifestyle-boeken "Killerbody 2".

	Fajah Lourens	
	Ja	Nee
Heb je ooit van deze BN'er gehoord?	○	○
Wist je dat deze BN'er haar eigen recepten schrijft?	○	○

0% 100%

Volgende pagina

WAGENINGEN UR
For quality of life

Ik vind Fajah Lourens..

	Volledig mee oneens	Grotendeels mee oneens	Gedeeltelijk mee oneens	Neutraal	Gedeeltelijk mee eens	Grotendeels mee eens	Volledig mee eens
Fit	○	○	○	○	○	○	○
Betrouwbaar	○	○	○	○	○	○	○
Sportief	○	○	○	○	○	○	○
Eerlijk	○	○	○	○	○	○	○
Deskundig	○	○	○	○	○	○	○
Gezond	○	○	○	○	○	○	○
Competent	○	○	○	○	○	○	○
Geloofwaardig	○	○	○	○	○	○	○
Vakbekwaam	○	○	○	○	○	○	○

Geef een inschatting van hoeveel (gezonde) voedingsblogs / (gezonde) voedingsaccounts je volgt op social media, denk hierbij aan blogs, Instagram, Facebook, Pinterest, Twitter etc.

- 1-3
- 4-6
- 7-10
- Meer dan 10
- Geen

Hoe vaak per jaar bakt u taart? Geef uw antwoord in cijfers.

Ik bak ongeveer .... keer per jaar taart.

Hieronder staan een aantal stellingen. Klik aan wat op u van toepassing is.

	Volledig mee oneens	Grotendeels mee oneens	Gedeeltelijk mee oneens	Neutraal	Gedeeltelijk mee eens	Grotendeels mee eens	Volledig mee eens
Ik ben een liefhebber van taart in het algemeen							
Ik bak graag (koekjes/taart etc)							
Ik houd van dadels							

0% 100%

Volgende pagina

WAGENINGEN UR
For quality of life

Beste Deelnemer,

LET OP: OM UW ANTWOORDEN TE VERSTUREN MOET U NOGMAALS OP "Volgende Pagina" KLIKKEN.

Graag wil ik u hartelijk bedanken voor uw deelname aan mijn onderzoek. Het doel van dit onderzoek is om uit te vinden of food celebrities invloed hebben op de gezondheidsevaluatie van relatief ongezonde recepten. Door het invullen van deze enquête heeft u het mede mogelijk gemaakt dat ik door middel van dit onderzoek kan afstuderen.

Mogelijke **op- of aanmerkingen** met betrekking tot de vragenlijst kunt u in **onderstaand tekstvak** plaatsen.

Hoe meer deelnemers deelnemen aan deze enquête, hoe relevanter dit onderzoek zal zijn. Daarom zou ik u willen vragen of u deze enquête misschien zou willen delen. Dit kan door onderstaande link te delen.

https://wur.az1.qualtrics.com/jfe/form/SV_5o1m1cFQFVJuLIN

Hoe dan ook hartelijk bedankt.

Met vriendelijke groet,
Nicole Timmerman

0% 100%

Volgende pagina

WAGENINGEN UR
For quality of life

Bedankt voor uw tijd om aan deze enquête deel te nemen.
Uw antwoord is geregistreerd.

0% 100%