# FOOD PLACEMENT

## The effects of unhealthy food in sitcoms and commercials on the desire for food

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## Abstract

Overweight and obesity are serious risk factors and have become one of the fastest growing causes for disease and even death. Genetic factors as well as environmental factors contribute to this problem, with television viewing being one of the main environmental factors. People are influenced by the many food commercials they are exposed to, as well by movies and television shows in which (lead) characters consume a lot of (unhealthy) food. The first study revolves around the effect of food placement – food integrated in mass media – in sitcoms on people's hunger and their desire for specific types of food. Participants were asked to answer questions regarding their involvement with the series and the characters, and their cravings for certain types of food. They were placed in one of three conditions that differed only in the episode that was shown to participants: 1) lead characters consuming unhealthy savoury food and having positive food experiences (the positive-food-episode), 2) a lead character consuming unhealthy savoury food and experiencing negative consequences (the negative-food-episode), and 3) no food is present at all (the no-food-episode: food is also not verbally spoken about). Results showed that people who watched the positive-food-episode have the highest cravings for unhealthy savoury food, whereas people who watched the negative-food-episode have the highest cravings for healthy sweet food (fruits). A follow-up study focused on the effects of an (either healthy or unhealthy) food commercial shown just after the episode, to measure if food commercials could change the (bad) influence of watching an episode in which lead characters consume unhealthy savoury food. Results showed a trend concerning the cravings for pineapple; placing a pineapple commercial (compared to a sparerib commercial) just after an episode in which unhealthy savoury food is consumed, increased consumers' cravings for pineapple. Furthermore, males seemed to be influenced more by savoury food commercials than females and had more cravings for all food products, but especially for unhealthy savoury food, than females.

# Foreword

This project has been a reaction to my personal life and I have worked on it with great pleasure. Before conducting the studies I was overweight and for the sake of my knees I needed to lose weight. By eating healthy and practicing (even) more sports than before I managed to lose 16 kilos on my own and thereby reaching a healthy BMI. I had a lot of difficult times and watching the television where I was exposed to many types of food I really enjoyed, was a real test for me. However, I managed to pull myself through and not yield to the temptation. With my final project I wanted to contribute something to society and provide a little more insight in the overweight problem and a possibly simple step towards the reduction of the desire for unhealthy food while watching the television. I am sure that I was able to contribute to the understanding of this by providing some insights in the influence of television on people's desires to consume certain types of food.

Special thanks go out to Ad Pruyn, my current first tutor. Due to reorganizational processes within the University of Twente my (former) tutors transferred from the faculty Behavioral Sciences to either a different faculty or a different company. Ad Pruyn was willing to take me on as a graduate student, guided me in the writing process, provided me with insights (in statistics) and gave general support when I needed it. I also especially thank Thomas van Rompay, my second tutor. Thomas van Rompay was there with me from the start, provided me with helpful suggestions to improve my research design, gave useful feedback on my writing, helped me with statistical problems, and supported me when I had difficult times. Also, I really appreciate the fact that he was willing to stay my tutor even after his transfer to a different faculty. Furthermore, special thanks go out to Martijn Veltkamp, who started out as my first tutor. He was always really involved in my work and arranged weekly meetings to discuss my study and to provide me with useful tips to improve my research design and my writing. Finally, I thank my friends, family and acquaintances for all the support they gave me. Without all of you I would not have been able to successfully round up my studies, for which I am very grateful.

## Introduction

The number of people dealing with overweight is increasing all over the world. This is a big problem, since overweight brings with it higher risks of developing diabetes, gallstones, hypertension, heart disease, and stroke (Field et al., 2001). People who are overweight can eventually develop a more serious form called obesity. Obese people have a Body Mass Index – calculated as weight in kilograms divided by the square of height in meters – higher than 30 (Field, et al., 2001), while in general a healthy BMI is considered to be between 18,5 and 25 (WHO, 2006). Also obesity is rapidly increasing all over the world. In America it even seems to be the "fastest growing cause of disease and death" (U.S. Surgeon General, in: Harris, Bargh, & Brownell, 2009). In the United Kingdom 70% of men and 63% of women were overweight in 2002 (Ambler, 2006) and in the Netherlands 47% of all people were overweight in the year 2009 of which 25% was obese (statline.cbs.nl, 2010). These statistics are worrisome and call for action.

Numerous studies have been performed regarding the causes of becoming overweight or obese (Caroli, Argentieri, Cardone, & Masi, 2004; Harris, et al., 2009). Being overweight or obese appears to have its roots in both genetic and environmental factors (Caroli, et al., 2004). Genetic factors contribute to obesity in the form of diseases like the Prader-Willi syndrome that directly causes obesity, or in the form of genes making someone more susceptible for obesity (Daniels et al., 2005). In the current study genetic factors are not considered any further.

Environmental factors contributing to the overweight problem are found in the high availability of (unhealthy) food, the means of transportation for which no physical exercise is needed, and the constant exposure of the senses to palatable food, often in the form of advertisements (Caroli, et al., 2004). Research has shown that the stimulation of people's senses by exposure to tasty food like pizza and ice cream increases their desire to consume this food, even when they are highly satiated (Cornell, Rodin, & Weingarten, 1989). Moreover, when people see the eating behaviours of others they, unconsciously, imitate this behaviour including food choice and amount of food consumed (Johnston, 2002; Tanner, Ferraro, Chartrand,

Bettman, & Van Baaren, 2008). Brain research confirms these results; the human brain reacts to the smell, taste and view of palatable food (Wang et al., 2004). Wang and colleagues (2004) compared the brain activity of participants who were exposed to their favourite food with the brain activity of participants telling something about their family and found that food presentation significantly increased whole brain metabolism. This means that the human brain is highly sensitive to the presence of food stimuli (Wang, et al., 2004).

Also the effect of advertisements – including commercials – regarding food has been studied by many researchers; especially the effect of advertisements concerning unhealthy food (calorie-dense, low-nutrient food) and drinks has received much attention from scientists (Harris, et al., 2009; Hastings et al., 2003; Story & French, 2004). In a review study, Hastings et al. (2003) found that food promotion is dominated by television advertising, of which the great majority contained food from the so-called "Big Four" of pre-sugared breakfast cereals, soft drinks, confectionary and savoury snacks. This means that consumers are exposed to (unhealthy) food many times a day. Moreover, the US food sector is the second largest advertiser in the American economy and it has a leading share of voice in terms of television, newspaper, magazine, billboard, and radio advertisement (Story & French, 2004). Exposure to food advertising leads to a greater preference for the promoted products, and people exposed to these ads more frequently buy these products than other people who are not exposed to it (Story & French, 2004). Food promotion is thus noticed and enjoyed and leads to greater preferences and purchases of the advertised products (IOM, 2006, in: Harris, et al., 2009; Hastings, et al., 2003; Story & French, 2004).

The two studies discussed in this paper focused on environmental factors, and more specifically on people's exposure to food in sitcoms and commercials, that influence their desire for food. A note must be made that most of the literature discussed in this section is from the United States of America or Great Britain and research findings might therefore not apply to the Netherlands nor to other countries.

**Television viewing and food promotion**

Television viewing is one of the environmental factors that has an especially large share in the overweight problem (Caroli, et al., 2004; Harris, et al., 2009). It has been recognized that people who watch more television than average run a greater risk of becoming overweight or obese. Watching the television replaces physical exercise and it exposes people to a large number of stimulations of unhealthy food intake (Caroli, et al., 2004). Many television shows are sponsored by companies producing unhealthy food (Caroli, et al., 2004) and many commercials promote the consumption of unhealthy food; children are being exposed to an average of fifteen television commercials about food every day, of which 98% promotes products high in fat, sugar, and/or sodium (Powell, Szczypka, Chaloupka, & Braunschweig, 2007). Because of this, television shows and commercials may stimulate an excessive intake of poor nutritional food and lead to a misconception of the notion of healthy nutrition (Caroli, et al., 2004).

A review study of Hastings et al. (2003) regarding food promotions pointed out correlations between the amount of television viewing and diet, obesity, and cholesterol levels. This however, does not necessarily mean that food promotion on television really has an effect, but can also mean that people exposed to this exercise less and/or snack more because they are just sitting passively while watching television. The studies that we performed and that are explained in this paper focus on the actual effect of food promotion on television. More specifically, the focus of the first study is on the influence of what we call 'food placement' in television sitcoms – explained in the following paragraph – on viewers' desire for certain types of food; the second study is a follow-up study and centres around the effect of food commercials placed directly after a sitcom episode as used in the first study.

**Food- and product placement**

Food placement is deducted from the well-known term 'product/brand placement' which is defined as "the paid inclusion of branded products or brand identifiers, through audio and/or visual means, within mass media programming" (Karrh, 1998, in: Karrh, McKee, & Pardun, 2003). Originally, product placement served as a way to reduce production costs for

movie studios and television networks (Newell, Salmon, & Chang, 2006). Costs for movie producers were reduced because props were borrowed. At the same time it was interesting for the producer of the product because their brand was marketed at the cost of only the product(s) used in the movie. Nowadays product placement is seen as an effective way of marketing products or brands (Newell, et al., 2006). Just like commercials, product placement leads to more purchases of a product or brand. For instance, when the series Sex And The City was on television, Cosmopolitans became very popular drinks (Erik, 2011). Furthermore, McDonalds Quarter Pounders were promoted in the movie Pulp Fiction, of which several scenes and images received iconic status, and McDonalds profited hugely from the movie (Erik, 2010).

The term product placement cannot be used for the conducted studies, which is why we came up with the term 'food placement' instead. Product placement is aimed specifically at promoting a brand, and the brand company pays for the appearance of the product in media, whereas in this study the placement of food is not aimed at promoting a specific brand or type of food. The introduced term food placement can be seen as a specific type of product placement and can be defined as 'the integration and consumption of food products, through audio and/or visual means, within mass media programming'. Our first study focuses on the effect of food placement, and more specifically on viewers watching an episode in which actors consume unhealthy savoury food (food-episode) compared to an episode in which no food was present in any form – visually/verbally (no-food-episode). This leads to our first hypothesis. It was expected that watching a food-episode, compared to watching a no-food-episode, leads to higher cravings for a) food in general, and b) the type of food that is being consumed in the episode compared to other food.

The effectiveness of product placement is dependent on certain conditions. Product placements that include visual as well as verbal displays have the strongest impact on recall and brand attitudes, followed by verbal only and finally visual only appearances (Pokrywczynski, 2005). Andriasova and Wagner (2004, in: Pokrywczynski, 2005) also found a correlation between viewer involvement with the program and product related associations. More involved

viewers had stronger product related associations than less involved viewers. Finally, when the product fits the character, the viewer gains an enhanced association every time (s)he thinks of the character (Andriasova & Wagner, 2004, in: Pokrywczynski, 2005) making it easier to remember the product.

Sitcom characters are considered the most crucial element when it comes to understanding the way in which product placement works (Wolff, p. 14, 1988, in Russell & Stern, 2006). Logically, consumption behaviours by actors in movies or television shows have received much attention by researchers. First, Russell and Stern (2006) researched the role that sitcom characters play in product placement. Their work centres on the interaction effects between the consumer or the viewer of the sitcom, the character in the sitcom, and the product that is placed in the sitcom. They found a positive correlation between the attitude of a sitcom character towards a product and the influence of the parasocial attachment a consumer has with the character (a viewer's feelings of closeness/distance to a character), on the consumer's attitude towards the product. This indicates that, in case of food placement, the attitude of lead characters towards food influences the viewers' attitude towards this product if they empathise with this character. Second, research regarding the sort of food and drinks consumed by lead characters have been conducted by Gerbner, Morgan, and Signorielli (1982) and by Story and Faulkner (1990). It shows that lead characters in television shows mostly eat snacks and not complete meals (Gerbner, et al., 1982), and that they drink alcoholic beverages or soft drinks instead of fresh fruit juices or water (Story & Faulkner, 1990). Third, the physical appearance of actors has shown to be of importance in product placement (Caroli, et al., 2004; Hazan, Lipton, & Glantz, 1994). The percentage of obese actors present in television shows is much lower than the percentage of obese people in real life (Caroli, et al., 2004) and actors are often likeable, rebellious, attractive, and/or successful (Hazan, et al., 1994), even though they engage in unhealthy eating habits. This might give the impression that an unhealthy lifestyle is closely connected to successes in life which might result in a worsening of the isolation in which obese people are often forced to live (Caroli, et al., 2004).

In our first study we furthermore wanted to explore if the positive or negative framing of food consumption by lead characters in a sitcom influences viewer's cravings. We therefore investigated the influence of sitcom episodes in which lead characters consume unhealthy food and experience either positive feelings (enjoying the product) –from now on referred to as the 'positive-food-episode'– or negative consequences (gaining a lot of weight) –from now on referred to as the 'negative-food-episode'– on cravings for food by the viewer/consumer. This leads to our second hypothesis. It was expected that watching a positive-food-episode compared to watching a negative-food-episode leads to higher cravings for a) food in general, and b) the type of food that is being consumed by lead characters compared to other food.

Lead characters are framed in a certain way to affect viewers (Pechmann & Shih, 1999). For instance, research regarding unhealthy habits –smoking– by actors in movies or television shows contains evidence that subjects who are exposed to a positively framed lead character with an unhealthy habit are more positive towards this habit and towards people with it than are subjects who see a fragment in which the lead character does not show this habit. This undesired effect was reduced when an effective message against the particular unhealthy habit was shown prior to the movie (Pechmann & Shih, 1999). Our second study is based on the result of this study and is centred on the (counter)effect of food commercials shown directly after one of the three episodes as mentioned before, leading to our third, fourth and fifth hypotheses. It was expected that (3) watching a negative-food-episode followed by a healthy food commercial, compared to the other conditions, leads to a) lower cravings for unhealthy food, and b) higher cravings for healthy food. Furthermore, it was expected that (4) watching a positive-food-episode followed by a healthy food commercial, compared to the other conditions, leads to a) lower cravings for unhealthy food, and b) higher cravings for healthy food. Finally, it was expected that (5) watching a positive-food-episode followed by an unhealthy food commercial, compared to the other conditions, leads to a) higher cravings for unhealthy food, and b) lower cravings for healthy food.

## Study 1

### Methodology

The first study that was conducted regarded the influence of watching a sitcom episode in which lead characters do or do not consume unhealthy savoury food and have either positive food experiences or negative consequences from eating this food, on consumers' cravings for food.

### Participants

The participants in this study were 85 psychology/communication undergraduate students with a mean age of 20,4 years (24 males and 61 females). All students spoke good Dutch and English, which was necessary in order to understand the questions and the episode that was shown. Nearly all participants (77) had a healthy BMI (ranging from 18,50 to 24,99), four participants were slightly overweight (ranging from 25,00 to 29,99), two slightly underweight (ranging from 16,00 to 18,49), and another two were heavily overweight (from 30,00 on). Statistical analyses showed no significant influences of people who didn't have a healthy BMI, which is why all participants were taken into account while analysing the results. Table 1 shows the distribution of participants among the different conditions.

Table 1

*Personal characteristics participants study 1 (frequencies)*

| **Personal characteristics** | | **Condition** | | |
|---|---|---|---|---|
| | | Positive-food-episode (N=28) | No-food-episode (N=26) | Negative-food-episode (N=31) |
| Gender | Male | 8 | 7 | 9 |
| | Female | 20 | 19 | 22 |
| BMI | Healthy | 24 | 26 | 27 |
| | Slightly underweight | 1 | - | 1 |
| | Slightly overweight | 3 | - | 1 |
| | Extremely underweight | - | - | - |
| | Heavily overweight | - | - | 2 |

**Design**

The design of this study is based on research conducted by Gibson & Maurer (2000) who studied the effect of actors smoking in a movie on the attitudes and behaviours of participants. First, participants were told they were taking part in two separate studies during one session. This was told to avoid suspicion with regard to the questions that were to be asked. Second, they were asked how satiated they were and how much they longed for sweet, salty, savoury and fatty food, measured with an adjusted version of the Visual Analogue Scale (VAS: α=.838). Also, they were asked how much they liked certain things, amongst which hamburgers and fries. After these few questions, participants watched one complete episode of "How I Met Your Mother" that lasted for 20-30 minutes. They were appointed to one of three conditions that differed only in the presented episode, Table 2.

Table 2

*Episodes used in the different conditions*

| **Episode** | **Relation with food** | **Storyline episode** |
|---|---|---|
| "The Best Burger in New York" Season 4, episode 2 *(Photo impressions: Figure 1)* | Episode in which lead characters eat unhealthy food with positive experiences | Marshall once consumed the best burger of New York and wants to find this restaurant again. Together with his best friends he tries to find it; multiple hamburgers are consumed, but none of them come close to the one he once had. Eventually, they find the restaurant and consume the perfect hamburger. |
| "Sweet taste of liberty" Season 1, episode 7 | Episode in which no food is consumed | Barney wants to do something legendary, goes on a journey and drags Ted along with him. At the end they legendarily lick the liberty bell. Meanwhile, Lily and Robin have a girls' night out during which Lily wants to find out how many men she can get. It turns out she cannot get a lot of men, but she doesn't need to since she is engaged to Marshall. |
| "The Rough Patch" Season 5, episode 7 *(Photo impressions: Figure 2)* | Episode in which a lead character eats unhealthy food and gains a lot of weight | Barney and Robin are in a relationship together that gets into a rut. Because of this, Robin is turning ugly and Barney eats enormous amounts of fast food making him fat. Their friends do everything in their power to break them up and in the end they succeed. |

The television series “How I Met Your Mother” was chosen because it was expected that participants, concerning university students, would have fun watching it and thereby getting more emotionally involved with it. Two episodes revolved around food and one episode contained no food at all (not even in the form of product placement of food products). In both of the experimental conditions, eating food played a big part in the episode and was integrated in the storyline. In one episode food was associated with positive experiences (the ‘positive-food-episode’). Lead characters consumed unhealthy savoury food and genuinely enjoyed it. Figure 1 provides impression shots of this episode demonstrating the appearance of the food and (emotional) responses to it by the lead characters.

*Figure 1. Impression shots of the positive-food-episode “The best burger in New York”.*

In the second episode food was associated with negative consequences (the 'negative-food-episode'). One of the lead characters consumed unhealthy savoury food and gained a lot of weight because of this. Figure 2 shows the appearance of the food in this episode and the transformation of the lead character that was negatively affected by it. The episode without food didn't have any food in it (the 'no-food-episode'), and there was no other (verbal nor non-verbal) reference to it.

*Figure 2. Impression shots of the negative-food-episode "The rough patch".*

After having seen one of the episodes, participants were told that they had to answer questions from the study regarding food in order to be able to later measure their feelings about How I Met Your Mother instead of their knowledge regarding the contents. They first answered questions about how much they wanted certain food products. A total of 16 products were used, divided into four categories: unhealthy savoury food (α=.925), unhealthy sweet food (α=.880),

healthy savoury food (α=.833), and healthy sweet food / fruits (α=.935). Per product participants indicated how much they wanted to consume it, whether they would consume it if possible, and whether they would get and consume it if possible. In the questionnaire questions about the products were mixed and not organised in terms of food categories. Next, participants filled out the same VAS-questionnaire as before watching the episode in order to measure any changes in their satiation and wanting of types of food. After this, they indicated how much they liked the products used earlier in the questionnaire to be able to take this into account when analysing the results.

The following part was about the series again and consisted of questions about how familiar participants were with How I Met Your Mother and if they liked the series, using the ParaSocial Interaction scale (Horton & Wohl, 1956) (α=.780), how involved they were with the series, using the Television Connectedness Scale (Russell, Norman, & Heckler, 2004) (α=.842), and how much they empathised with the main characters, using the Personal Attachment Scale (Russell & Stern, 2006) (α=.684). These questions were important because the level of involvement can influence people's behaviour and so it had to be checked whether the involvement was similar in each condition. The results showed no significant differences between the conditions regarding participants' involvement with the series/characters.

Finally, some general questions were asked to gather personal information like gender, age, nationality, weight and length. The weight and length were used to check for influences of BMI (calculated as weight in kilograms divided by the square of height in meters) on the results. The exact questions can be found in Appendix 1.

**Results**

Two one-way between-groups MANOVA's (Multivariate ANalyses Of Variance) were performed to investigate episode differences, gender differences and interaction effects. In the first MANOVA four dependent variables were used: the constructs wanting of unhealthy savoury food, unhealthy sweet food, fruits, and the Visual Analogue Scale 2. Based on these analyses Hypothesis 1 was not rejected. This indicates that watching a food-episode, compared

to watching a no-food episode, leads to higher cravings for food in general, and to higher cravings for the type of food that is being consumed compared to other food. Also Hypothesis 2 was not rejected, indicating that watching a positive-food-episode compared to watching a negative-food-episode leads to higher cravings for food in general, and to higher cravings for the type of food that is being consumed by lead characters compared to other food.

A statistically significant difference was found between the episodes on the combined dependent variables (unhealthy savoury food, unhealthy sweet food, fruits, and VAS2): $F(8, 152)=2.01$, $p=.049$; Wilks' Lambda=.818; partial eta squared=.10. When the results for the dependent variables were considered separately, the only difference to reach statistical significance, was the desire for unhealthy savoury food after having seen the episode: $F(2, 79)=3.33$, $p=.041$, partial eta squared=.08. Post-hoc comparisons using the Tukey HSD test showed that participants who watched the positive-food-episode had significantly more cravings for unhealthy savoury food ($M=4.14$, $SD=1.25$) than participants who watched the negative-food-episode ($M=3.11$, $SD=1.53$), or the no-food-episode ($M=2.95$, $SD=1.64$).

Although no more statistically significant differences were found, two additional trends were found that are worth mentioning. First of all, a trend was found regarding cravings for fruits: $F(2, 79)=2.60$, $p=.081$, partial eta squared=.06. Post-hoc comparisons using the Tukey HSD test showed a difference between participants who watched the negative-food-episode and participants who watched the no-food-episode. Participants watching the negative-food-episode had more cravings for fruits ($M=4.58$, $SD=1.40$) than participants watching the no-food-episode ($M=3.38$, $SD=1.10$). The second trend that was found regarded VAS2: $F(2, 79)=2.85$, $p=.064$, partial eta squared=.07. Post-hoc comparisons using the Tukey HSD test showed a difference between VAS2-scores of participants who watched the positive-food-episode and participants who watched the negative-food-episode. Participants who watched the positive-food-episode had higher VAS2-scores ($M=4.17$, $SD=.87$) than participants who watched the negative-food-episode ($M=3.48$, $SD=.85$). Table 3 shows the statistical data of the first MANOVA.

Table 3

*Statistical data first MANOVA between episodes*

| Dependent variable | Positive-food-episode | | Negative-food-episode | | No-food-episode | | Between-subjects effect | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | F | p | $\eta\rho^2$ |
| Unhealthy savoury food | 4.14 | 1.25 | 3.11 | 1.53 | 2.95 | 1.64 | 3.33 | .041 | .08 |
| Unhealthy sweet food | 3.12 | 1.04 | 3.03 | 1.22 | 3.02 | 1.18 | 0.06 | .943 | .00 |
| Fruits | 4.20 | 1.40 | 4.58 | 1.40 | 3.38 | 1.10 | 2.60 | .081 | .06 |
| VAS2 | 4.17 | 0.87 | 3.48 | 0.85 | 3.50 | 1.33 | 2.85 | .064 | .07 |

Because some of the food products in the questionnaire were present in the episodes and other products were not, a second one-way between-groups MANOVA was performed to check for influences of episode, gender and for interaction effects on these specific products. Dependent variables were the craving for fries, chicken nuggets, hamburgers, and spareribs. No significant difference was found between the episodes on the combined dependent variables, nor were there interaction effects between episode and gender, but there was a significant difference between males and females on these variables: F(4, 76)=4.66, p=.002; Wilks' Lambda=.803; partial eta squared=.20. When the results for the dependent variables were considered separately, there was only a significant difference between males and females for the craving for spareribs: F(1, 79)=12.28, p=.001, partial eta squared=.135, with males having more cravings for spareribs (M=4.29, SD=2.24) than females (M=2.56, SD=1.89).

Since we were also interested in the influence of episode on the cravings for the single products, the follow-up ANOVAs were analysed as well. These analyses showed a significant difference between the episodes on the craving for hamburgers: F(2, 79)=3.91, p=.024, partial eta squared=.09. Post-hoc comparisons using the Tukey HSD test indicated that participants who watched the positive-food-episode had significantly more cravings for hamburgers (M=5.18, SD=2.04) than participants who watched the negative-food-episode (M=3.68, SD=2.20) or the no-food-episode (M=3.54, SD=2.60), as can be found in Table 4.

Table 4

*Statistical data second MANOVA between conditions/episodes*

| Dependent variable | Positive-food-episode | | Negative-food-episode | | No-food-episode | | Between-subjects effect | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | F | p | $\eta\rho^2$ |
| Fries | 4.61 | 1.93 | 3.55 | 1.98 | 3.77 | 2.20 | 0.53 | .590 | .01 |
| Chicken nuggets | 3.79 | 2.03 | 3.10 | 1.89 | 3.27 | 1.97 | 0.65 | .526 | .02 |
| Hamburger | 5.18 | 2.04 | 3.68 | 2.20 | 3.54 | 2.60 | 3.91 | .024 | .09 |
| Spareribs | 3.39 | 2.41 | 2.84 | 1.93 | 2.92 | 2.08 | 0.72 | .490 | .02 |

Finally, a one-way repeated measures ANOVA was conducted with VAS1-scores and VAS2-scores as time measures to analyse changes in hunger and cravings for food before and after watching the episode. There was a statistically significant effect for time, Wilks' Lamba = .75, F(1, 82)-26.762, p<.0005, partial eta squared = .246, meaning that there was a significant increase in VAS-scores from before to after the episode. The multivariate effect size is well above .14 and is therefore considered a large effect size, meaning that a large proportion of the variance is explained by time (Pallant, 2001, p. 175). Furthermore, this time effect differed significantly between the conditions, Wilks' Lamba = .87, F(2,82)-6.201, p = 0.003, partial eta squared = .131. Participants who were shown the positive-food-episode had stronger increases in cravings for food than the other participants. Table 5 shows the means and standard deviations of VAS1- and VAS2-scores per condition.

Table 5

*Descriptive statistics for gain in VAS-scores from before to after having seen the episode*

| Episode | VAS1 | | VAS2 | | Increase |
|---|---|---|---|---|---|
| | M | SD | M | SD | M |
| Positive-food-episode | 3.49 | 1.02 | 4.17 | 0.87 | 0.68 |
| Negative-food-episode | 3.28 | 1.02 | 3.48 | 0.85 | 0.20 |
| No-food-episode | 3.35 | 1.05 | 3.51 | 1.33 | 0.16 |

**Conclusion and discussion**

This study focused on the effect of watching an episode in which actors do or do not consume unhealthy savoury food leading to either positive experiences (enjoying the product) or negative consequences (gaining a lot of weight). Results showed that watching an episode in which lead characters consume food increased viewers' hunger and cravings for food. This is in line with research of Cornell, Rodin, and Weingarten (1989) who found that the stimulation of people's senses by exposure to tasty food increased their desire to consume this food, and with Wang and colleagues (2004) who found that the human brain is highly sensitive to the presence of food stimuli. Moreover, the consequences for the characters affected the kind of cravings viewers had; watching a positive-food-episode led to significantly stronger desires for unhealthy savoury food than watching a negative-food-episode, or a no-food-episode, while watching a negative-food-episode in which lead characters participate in unhealthy behaviour followed by negative consequences led to stronger cravings for fruits compared to watching one of the two other episodes. These results complement research conducted by Russell and Stern (2006) who found that attitudes of lead characters influence viewers' attitudes towards a placed product. The results of this study imply that attitudes of, or consequences for, lead characters not only influence viewers' attitudes towards, or cravings for, the placed product, but that they can even make viewers desire a healthy product instead of the placed unhealthy product.

These results are useful for producers to create sitcoms that make viewers experience cravings for healthy food instead of unhealthy food. Unfortunately, the existing sitcoms in which lead characters participate in unhealthy eating behaviours but do not experience negative consequences cannot be changed. However, Pechmann and Shih (1999) found that their affect on viewers can be limited or changed when a health campaign is shown right before the episode. This leads to our second study that is based on this research.

## Study 2

### Methodology

In the second study that we conducted the same episodes were used as in the first study, and in addition it was measured if the negative influence on viewers' cravings for food found in the first study could be changed when presenting a food commercial (either healthy or unhealthy) directly after the episode.

### Participants

After eliminating one outlier because of extreme answers, 120 students took part in the analyses of Study 2 with a mean age of 21,9 years (50 males and 70 females). Just like in the first study, all students spoke good Dutch and English. Most participants (n=95) had a healthy BMI (ranging from 18,50 to 24,99), seventeen participants were slightly overweight (ranging from 25,00 to 29,99), six slightly underweight (ranging from 16,00 to 18,49), and another two were heavily overweight (from 30,00). Statistical analyses showed no significant influences of people who did not have a healthy BMI, which is why BMI has not been taken into account with the analyses. Table 6 displays the distribution of personal characteristics amongst the conditions.

Table 6

*Personal characteristics participants study 2 (frequencies)*

| **Personal characteristics** | | **Condition (described in Table 7)** | | | | | |
|---|---|---|---|---|---|---|---|
| | | C1 (N=20) | C2 (N=20) | C3 (N=20) | C4 (N=22) | C5 (N=19) | C6 (N=19) |
| Gender | Male | 7 | 8 | 7 | 8 | 9 | 11 |
| | Female | 13 | 12 | 13 | 14 | 10 | 8 |
| BMI | Healthy | 13 | 18 | 17 | 18 | 15 | 14 |
| | Slightly underweight | 1 | 1 | 1 | 2 | 1 | - |
| | Slightly overweight | 6 | 1 | 1 | 1 | 3 | 5 |
| | Extremely underweight | - | - | - | - | - | - |
| | Heavily overweight | - | - | 1 | 1 | - | - |

**Design**

The second study was a follow-up study in which the same episodes and questions were used as in the first study but some extra elements were added, see Appendix 1. A commercial regarding food – either about pineapples or spareribs – was presented right after the episode and, additionally, at the end of the study people were asked about their attitude towards this commercial (α=.921) based on questionnaires from Megehee (2009) and Zaichkowsky (1994). Commercials have been chosen instead of the campaigns used in the study of Pechmann and Shih (1999) because campaigns need to be created specifically for the purpose of preventing people to participate in damaging behaviours, whereas the same result might be achieved by using commercials. The commercials were placed directly after the episode instead of before because attitudes towards and purchase intentions of a product are based more on later information than earlier information regardless of involvement level (Ying & Chung, 2007).

To make the situation more realistic and to cover up the intention of the food commercial three extra, but non-food, commercials were added to the study as well; two before the episode, and one after the food commercial. These commercials were the same in every condition, as was the order in which they were presented.

All the commercials that were chosen were American and not shown on Dutch television. Additionally, the food commercials were about products that are known to the Dutch, but brand names that are not familiar to them. This choice was made to reduce undesired effects such as attitude towards a brand. Participants were randomly assigned to one of the six conditions presented in Table 7.

Table 7

*Conditions study 2*

| Condition | Episode | Commercial |
|---|---|---|
| 1. | Unhealthy savoury food with positive experiences episode: "The Best Burger in New York" | Pineapple |
| 2. | No food episode: "Sweet taste of liberty" | |
| 3. | Unhealthy savoury food with negative consequences episode: "The Rough Patch" | |
| 4. | Unhealthy savoury food with positive experiences episode: "The Best Burger in New York" | Sparerib |
| 5. | No food episode: "Sweet taste of liberty" | |
| 6. | Unhealthy savoury food with negative consequences episode: "The Rough Patch" | |

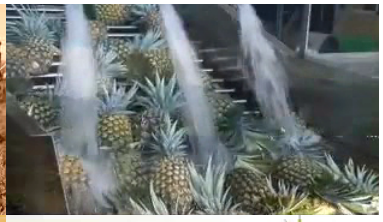
Before the second study was performed, a pre-test was done to test which unhealthy savoury food commercial was equally effective as the chosen pineapple commercial in terms of how participants felt and thought about the commercials, and whether or not they were inspired to buy the product after watching it. It was also important for the advertised product to be perceived as unhealthy (as opposed to the healthier association of pineapples), which was also measured in the pre-test. All the commercials were viewed by eight people who filled out a short questionnaire, based on Megehee (2009) and Zaichkowsky (1994), as can be found in Appendix 2. Questions included how fun/annoying they thought the commercials were and how keen they were on consuming the products after watching the commercials. Based on results of the pre-test, Appendices 2 and 3, the Maui Gold pineapple was chosen as healthy commercial and the commercial of Shane's Ribshack was chosen as the unhealthy commercial. Tukey HSD tests indicated that the attitude about the commercial of Maui Gold Pineapple was most similar to the attitude about the commercial of Shane's spareribs compared to other commercials, viewers were exactly as involved with both commercials (Q17), and they would buy both products after having watched the commercials (Q18). Furthermore, they felt like the pineapple commercial promoted healthy food (Q19 & Q20), whereas they felt the exact opposite about the sparerib commercial. A description of the commercials is provided in Table 8.

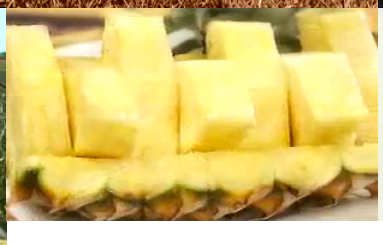
Table 8

*The two food commercials*

| Commercial & Storyline | Photo impressions |
|---|---|

*Maui Gold Pineapple.* The commercial starts out in sepia. A voice-over starts telling about the history and origin of the Maui Gold pineapple. The story continues to tell what is so special about the pineapples and what they taste like. Meanwhile, video images show what is also being told: great





*Shane's Ribshack.* The commercial starts out with a sepia picture of the owner of the restaurant together with his granddad who told him "do what you love to do and do it better than anyone else". Meanwhile, deliciously looking spare-ribs are being barbecued and shown in video and family-pictures are presented.

**Results**

Two one-way between-groups MANOVA's were performed to investigate gender differences, commercial differences, episode differences, and interaction effects. In the first MANOVA four dependent variables were used: the wanting of unhealthy savoury food, unhealthy sweet food, fruits, and the Visual Analogue Scale 2. Based on these analyses Hypothesis 3, 4 and 5 were all rejected. However, after a closer examination of the results, some interesting results were found that are described in this section.

A statistically significant main effect was found for gender on the combined dependent variables (the wanting of unhealthy savoury food, unhealthy sweet food, fruits, and the Visual Analogue Scale 2): $F(4, 105)=3.94$, $p=.005$; Wilks' Lambda=.87; partial eta squared=.13. When the results for the dependent variables were considered separately, the only significant difference between males and females was the craving for unhealthy savoury food: $F(1, 108)=15.15$, $p=.000$, partial eta squared=.123. Males reported higher cravings for unhealthy savoury food ($M=3.91$, $SD=1.38$) than females ($M=2.94$, $SD=1.29$).

Furthermore, an interaction effect was found between gender and commercial for cravings for unhealthy savoury food $F(1, 108)=5.70$, $p=.019$, partial eta squared=.05. Figure 3 shows that males who watched the Ribshack commercial ($M=4.34$, $SD=1.11$) had higher cravings for unhealthy savoury food than males who watched the Maui Gold commercial ($M=3.36$, $SD=1,50$), whereas no difference was found between females watching the Ribshack commercial ($M=2.89$, $SD=1.26$) and females watching the Maui Gold commercial ($M=2.99$, $SD=1.32$). This indicates that the commercial regarding unhealthy savoury food only affects males and not females. Furthermore, it is interesting to note that males have higher cravings for unhealthy savoury food than females, no matter which commercial is shown to them.

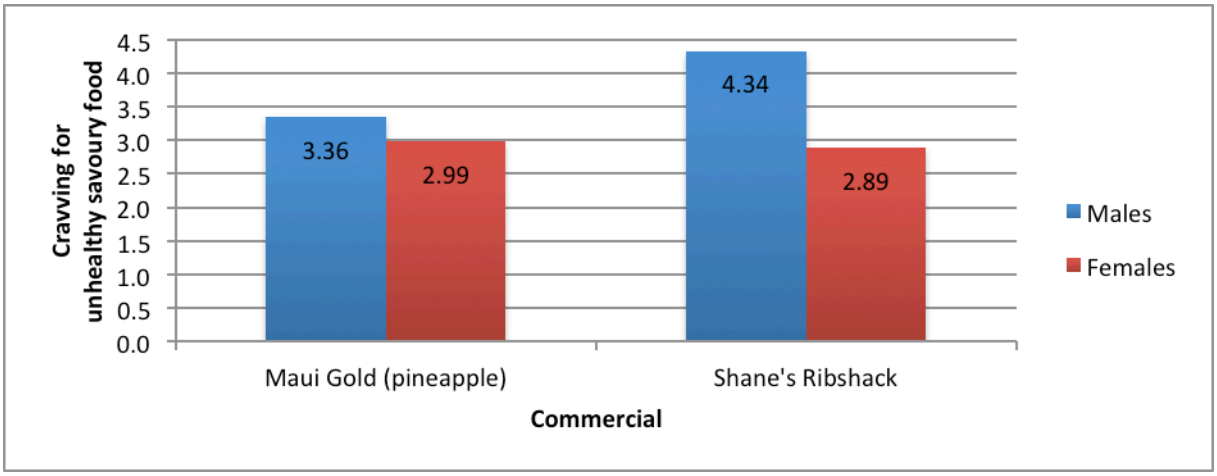



*Figure 3. Mean scores on a 7-point Likert Scale for craving for unhealthy savoury food.*

Because some of the food products in the questionnaire were present in the video materials and other products were not, a second one-way between-groups MANOVA was performed with the five specific products that were present in at least one of the videos. Dependent variables were the craving for fries, chicken nuggets, hamburgers, spareribs, and pineapple. It was expected that the level in which participants like these products had a large influence on their cravings, which is why the liking of all of these products was taken into account, making them covariates. As expected, for all products there were statistically significant positive correlations between the level of liking of a product and the level of craving for this product. No other statistically significant effects were found with the MANOVA (test).

Follow-up Univariate ANOVAs were also analysed. A significant main effect for gender was found on the craving for spareribs $F(1, 103)=6.07$, $p=.015$, partial eta squared=.06. Males reported higher cravings for spareribs ($M=4.70$, $SD=2.10$) than females ($M=2.33$, $SD=1.72$). There was also a significant main effect for commercial on the craving for spareribs $F(1, 103)=5.71$, $p=.019$, partial eta squared=.05. Participants who saw the Shane's Ribshack commercial reported higher cravings for spareribs ($M=3.68$, $SD=2.25$) than participants who saw the Maui Gold commercial ($M=2.95$, $SD=2.14$).

Furthermore, an interaction effect was found between gender and commercial for the craving for spareribs: $F(1, 103)=4.95$, $p=.028$, partial eta squared=.05. Males reported higher

cravings for spareribs, for both the Maui Gold commercial (M=3.59, SD=2.36) and the Shane's Ribshack commercial (M=5.57, SD=1.37) than females for the Maui Gold commercial (M=2.58, SD=1.93) and the Shane's Ribshack commercial (M=2.03, SD=1.40), see Figure 4. Interesting to note is the large difference in cravings for spareribs between males watching the Maui Gold commercial and males watching the Shane's Ribshack commercial, whereas only a small difference can be found between females watching the different commercials. This indicates that commercials regarding a specific unhealthy savoury food product like spareribs has a larger impact on males than on females.

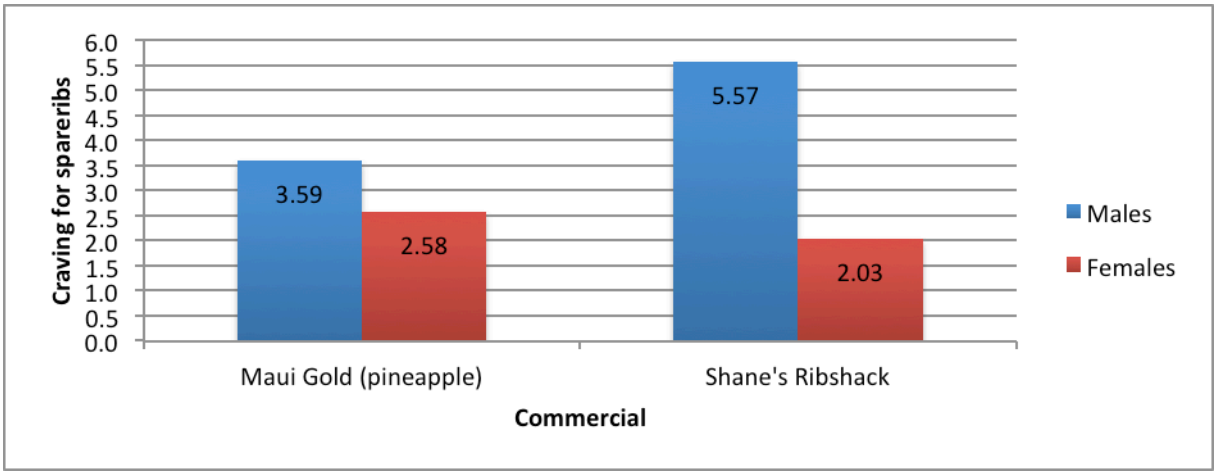



*Figure 4. Mean scores on a 7-point Likert Scale for craving for spareribs.*

Also, a statistically significant interaction effect was found between commercial and episode for the cravings for pineapple F(2, 103)=4.396, p=.015, partial eta squared=.079. An interesting phenomenon occurred, Figure 5; when participants were exposed to unhealthy savoury food in an episode, either with positive experiences or negative consequences, the pineapple commercial had a positive influence on the craving for pineapple compared to the spareribs commercial, whereas when participants were not exposed to any food in the episode the spareribs commercial had a positive influence on the craving for pineapple compared to the pineapple commercial. This indicates that people want to eat healthy food after being exposed to unhealthy savoury food in an episode. This is an important finding to market healthy food products and to reduce obesity.

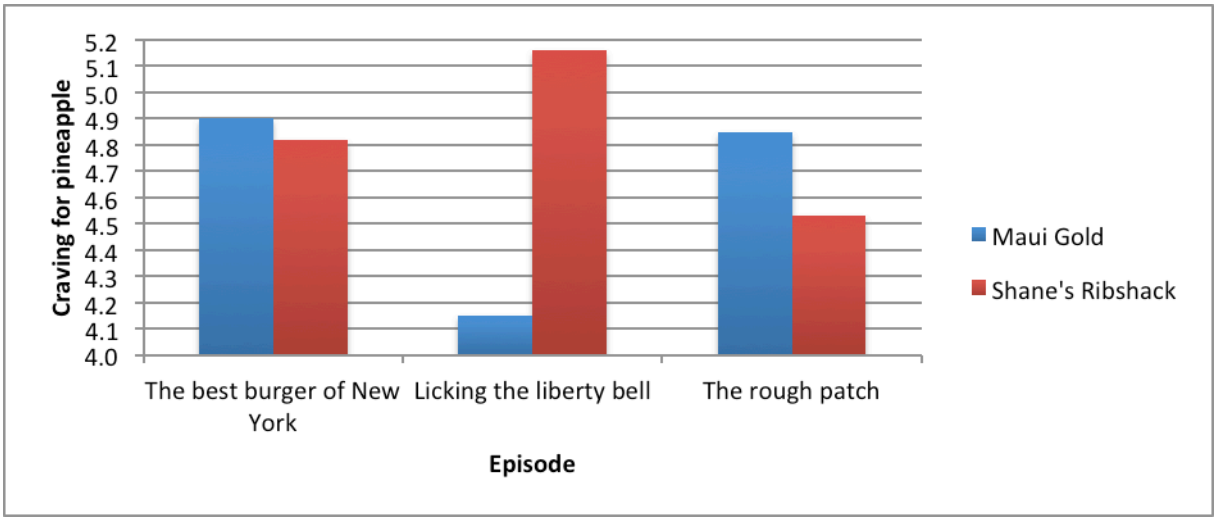



*Figure 5. Mean scores on a 7-point Likert Scale for craving for pineapple.*

Finally, a one-way repeated measures ANOVA was conducted with VAS1-scores and VAS2-scores as time measures. There was a statistically significant effect for time, Wilks' Lamba = .81, F(1, 114)-26.224, p<.0005, partial eta squared = .187, meaning that there was a significant increase in VAS-scores from before to after the episode and that a large proportion of the variance is explained by time. However, this increase did not differ significantly between the conditions, Wilks' Lamba = .94, F(5,114)-1.365, p = 0.243, partial eta squared = .056.

**Conclusion and discussion**

This study focused on the (interaction) effects of watching a food commercial and a sitcom episode in which lead characters do or do not consume unhealthy savoury food with either positive experiences (enjoying the product) or negative consequences gaining a lot of weight). Results showed a main effect for gender on the cravings for unhealthy savoury food, with males having higher cravings than females. This is in line with research conducted by Wansink, Cheney, and Chan (2003) who found that males prefer warm, hearty, meal-related comfort foods (such as beef burgers), while females preferred more snack related comfort foods (such as chocolate).

Moreover, a significant interaction effect was found between gender and commercial for the cravings for unhealthy savoury food, with males watching the Shane's Ribshack commercial having significantly higher cravings for unhealthy savoury food than males watching the pineapple

commercial, whereas there was no significant difference between females watching the different commercials. These results indicate that males are influenced more by unhealthy savoury food commercials than females, which is in line with Ifezue (2010) who states that advertisements for potentially fattening foods are targeted towards men because they, as opposed to women, enjoy fattening greasy, savoury dishes, and appreciate the product's taste instead of its nutritional value. They are not taught to pay close attention to the nutritional value of what they consume.

Another interesting finding is the interaction effect between episode and commercial for the cravings for pineapple. Participants watching one of the unhealthy savoury food commercials followed by the Maui Gold commercial had more cravings for pineapple than participants watching the episode without food in it followed by the Maui Gold commercial. This result complements findings from Pechmann and Shih (1999), who found that placing a health campaign right before an episode in which unhealthy behaviour is displayed, reduces its negative impact on viewers. The research we conducted implies that it is not necessary to specifically create health campaigns to change people's attitudes and intentions, but that a commercial regarding a healthy product can reach the same effect.

## General conclusion and discussion

These studies focused on the (interaction) effects of watching (a food commercial and) a sitcom episode in which lead characters do or do not consume unhealthy savoury food with either positive experiences or negative consequences. Results of the first study showed that food placement in a sitcom episode increases viewers' cravings for food and that the consequences of the consumption of unhealthy savoury food by lead characters influences viewers' food cravings after watching. These findings served as input for our second study in which the interaction effects between food commercials and food placement in sitcoms were studied. Results of the second study only showed one interaction effect between commercial and episode: participants watching one of the unhealthy savoury food episodes combined with the pineapple commercial had more cravings for pineapple than participants watching the no food episode combined with

the pineapple commercial. Main effects were found for gender and for commercial on unhealthy savoury food, with males and participants watching the Shane's Ribshack commercial having stronger cravings for unhealthy savoury food than females and participants watching the Maui Gold commercial. These findings are useful for marketers of food products since they suggest in which situation it is wise to place a type of food commercial, and they show that there is a difference between males and females regarding the influence of food placement in a sitcom. More research should be conducted to understand gender differences regarding the influence of food placement and food commercials in order to be better able to address them.

Results of these studies indicate that seeing unhealthy savoury food influences people's cravings for this type of food. This is in line with research of Johnston (2002) who found that people, unconsciously, imitate behaviour when they see eating behaviours of others, including food choice. Moreover, people seem to be influenced by viewing the lead characters experience the consequences of consuming unhealthy savoury food, which complements work of Russell and Stern (2006) as discussed earlier. Males, as opposed to females, were affected by unhealthy savoury food commercials presented directly after an episode; a food-episode that was followed by a congruent food commercial created even stronger cravings for unhealthy savoury food. A food-episode that was followed by an incongruent food commercial concerning healthy food, created stronger cravings for healthy food and it reduced the negative impact of food placement in sitcoms for both males and females. This complements findings of Pechmann and Shih (1999) and shows that healthy food commercials, as opposed to health campaigns, can also reduce undesirable effects of risky behaviour in a sitcom. Future research is necessary to compare the efficiency of health campaigns and healthy commercials to reduce undesirable influences of risky behaviour in sitcoms on viewers.

Unfortunately, results of these studies cannot be generalized, even though great care has been taken to minimize the influence of external factors by choosing the same series for each condition, the same level of food placement in the episodes, and a quiet environment in which individuals participated in the experiment without being disturbed by food or the smell of food.

Participants were mainly students and, more specifically, students of the faculty Behavioural Sciences with a healthy body weight, which is not a representation of the population. Furthermore, the time of day has not been taken into account in these studies, which might have had an effect on the wanting of certain types of food. For instance, in the morning people might not have wanted to eat a hamburger. Another point of concern to take into account is that many questions regarding involvement with the sitcom and lead characters were adapted from American studies, which might explain the similar levels of involvement between the conditions. People from the Dutch culture are very different from Americans in terms of the Dutch being more down to earth, possibly leading to less pronounced differences between the conditions regarding identification and involvement with lead characters.

Future research needs to be done with more participants, and a distribution of participants to represent the population and to be able to cover a bigger part of the population. It is important to keep in mind that food is subjected to cultural differences, which is why results will differ per country. Furthermore, it would be interesting to see what results would appear when different food products were used in the episodes and commercials, like healthy salads. More and more television shows contain healthy food, but there is still a lot of knowledge to gain in this area. Also, the effect of food placement on the craving for food in other genres than sitcoms would be interesting to measure to see if the effects transfer to other situations. The time has come to analyse effects of food placements and –commercials, and take (small) steps to limit/transform negative impacts on peoples' health. Because, as Denis Waitley states: "Life is inherently risky. There is one big risk you should avoid at all costs, and that is the risk of doing nothing."

# References

Ambler, T. (2006). Does the UK promotion of food and drink to children contribute to their obesity? *International Journal of Advertising, 25*(2), 137-156.

Caroli, M., Argentieri, L., Cardone, M., & Masi, A. (2004). Role of television in childhood obesity prevention. *International Journal of Obesity, 28*, 5104-5108. doi: 10.1038/sj.ijo.0802802

Cornell, C. E., Rodin, J., & Weingarten, H. (1989). Stimulus-induced eating when satiated. *Physiology & Behavior, 45*, 695-704. doi: 10.1016/0031-9384(89)90281-3

Daniels, S. R., Arnett, D. K., Eckel, R. H., Gidding, S. S., Hayman, L. L., Kumanyika, S., . . . Williams, C. L. (2005). Overweight in children and adolescents - Pathophysiology, consequences, prevention, and treatment. *Circulation, 111*, 1999-2012. doi: 10.1161/01.Cir.0000161369.71722.10

Erik. (2010). Product placement highlights – Royale with cheese. *Brands & Films*, from http://brandsandfilms.com/2010/04/product-placement-highlights-–-royale-with-cheese/

Erik. (2011). Famous cocktails: From silver screen to bars and clubs. *Brands & Films*, from http://brandsandfilms.com/2011/05/famous-cocktails-from-silver-screen-to-bars-and-clubs/

Field, A. E., Coakley, E. H., Spadano, J. L., Laird, N., Dietz, W. H., Rimm, E., & Colditz, G. A. (2001). Impact of overweight on the risk of developing common chronic diseases during a 10-year period. *Archives of Internal Medicine, 161*, 1581-1586. doi: 10-1001/pubs.Arch Intern Med.

Gerbner, G., Morgan, M., & Signorielli, N. (1982). Programming health portrayals: What viewers see, say, and do. In D. Pearl, L. Boutherilet & J. Lazar (Eds.), *Television and Behavior: Ten Years of Scientific Progress and Implications for the 80's* (Vol. II, pp. 291-307). Washington: DC: National Institute of Mental Health.

Gibson, B., & Maurer, J. (2000). Cigarette smoking in the movies: The influence of product placement on attitudes toward smoking and smokers. *Journal of Applied Social Psychology, 30*, 1457-1473. doi: 10.1111/j.1559-1816.2000.tb02530.x

Harris, J. L., Bargh, J. A., & Brownell, K. D. (2009). Priming effects of television food advertising on eating behavior. *Health Psychology, 28*, 404-413. doi: 10.1037/a0014399

Hastings, G., Stead, M., McDermott, L., Forsyth, A., MacKintosh, A.M., Rayner, M., . . . Angus, K. (2003). Review of research on the effects of food promotion to children - Final Report: Centre for Social Marketing.

Hazan, A.R., Lipton, H.L., & Glantz, S.A. (1994). Popular films do not reflect current tobacco use. *American Journal of Public Health, 84*, 998-1000. doi: 10.2105/AJPH.84.6.998

Horton, D., & Wohl, R. R. (1956). Mass-communication and para-social interaction - Observations on intimacy at a distance. *Psychiatry, 19*, 215-229.

Ifezue, A.N. (2010). What makes an effective advertising for a man or a woman? *Journal of Communication, 1*(1), 13-18.

Johnston, L. (2002). Behavioral mimicry and stigmatization. *Social Cognition, 20*, 18-35. doi: 10.1521/soco.20.1.18.20944

Karrh, J. A., McKee, K. B., & Pardun, C. J. (2003). Practitioners' evolving views on product placement effectiveness. *Journal of Advertising Research, 43*, 138-149.

Megehee, C. M. (2009). Advertising time expansion, compression, and cognitive processing influences on consumer acceptance of message and brand. *Journal of Business Research, 62*, 420-431. doi: 10.1016/j.jbusres.2008.01.019

Newell, J., Salmon, C. T., & Chang, S. (2006). The hidden history of product placement. *Journal of Broadcasting & Electronic Media, 50*, 575-594. doi: 10.1207/s15506878jobem5004_1

Pallant, J. (2001). *SPSS survival manual: A step-by-step guide to data analysis using SPSS for Windows (Version 10)*: Open University Press.

Pechmann, C., & Shih, C. F. (1999). Smoking scenes in movies and antismoking advertisements before movies: Effects on youth. *Journal of Marketing, 63*(3), 1-13. doi: 10.2307/1251772

Pokrywczynski, J. (2005). *Product placement in movies: A preliminary test of an argument for involvement.* Paper presented at the American Academy of Advertising.

Powell, L. M., Szczypka, G., Chaloupka, F. J., & Braunschweig, C. L. (2007). Nutritional content of television food advertisements seen by children and adolescents in the United States. *Pediatrics, 120*, 576-583. doi: 10.1542/peds.2006-3595

Russell, C. A., Norman, A. T., & Heckler, S. E. (2004). The consumption of television programming: Development and validation of the connectedness scale. *Journal of Consumer Research, 31*(1), 150-161. doi: 0095-5301

Russell, C. A., & Stern, B. B. (2006). Consumers, characters, and products - A balance model of sitcom product placement effects. *Journal of Advertising, 35*(1), 7-21. doi: 10.2753/JOA0091-3367350101

statline.cbs.nl. (2010, March 16th 2010). Onder- en overgewicht (20+). *Gezondheid, leefstijl, gebruik van zorg.* Retrieved 24 September, 2010, from http://statline.cbs.nl/StatWeb/publication/default.aspx?DM=SLNL&PA=03799&D1=267-271&D2=0-2%2c47-51&D3=0&D4=a&HDR=G2%2cT%2cG3&STB=G1&VW=D

Story, M., & Faulkner, P. (1990). The prime time diet - A content-analysis of eating behavior and food messages in television program content and commercials. *American Journal of Public Health, 80*, 738-740. doi: 10.2105/AJPH.80.6.738

Story, M., & French, S. (2004). Review - Food advertising and marketing directed at children and adolescents in the US. *International Journal of Behavioral Nutrition and Physical Activity, 1*(3). doi: 10.1186/1479-5868-1-3

Tanner, R. J., Ferraro, R., Chartrand, T. L., Bettman, J. R., & Van Baaren, R. (2008). Of chameleons and consumption: The impact of mimicry on choice and preferences. *Journal of Consumer Research, 34*, 754-766. doi: 10.1086/522322

Wang, G-J., Volkow, N. D., Telang, F., Jayne, M., Ma, J., Rao, M., . . . Fowler, J. S. (2004). Exposure to appetitive food stimuli markedly activates the human brain. *NeuroImage, 21*, 1790-1797. doi: 10.1016/j.neuroimage.2003.11.026

Wansink, B., Cheney, M., & Chan, N. (2003). Exploring comfort food preferences across age and gender. *Physiology & Behavior, 79*, 739-747. doi: 10.1016/s0031-9384(03)00203-8

WHO. (2006). BMI classification, from http://apps.who.int/bmi/index.jsp?introPage=intro_3.html

Ying, H.L., & Chung, C.M. (2007). The effects of single-message single-source mixed word-of-mouth on product attitude and purchase intention. *Asia Pacific Journal of Marketing and Logistics, 19*(1), 75–93.

Zaichkowsky, J. L. (1994). The personal involvement inventory - Reduction, revision, and application to advertising. *Journal of Advertising, 23*(4), 59-70. doi: 10.2307/4188951

**Appendix 1**
**Conducted study performed on PC**

Take note: the boxed texts are only present in the second study. All the rest was used in the first as well as the second study.

*Gedurende het komende (half) uur zal je meedoen aan twee onderzoeken. Eén onderzoek heeft betrekking op eten; het andere onderzoek heeft betrekking op de betrokkenheid bij een sitcom.*

*Als je tussendoor vragen hebt, kun je even langs komen.*

*Druk op ENTER om door te gaan.*

**Proefpersoonnummer**

Proefpersoonnummer: *~ Open antwoord~*

*Druk op enter of klik op "ga verder" om naar de volgende pagina te gaan.*

| **Visual Analogue Scale** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
|---|---|---|---|---|---|---|---|
| | *Helemaal niet* | | | | | | *Heel veel* |
| Hoeveel trek heb je? | □ | □ | □ | □ | □ | □ | □ |
| | *Helemaal niet verzadigd* | | | | | *Helemaal verzadigd* | |
| Hoe verzadigd ben je? * | □ | □ | □ | □ | □ | □ | □ |
| | *Helemaal niet vol* | | | | | | *Heel vol* |
| Hoe vol zit je? * | □ | □ | □ | □ | □ | □ | □ |
| | *Helemaal niet veel* | | | | | | *Heel veel* |
| Hoeveel denk je te kunnen eten? | □ | □ | □ | □ | □ | □ | □ |
| | *Helemaal niet* | | | | | | *Heel veel* |
| Hoeveel zin heb je in iets zoets? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in iets zouts? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in iets hartigs? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in iets vets? | □ | □ | □ | □ | □ | □ | □ |

| | *Helemaal niet* | | | | | | *Heel veel* |
|---|---|---|---|---|---|---|---|
| **Hoeveel houd je van? [1]** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Rozen | □ | □ | □ | □ | □ | □ | □ |
| Koffie | □ | □ | □ | □ | □ | □ | □ |
| Geld | □ | □ | □ | □ | □ | □ | □ |
| Kaartspelen | □ | □ | □ | □ | □ | □ | □ |
| Spiegels | □ | □ | □ | □ | □ | □ | □ |
| Hamburgers | □ | □ | □ | □ | □ | □ | □ |
| Softbal | □ | □ | □ | □ | □ | □ | □ |
| Patat | □ | □ | □ | □ | □ | □ | □ |
| Zwemmen | □ | □ | □ | □ | □ | □ | □ |
| Hardlopen | □ | □ | □ | □ | □ | □ | □ |

*Je gaat nu een aflevering kijken van How I Met Your Mother. Deze kun je ontspannen kijken zonder ergens op te letten.*
*Wanneer je op ENTER drukt, begint de aflevering vanzelf.*

| | | |
|---|---|---|
| **~ Bekijken twee commercials,** | **aflevering How I met Your Mother,** | **twee commercials ~** |

*Om ervoor te zorgen dat je niet teveel gefocused bent op de inhoud van de serie bij het beantwoorden van de vragen hierover, maar meer op het gevoel dat je hierbij had, zullen er eerst enkele vragen volgen van het onderzoek naar voedsel.*

*Het volgende onderzoek is erop gericht het verlangen van mensen naar bepaald voedsel te achterhalen.*

*Als je klaar bent voor de vragen druk dan op ENTER.*

**Food Craving Questionnaire**

| | | |
|---|---|---|
| Heb je op dit moment een intens verlangen om bepaald voedsel te eten? | *Nee* □ | *Ja* □ |

*Maak een lijstje met eten waar je op dit moment <u>het meest zin</u> in hebt, beginnend met het eten waar je het meest naar verlangt.*

*Je kunt direct beginnen met typen (in het onderste vlak). Druk na het invoeren van elk product op ENTER om je keuze te bevestigen. Je antwoord verschijnt dan in het bovenste vlak.*

*Druk op "Doorgaan" als je lijstje klaar is.*

| | *Helemaal niet [1] / / Nee, zeker niet [2]* | | | | | | *Heel veel [1] / Ja, zeker [2]* |
|---|---|---|---|---|---|---|---|
| **Hoeveel zin heb je in …?** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Hoeveel zin heb je in kipnuggets? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had kipnuggets te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment kipnuggets zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in een appel? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had een appel te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment een appel zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in gekookte aardappels? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had gekookte aardappels te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment gekookte aardappels zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in een stuk chocoladetaart? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had een stuk chocoladetaart te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment een stuk chocoladetaart zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in patat? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had patat te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment patat zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hoeveel zin heb je in gekookte kipfilet? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had gekookte kipfilet te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment gekookte kipfilet zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in een banaan? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had een banaan te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment een banaan zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in winegums? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had winegums te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment winegums zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in een mango? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had een mango te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment een mango zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in een broodje hamburger? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had een broodje hamburger te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment een broodje hamburger zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in carpaccio? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had carpaccio te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment carpaccio zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in een stroopwafel? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had een stroopwafel te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment een stroopwafel zou kunnen | □ | □ | □ | □ | □ | □ | □ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| halen om deze vervolgens te eten, zou je dat dan doen? [2] | | | | | | | |
| Hoeveel zin heb je in druiven? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had druiven te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment druiven zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in een spare-ribs? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had spare-ribs te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment spare-ribs zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in verse ananas? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had verse ananas te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment verse ananas zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in een Luikse wafel? [1] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment de mogelijkheid had een Luikse wafel te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |
| Als je op dit moment een Luikse wafel zou kunnen halen om deze vervolgens te eten, zou je dat dan doen? [2] | □ | □ | □ | □ | □ | □ | □ |

**Food Craving Questionnaire**

| | | |
|---|---|---|
| Heb je op dit moment een intens verlangen om bepaald voedsel te eten? | *Nee* □ | *Ja* □ |

*Maak een lijstje met eten dat je op dit moment <u>het liefst zou vermijden</u>, beginnend met het eten dat je het meest wilt vermijden.*

*Druk na het invoeren van elk product op ENTER om je keuze te bevestigen.*

*Druk op "Doorgaan" als je lijstje klaar is.*

| **Visual Analogue Scale** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
|---|---|---|---|---|---|---|---|
| | *Helemaal niet* | | | | | | *Heel veel* |
| Hoeveel trek heb je? | □ | □ | □ | □ | □ | □ | □ |
| | *Helemaal niet verzadigd* | | | | | *Helemaal verzadigd* | |
| Hoe verzadigd ben je? * | □ | □ | □ | □ | □ | □ | □ |
| | *Helemaal niet vol* | | | | | | *Heel vol* |
| Hoe vol zit je? * | □ | □ | □ | □ | □ | □ | □ |
| | *Helemaal niet veel* | | | | | | *Heel veel* |
| Hoeveel denk je te kunnen eten? | □ | □ | □ | □ | □ | □ | □ |
| | *Helemaal niet* | | | | | | *Heel veel* |
| Hoeveel zin heb je in iets zoets? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in iets zouts? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in iets hartigs? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel zin heb je in iets vets? | □ | □ | □ | □ | □ | □ | □ |

| | *Helemaal niet* | | | | | | *Heel veel* |
|---|---|---|---|---|---|---|---|
| **Hoeveel houd je van ...? [2]** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Hoeveel houd je van kipnuggets? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van appels? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van gekookte aardappels? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van chocoladetaart? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van patat? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van gekookte kipfilet? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van bananen? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van winegums? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van mango's? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van een broodje hamburger? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van carpaccio? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van stroopwafels? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van druiven? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van spare-ribs? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van verse ananas? | □ | □ | □ | □ | □ | □ | □ |
| Hoeveel houd je van Luikse wafels? | □ | □ | □ | □ | □ | □ | □ |

*Dit onderzoek is afgelopen. Het onderzoek met betrekking tot de aflevering gaat nu verder.*

*Druk op ENTER om verder te gaan.*

| | *Zeker niet waar* | | | | | | *Zeker waar* |
|---|---|---|---|---|---|---|---|
| **Gauging PSI** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Ik vond het leuk om 'How I Met Your Mother' te kijken | □ | □ | □ | □ | □ | □ | □ |
| Ik kijk dit programma vaak | □ | □ | □ | □ | □ | □ | □ |
| Ik heb dit programma nog nooit eerder gezien * | □ | □ | □ | □ | □ | □ | □ |
| Ik heb het gevoel dat ik mezelf kan relateren aan de hoofdpersonages van dit programma | □ | □ | □ | □ | □ | □ | □ |

| | *Zeker niet waar* | | | | | | *Zeker waar* |
|---|---|---|---|---|---|---|---|
| **Television Connectedness Scale** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Naar dit programma kijken voelt als een "escape" voor mij | □ | □ | □ | □ | □ | □ | □ |
| Dit programma helpt me mijn problemen van de dag te vergeten | □ | □ | □ | □ | □ | □ | □ |
| Wanneer ik in een slechte bui ben, kan dit programma mij opvrolijken | □ | □ | □ | □ | □ | □ | □ |
| Ik vind de kleding die in dit programma wordt gedragen leuk | □ | □ | □ | □ | □ | □ | □ |
| Ik vind de haarstijlen in dit programma leuk | □ | □ | □ | □ | □ | □ | □ |
| Ik koop vaak kleding stijlen die ik in dit programma heb gezien | □ | □ | □ | □ | □ | □ | □ |
| Ik imiteer gebaren en gezichtsuitdrukkingen van de personages in dit programma | □ | □ | □ | □ | □ | □ | □ |
| Ik gebruik uitdrukkingen van dit programma wanneer ik met mensen communiceer | □ | □ | □ | □ | □ | □ | □ |
| Ik probeer te spreken zoals de personages in dit programma | □ | □ | □ | □ | □ | □ | □ |
| Ik leer hoe ik om moet gaan met "real life" situaties door dit programma te kijken | □ | □ | □ | □ | □ | □ | □ |
| Ik krijg ideeën van dit programma over hoe ik kan interacteren in mijn eigen leven | □ | □ | □ | □ | □ | □ | □ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ik relateer gebeurtenissen uit het programma aan mijn eigen leven | □ | □ | □ | □ | □ | □ | □ |
| Ik zou graag acteur/actrice willen zijn in dit programma | □ | □ | □ | □ | □ | □ | □ |
| Ik zou graag de acteurs/actrices van dit programma ontmoeten | □ | □ | □ | □ | □ | □ | □ |
| Ik heb voorwerpen die gerelateerd zijn aan dit programma | □ | □ | □ | □ | □ | □ | □ |
| Ik lees boeken als zij aan dit programma zijn gerelateerd | □ | □ | □ | □ | □ | □ | □ |

| **Meeleven [1]** | *Lily* | *Robin* | *Ted* | *Marshall* | *Barney* |
|---|---|---|---|---|---|
| Met wie leef je het meest mee? | □ | □ | □ | □ | □ |

| | *Zeker niet waar* | | | | | | *Zeker waar* |
|---|---|---|---|---|---|---|---|
| **Parasocial Attachment Scale [1]** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Ik zie [antwoord meeleven] als een vriend(in) | □ | □ | □ | □ | □ | □ | □ |
| [Antwoord meeleven] geeft mij een comfortabel gevoel, alsof ik met vrienden ben | □ | □ | □ | □ | □ | □ | □ |
| [Antwoord meeleven] lijkt de dingen te begrijpen die ik wil weten | □ | □ | □ | □ | □ | □ | □ |
| Ik vind [antwoord meeleven] aantrekkelijk | □ | □ | □ | □ | □ | □ | □ |
| Ik zou [antwoord meeleven] graag willen ontmoeten | □ | □ | □ | □ | □ | □ | □ |
| Ik heb medelijden met [antwoord meeleven] wanneer hij/zij een fout maakt | □ | □ | □ | □ | □ | □ | □ |
| Ik vergelijk graag mijn ideeën met uitspraken van [antwoord meeleven] | □ | □ | □ | □ | □ | □ | □ |
| Wanneer [antwoord meeleven] in beeld is als ik het programma kijk, voel ik me onderdeel van de groep | □ | □ | □ | □ | □ | □ | □ |
| Ik mis [antwoord meeleven] wanneer zijn/haar programma niet voor is | □ | □ | □ | □ | □ | □ | □ |

| **Meeleven [2]** | *Lily* | *Robin* | *Ted* | *Marshall* | *Barney* |
|---|---|---|---|---|---|
| Met wie leef je daarna het meest mee? | □ | □ | □ | □ | □ |

| | *Zeker niet waar* | | | | | | *Zeker waar* |
|---|---|---|---|---|---|---|---|
| **Parasocial Attachment Scale [2]** | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Ik zie [antwoord meeleven2] als een vriend(in) | □ | □ | □ | □ | □ | □ | □ |
| [Antwoord meeleven2] geeft mij een comfortabel gevoel, alsof ik met vrienden ben | □ | □ | □ | □ | □ | □ | □ |
| [Antwoord meeleven2] lijkt de dingen te begrijpen die ik wil weten | □ | □ | □ | □ | □ | □ | □ |
| Ik vind [antwoord meeleven2] aantrekkelijk | □ | □ | □ | □ | □ | □ | □ |
| Ik zou [antwoord meeleven2] graag willen ontmoeten | □ | □ | □ | □ | □ | □ | □ |
| Ik heb medelijden met [antwoord meeleven2] wanneer hij/zij een fout maakt | □ | □ | □ | □ | □ | □ | □ |
| Ik vergelijk graag mijn ideeën met uitspraken van [antwoord meeleven2] | □ | □ | □ | □ | □ | □ | □ |
| Wanneer [antwoord meeleven2] in beeld is als ik het programma kijk, voel ik me onderdeel van de groep | □ | □ | □ | □ | □ | □ | □ |
| Ik mis [antwoord meeleven2] wanneer zijn/haar programma niet voor is | □ | □ | □ | □ | □ | □ | □ |

*Tijdens een van de onderzoeken heb je een reclamespotje gezien over [naam reclame]. Dit reclamespotje verschijnt straks nogmaals. Bekijk deze ontspannen.*

*Druk op ENTER om verder te gaan.*

**~ Bekijken commercial ~**

*Je zult nu enkele vragen beantwoorden met betrekking tot de commercial die je net hebt gezien.*
*Druk op ENTER om verder te gaan.*

| **Attitude commercial** | | *1* | *2* | *3* | *4* | *5* | *6* | *7* | |
|---|---|---|---|---|---|---|---|---|---|
| Ik vind de reclame | *Saai* | □ | □ | □ | □ | □ | □ | □ | *Interessant* |
| Ik vind de reclame | *Onplezierig* | □ | □ | □ | □ | □ | □ | □ | *Plezierig* |
| Ik vind de reclame | *Niet aantrekkelijk* | □ | □ | □ | □ | □ | □ | □ | *Aantrekkelijk* |
| Ik vind de reclame | *Ongeloofwaardig* | □ | □ | □ | □ | □ | □ | □ | *Geloofwaardig* |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ik vind de reclame | *Slecht* | □ | □ | □ | □ | □ | □ | □ | *Goed* |
| Ik vind de reclame | *Onsamenhangend* | □ | □ | □ | □ | □ | □ | □ | *Samenhangend* |
| Ik vind de reclame | *Niet overtuigend* | □ | □ | □ | □ | □ | □ | □ | *Overtuigend* |
| Ik vind de reclame | *Negatief* | □ | □ | □ | □ | □ | □ | □ | *Positief* |

| | *Zeker niet* | | | | | | *Zeker wel* |
|---|---|---|---|---|---|---|---|
| | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Ik voel me betrokken bij de reclame | □ | □ | □ | □ | □ | □ | □ |
| Het is waarschijnlijk dat ik het product koop als het mogelijk is | □ | □ | □ | □ | □ | □ | □ |
| Ik vind dat de reclame aanzet tot gezond eten | □ | □ | □ | □ | □ | □ | □ |
| Ik vind dat de reclame aanzet tot ongezond eten | □ | □ | □ | □ | □ | □ | □ |

*Tot slot willen we graag nog wat algemene gegevens van je verzamelen. We willen hierbij graag benadrukken dat de gegevens vertrouwelijk en anoniem worden behandeld.*

*Druk op ENTER om verder te gaan.*

**Leeftijd**

Hoe oud ben je? ~ Open antwoord ~

(druk daarna op 'Enter' om door te gaan)

| **Geslacht** | Man | Vrouw |
|---|---|---|
| Wat is je geslacht | □ | □ |

| **Nationaliteit** | Nederlands | Duits | Overig |
|---|---|---|---|
| Wat is je nationaliteit | □ | □ | □ |

| **Faculteit** | CTW | EWI | GW | MB | TNW | ITC | Anders |
|---|---|---|---|---|---|---|---|
| Bij welke faculteit hoort jouw opleiding? | □ | □ | □ | □ | □ | □ | □ |

**Aanvang studiejaar**

In welk jaar ben je begonnen met je studie? ~ Open antwoord ~

**Gewicht**

Wat is je gewicht (in hele kilo's)? ~ Open antwoord ~

**Lengte**

Wat is je lengte (in hele centimeters)? ~ Open antwoord ~

*De onderzoeken zijn nu afgelopen. Je kunt je melden bij de proefleider.*

*Bedankt voor je medewerking.*

* These questions were reversed while analyzing the results

**Appendix 2**
**Pre-test commercials**

| **Attitude commercial** | | *1* | *2* | *3* | *4* | *5* | *6* | *7* | |
|---|---|---|---|---|---|---|---|---|---|
| Ik vind de reclame | *Saai* | □ | □ | □ | □ | □ | □ | □ | *Interessant* |
| Ik vind de reclame | *Niet spannend* | □ | □ | □ | □ | □ | □ | □ | *Spannend* |
| Ik vind de reclame | *Onplezierig* | □ | □ | □ | □ | □ | □ | □ | *Plezierig* |
| Ik vind de reclame | *Niet aantrekkelijk* | □ | □ | □ | □ | □ | □ | □ | *Aantrekkelijk* |
| Ik vind de reclame | *Niet fascinerend* | □ | □ | □ | □ | □ | □ | □ | *Fascinerend* |
| Ik vind de reclame | *Waardeloos* | □ | □ | □ | □ | □ | □ | □ | *Waardevol* |
| Ik vind de reclame | *Niet passend bij het product* | □ | □ | □ | □ | □ | □ | □ | *Passend bij het product* |
| Ik vind de reclame | *Ongeloofwaardig* | □ | □ | □ | □ | □ | □ | □ | *Geloofwaardig* |
| Ik vind de reclame | *Slecht* | □ | □ | □ | □ | □ | □ | □ | *Goed* |
| Ik vind de reclame | *Onsamenhangend* | □ | □ | □ | □ | □ | □ | □ | *Samenhangend* |
| Ik vind de reclame | *Niet informatief* | □ | □ | □ | □ | □ | □ | □ | *Informatief* |
| Ik vind de reclame | *Zwak* | □ | □ | □ | □ | □ | □ | □ | *Sterk* |
| Ik vind de reclame | *Negatief* | □ | □ | □ | □ | □ | □ | □ | *Positief* |
| Ik vind de reclame | *Niet effectief* | □ | □ | □ | □ | □ | □ | □ | *Effectief* |

| | *Zeker niet* | | | | | | *Zeker wel* |
|---|---|---|---|---|---|---|---|
| | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| Ik voel me betrokken bij de reclame | □ | □ | □ | □ | □ | □ | □ |
| Het is waarschijnlijk dat ik het product koop als het mogelijk is | □ | □ | □ | □ | □ | □ | □ |
| Ik vind dat de reclame aanzet tot gezond eten | □ | □ | □ | □ | □ | □ | □ |
| Ik vind dat de reclame aanzet tot ongezond eten | □ | □ | □ | □ | □ | □ | □ |

**Appendix 3**
**Results pre-test**

***Means questionnaire pre-test (7-point Likert Scale)***

| Commercial | Attitude | Q17 | Q18 | Q19 | Q20 |
|---|---|---|---|---|---|
| **Pineapple** | 4,91 | 4,63 | 4,88 | 6,38 | 1,75 |
| **Shane's spareribs** | 4,70 | 4,63 | 4,75 | 2,75 | 5,00 |
| **Arby's chicken** | 3,89 | 3,63 | 3,25 | 1,88 | 5,75 |
| **Bacon** | 4,66 | 4,38 | 3,88 | 1,63 | 6,38 |
| **Roy** | 4,00 | 3,14 | 3,29 | 3,14 | 4,29 |